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THE FARMER'S MAGAZINE.

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THIRD SERIES.

JANUARY TO JUNE, MDCCCLXXIV.

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JANUARY, 1874.

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THE

FARMER'S MAGAZINE,

AND

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OF

THE AGRICULTURAL INTEREST.

Dedicated

TO THE

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LONDON :

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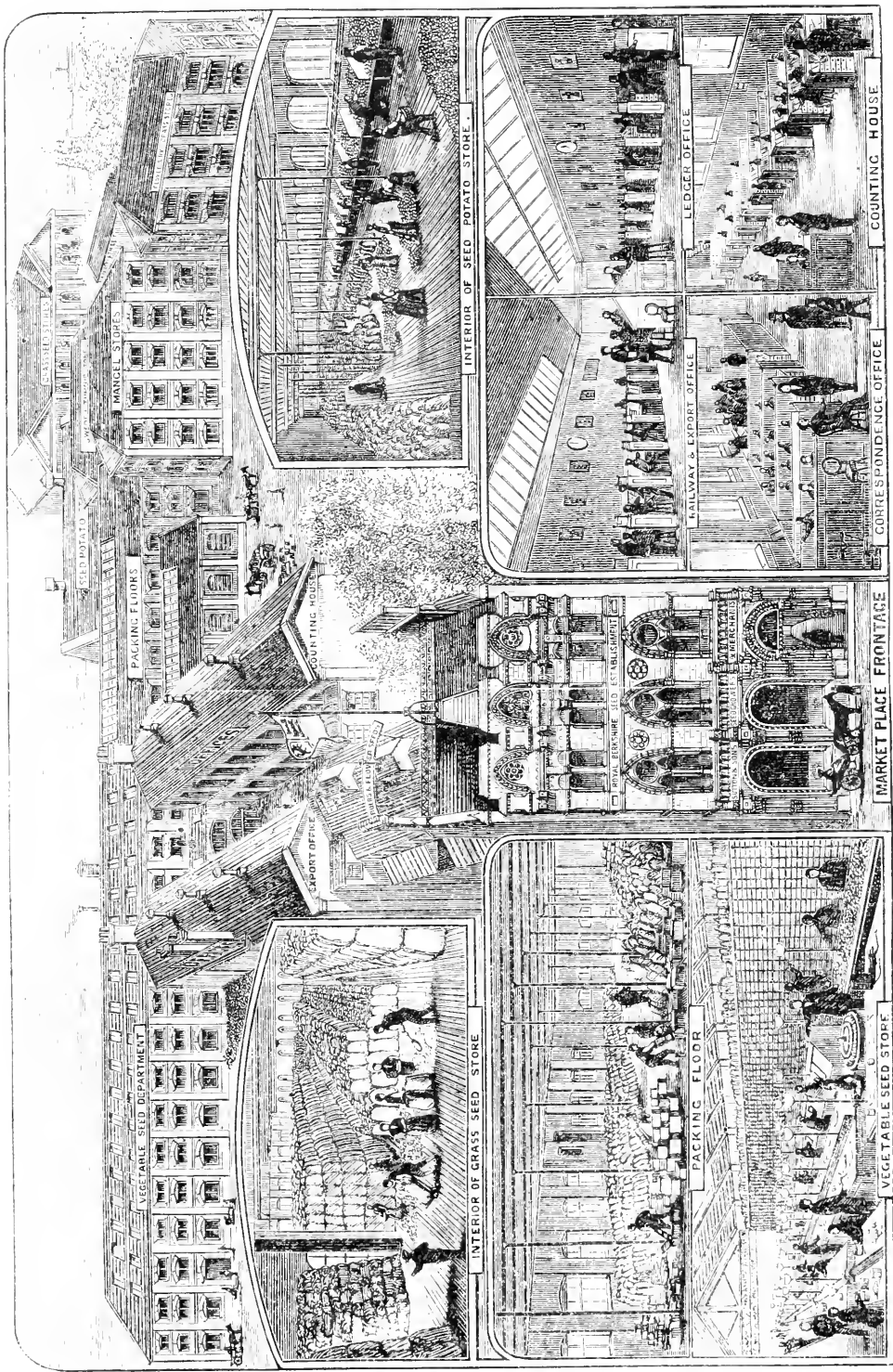
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SUTTON AND SONS' SEED ESTABLISHMENT,
AT READING, BERKSHIRE.

THE FARMER'S MAGAZINE.

JANUARY, 1871.

PLATE I.

SENSATION: A PRIZE CART MARE.

"Sensation, a grey mare, is a pair within herself, a mare that it is almost impossible to match, and Farmer, a grey gelding, was in no way her equal, though not by any means a bad horse if he had been coupled with something less grand. Sensation is a mottled grey, very handsome, of beautiful symmetry, with great weight and power, though she steps as light as an opera dancer. In fact, though we have a liking for the thoroughbred almost to infatuation, if there had been a wreath of laurel for the best horse or mare in any class, we should have decorated the brow of Sensation." So we wrote of her at Wolverhampton; and *hie! hie!* here she comes again, while she goes like a fairy and looks like a Queen.

The happily-named Sensation has long been the property of Mr. Brierley, of Rhodes House, Middleton, Manchester; but she was bred by Mr. Tennant, of Barlow, near Selby, in Yorkshire, and by a horse called John Bull, out of Diamond. She is now rising nine years old, and for many seasons has been a sensation at the great shows, Wolverhampton, Cardiff, the Alexandra Park, and all over Lancashire and thereabouts. Entered singly she has generally been invincible, but has often been stopped in pairs for want of a match. Any correct account of prizes would run out into as long a list as Leporello's loves or Homer's ships, for when in the ring, none but herself can be her parallel.

PLATE II.

SUTTON AND SON'S SEED ESTABLISHMENT.

The west country traveller must make but poor use of his eyesight if he is not familiar with Sutton's "Royal" seed grounds, which in various ways invite his attention just as he glides into that most miserable of stations at Reading. The firm, however, scarcely requires any such introduction, as for seeds and roots, fancy grasses, and gigantic growths the Suttons are known to agriculturists and horticulturists all the world over. The view

we give here, with the front removed like a scene in a pantomime, is the interior of their recently erected establishment or store in the market place at Reading. The senior partner here, Mr. Martin Sutton enjoys a high character beyond his business relations; and he was a very active member of that useful institution, The French Peasant Farmers' Seed-Fund Committee.

THE FARMERS' CLUB.

THE AGRICULTURAL LABOURER AND THE POOR LAW.

The usual monthly meeting of the Club took place on the Monday evening in the Smithfield Show week, Mr. J. Thompson, of Badminton, in the chair, when the attendance was very numerous. The subject fixed for introduction was "The Agricultural Labourer and the Poor-law," standing in the name of Mr. C. S. Read, M.P.

The CHAIRMAN, in opening the proceedings, said: Gentlemen, I am very glad to see such a large meeting. The subject for discussion is perhaps the most important one that could be brought before us at the present time. It is one upon which there has been this year a considerable amount of excitement; and that excitement having in a great measure passed away, this seems to me a very opportune time for discussing it. I think we are particularly fortunate in having such a question in the hands of a gentleman who is eminently qualified to do justice to it (cheers). I know no one who has given more attention or devoted more time and care to this question than Mr. Clare Sewell Read, and I now call upon him to introduce it.

Mr. C. S. READ, M.P., who was much cheered on rising, said: The subjects of the evening, as the Chairman has told you, are the agricultural labourer and the poor-law. I think that these subjects have for the last few years been very closely jointed together. I know no period in our days when they have merited a more serious consideration than they do at the present moment. Two years ago I had the honour of addressing you on the subject of the agricultural labourer, chiefly with regard to his wages and his education. I have lately glanced through the paper that I then read to you, and it seems to me as if it might have been written ten years ago, so speedily do we pass on in these days of progress and of com-

bination. Unions were then—two years ago—things just hinted at. They were regarded as things that might possibly be, and it was hoped that they would not be matters of fact. But as we have them now we must deal with them. There is no doubt whatever that in years gone by the wages of the agricultural labourer were too low (Hear, hear). A farmer had a certain sum of money to expend among a great number. It was not his fault if the recipients received but little. We have the same amount of money to expend among fewer hands, and I say that if those hands will earn the money we, the farmers of England, will be too glad to pay it (cheers); but increased pay has hitherto brought us less work. Previous to the year 1871 there had been a gradual rise of wages, particularly during the two years that preceded it. Wages had risen we may say generally two shillings a week, and if we for one moment reflect on the very rapid progress that the nation has made since that period, I say it is but reasonable to imagine that the labourers' wages must have risen too—must have risen—and therefore I contend that the action of the unions has had very little to do with permanently enhancing labourers' wages. When in the spring of 1871 I had the pleasure to hear Mr. Arch in London at the first meeting of the delegates of the agricultural labourers' union, he spoke such good sense that I thought I should be a unionist myself. He went in for piece-work and classification of labourers, and he said this, that although it might be hard upon the old man at the same time it was the crying sin of the day that the agricultural labourer should be pulled down by his lazy and shaggy companion, and that the man who was the best labourer ought to make the greatest amount of wages, and that such was not the case (Hear, hear). Well, I say

those were sentiments that I could most cordially endorse, and if it had been necessary I could have joined the union on those principles. But since then the union has entirely adopted the programme of the trades' union, and that programme is the very opposite: they all hark back to day-work (Hear, hear)—the dead, low level which has been the curse of the agricultural labourer, bringing all down to the lowest level, instead of endeavouring, as piece-work does, to bring all up to a higher level. And in these days I contend there is more necessity to pay by results than there was formerly. We hope still to retain some of our best agricultural labourers, and it is quite certain that all the old and indifferent and useless ones will stay behind: and therefore surely we ought to pay by results, and have task-work as much as possible, instead of day-work. But trades' unions are against piece-work. You have all of you no doubt heard of a very good story of a would-be aristocrat, who was talking to a man who had risen from the ranks, and he said, "Sir, I believe your father was a tailor;" and the man who had risen from the ranks said: "Yes, sir, he was, and if your father had been a tailor you would have been a tailor too" (laughter). But I think I have another story still more appropriate to the present phase of the labourers' question. A gentleman who sits behind me in the House of Commons had a deputation of trades' unionists, who waited upon him. He heard what they had to say, and then he began to reply as follows: "My friends, my father was a manufacturing operative, and if he had been a trades' unionist I, instead of having an ample fortune and representing you in Parliament, should have been a manufacturing operative (Hear, hear). Now let me just comment for one moment on the doctrine, which is put forth by unions, that we ought all to rise in a class together. I do not believe in that myself. I believe that

Order is Heaven's first law, and that confessed,
Some are, and must be greater than the rest.

(Hear, hear). I also believe this, that in temporal, as in spiritual things, each individual must work out his own salvation. Kingdoms may rise in civilisation and classes may improve, but still it rests with every individual of that class whether he shall rise with that class, or above it, or sink below it. Now, there was one statement I made on the last occasion which was more criticised than any other. I said that I believed that the money wages paid to agricultural labourers only fairly represented the value of the work performed. I said that the rates that had been quoted—in Dorsetshire 8s. a-week, in Suffolk 10s., in Lincolnshire 14s., and in Northumberland 18s.—when they came to be tested by task-work, showed that the cheap labour was not in reality cheap, but was the dearest; and I then quoted from an excellent pamphlet by Mr. Bailey Denton, whom I hoped we should have seen here to-night, as his vast experience would have been valuable to us in the discussion which will follow. But I have another authority which I will read to you, Mr. Thomas Brassey, the member for Hastings, who in his useful and practical book on Work and Wages says: "I maintain unhesitatingly that daily wages are no criterion of the actual cost of executing works or of carrying out manufacturing operations. On the contrary, experience teaches that there is a most remarkable tendency to equality in the actual cost of work throughout the world." Again, "In point of fact, the amount of daily wages affords no real measure of the actual cost of work; and it is quite possible that work may be more cheaply executed by the same workmen, notwithstanding that

their wages have largely increased." And again, "The condition of the Warwickshire labourer has of late been brought prominently under the notice of the public..... I would ask men of business to examine this question, not from a philanthropic point of view, but for the purpose of ascertaining what rate of wages will give the best return to employers. It is quite true that the rent received by the English landlord gives a miserable return on the capital value of his property. In no country, indeed, does landed property give so poor a return. It is equally certain that the business of farmers is not as lucrative as that of manufacturers. If the agricultural labourer receives *higher wages without doing more work* in the day, the farmer and landlord will suffer a diminution of income, which they can ill-afford to bear; and the only result will be that capital will be withdrawn from agriculture and more advantageously invested in other businesses. But are we justified in assuming that the labourer is incapable of doing more work? I will not be so presumptuous as to offer an opinion upon the particular case of the Warwickshire labourers; but this I say, that all experience shows that, with proper supervision and with an equitable scheme of prices for piece-work, the best-paid workman does more work for a given sum of money than the underpaid, and therefore under-fed labourer can possibly accomplish." Now mark this: "High wages," he goes on to say, "high wages do not necessarily imply dear labour; just as on the other hand low wages do not of necessity make labour cheap. On my father's extensive contracts, carried on in almost every quarter of the globe, the daily wage of the labourer was fixed at widely different rates; but it was found to be the almost invariable rule that the cost of labour was the same—that for the same sum of money the same amount of work was everywhere performed. Superior skill, extra diligence, and a larger development of physical power, will often compensate the employer who finds himself obliged to pay higher wages than his competitors." Now I say that that extract from Mr. Brassey's work on Wages fully confirms what I ventured to put before you on the last occasion, and which has been so sharply criticised since. We must all admit that the labourer has a perfect right to combine, but I contend that it is of no use his combining against natural laws and against the true principles of political economy. They may succeed for a time, but they must end in misery and loss. And they may, perhaps, succeed in this—driving the trade into other channels, and perhaps sending it out of the kingdom altogether, though some portions of it at least must remain. When Mr. Arch, therefore, threatens the farmers of England that he will take all the labourers away, so that only themselves will be left to till the soil (laughter), he should remember that in the reign of Henry the Seventh the whole of this country almost was turned into pasture. And what was the result? why, there is an old Act of Henry the Seventh which begins in this way: "Where in some towns two hundred persons were occupied by their lawful labours now be there occupied two or three herdsmen only, and the residue fall into idleness." Now in this case the residue will have gone beyond the sea, and we hope they will be very well employed, but we may rest assured that when the land is turned into pasture the people will get no more meat than they do now, and we shall grow no corn at all. The next point is the rate of wages as to the farmers' profits. In the gross returns of farmers' profits, these wages, have been calculated at from 25 to 33 per cent. But when we come to talk of capital in agriculture, I ask you whether the rate per cent. of profits is

excessive? It has been stated upon good authority that it is 10 per cent. Well, I can only say from my own experience that I never made 10 per cent. two successive years in my life. It may be that it was from want of proper farming, but I think we should be right at putting it at something like 8 instead of 10 per cent. (Hear, hear). Then I contend that farmers as a class do not make money. There may be certain honourable exceptions, but if you look at those people who do make money, you will find that among the small farmers, that they are generally jobbers and dealers in connection with their farm. And then, if you look higher in the scale, you will invariably find that the men who succeed are agents, and commission men. Some occasionally avow that they have made money from pedigree stock, having grown potatoes or become market gardeners. But I say this, that where you find one man who has retired from farming, having made money, you find twenty who ought to be candidates for admission into Royal Agricultural Benevolent Institution. I do not complain of the poor return the farmers get for their capital. There is happily a law of compensation in all that relates to the land. Take the landlord: he is satisfied with his 3 per cent., but he also gets position, power and influence. Take the tenant: he gets 8 per cent., while the capitalist in trade gets from 15 to 20 per cent.; but the farmer's occupation is healthy; he has a great many home comforts and blessings, and till lately his was a very pleasurable employment. And take the labourer. Put his wages now at an average of 15s. a week; his fellow-labourer in the towns earns his 20s.; but then the labourer in the country has his perquisites, his cheap living, his less tilling work, his shorter hours, and, what is of more importance, his longer life. But I protest against measuring everything we have in this world by pounds, shillings, and pence. "A man's life consists in the abundance of the things he possesses;" I would add neither does his comfort, his happiness, nor his contentment. Well, having got unions, how shall we treat our union men? Some farmers have said they will not employ them at all (Hear, hear). That is very nice indeed where you do not have the union men; but how would it be in other districts where, if you did not employ union men, you would not have any labourers at all, or very few of them? I say in all matters of work and wages, make no difference at all between union and non-union men. There must be a more general and rigid payment for all overtime; but, on the other hand, I do not think the labourer can then call on the farmer as he has done to employ him through the whole of the dreary months of the year when he does not want him—that is to say, the spare hands. Nor is it incumbent upon us as it has been hitherto to find work under cover for wet and wintry days. And in cases where trust and responsibility are involved I think that you ought to get non-union men, because it is a very difficult task to serve two masters, and the union man would be bound to strike whenever the order of the secretary came that he should do so, and he might leave you at the moment when you most want him. I go further, and say that if the labourers can afford to subscribe to the unions they can also afford to pay for some of those little gifts and perquisites which, though they do not amount to much, would in the course of the year become a considerable sum. There is the beer—I do not mean beer given in lieu of wages, but the occasional drop of beer to wet the job; there is the potato ground, there is the brushwood, there is the milk, and the cartage of the fuel; there is even the Christmas beef, the straw that you give for

the pig, and the turnips for the family. I say that for those things, if you are to have commercial relations, they must pay. We will be just, but we cannot afford to be generous. The agricultural labourer, when he asks for increased wages, and assumes an independent and hostile position, has not right to ask that all the gifts and perquisites and allowances should be continued to him as they were in what some people are pleased to call the semi-feudal relations between him and his employer. Then are farmers to have unions? I say no. But what if you cannot help it? That is the question. Unions may become a necessity. The unions of working men in other industries have produced combinations for the protection of capital. You may be driven to it. You may be ruined if there is not some combination and organisation among the employers of the district. Farmers are not like manufacturers, who can shut up their mills or blow out their furnaces. They shut up their works for a little while, and that causes a rise in the value of the produce that soon compensates them for anything they have lost. But we cannot do this. We cannot raise prices. You may want combination, not for the purpose so much of combining against the labourer as against your brother-farmers. An isolated individual may be timid, but if he is backed up by a good union he will be reasonable. He may be selfish, but if he is to bring the united reprobation of the whole of his brother-farmers perhaps his greed may be restrained. Strikes are not general yet. It is not the policy of the union that they should be, and I think they have acted wisely. They are not quite strong enough for it at present. They come down upon a certain parish that is short of labourers, or upon a certain farm where the work is backward, or they may take a marked man in a district, perhaps one of the best and most generous of the employers. We have been taught some strange things by strikes in our part of the world. I believe the days of neat farming are past, but we find we can use machinery and implements to an extent we had not hitherto apprehended. I have this year cut swedes out on the ridge with a revolving hoe, and afterwards these turnips did not cost me more than half-a-crown an acre to hoe. It is true there were a few nasty weeds left, but even with them there was an advantage, for a friend of mine from London, who was shooting, said they were extremely useful to mark down the partridges. On this day three weeks I was on a large glebe farm in Norfolk, and I saw a strange sight. The operation of carting mangolds was going on, and there was the parson on one side filling, and there was the proprietor of the Methodist chapel on the other (laughter), and at the hale there was the tenant of a thousand acres of land, stacking them. I also saw in July a funny sight. Eight farmers' sons, some from a considerable distance, were hoeing out turnips, and they did it very well, and with a certain amount of dexterity and manly pride, thus setting a most excellent example. But we found at the end of the field a large jug of beer, which we were told had had to be replenished several times in the course of the day (laughter). We may do with less labour. I have myself, with 400 acres of land this year, notwithstanding the advance of wages, manage to shorten my labour account by £100,* and those who have tried agricultural labour find that it is not the excessive toil that many would make us believe. Before I depart from this subject, I would enter my protest against the conduct of certain

* I have been asked to state publicly how I saved the £100. Simply, by not doing the work. Hedges are untrimmed, roads unscraper, stones ungathered, and all sorts of neat farm jobs are left undone.

landlords who have come down to our agricultural meetings in our rural districts and given the farmers what they call a bit of their mind. Now I will give them a bit of my mind (laughter). From what a safe and elevated position do these gentlemen look on this question? They have let their farms at full rents, probably on long leases. They or their ancestors have pulled down the cottages on the farms and driven the labourers into the adjoining parishes. They do not seem to realise the fact, that if we make an advance of no more than a shilling a-week, that would be equal to an increased rent of some 2s. or 2s. 6d. an acre. They say, "Oh, look cheerful! pay your men better." Well, it is uncommonly easy to be generous with other people's money (laughter). It is all very well to curry popularity with a class who may have the franchise soon; and I would say farther, that it is an easy way of playing the part of the good Samaritan without the expenditure of the oil and of the two-pence (cheers and laughter). We now come to the poor-law, and I contend that the relations of the agricultural labourer with the poor-laws require revision. I am obliged to trouble you with a little bit of history, not for the purpose of trying to weary you, but many people seem to think that what has been must be for ever, and they fancy that the present administration of the poor-law as we have it, is a thing that cannot be improved. Now, previous to the Reformation the poor were supported entirely by charity and by the church, and as the church then possessed one-third of the land I think they were in a position to support the poor. But on the abolition of the monasteries the revenues passed into private hands; the poor then began to beg, and the clergy were instructed to collect alms and to incite their parishioners to the giving of alms. But the alms did not come in, and they passed a compulsory Alms Act. You will say that is a contradiction, but I do not think it is more contradictory than a celebrated bill we have before Parliament called the Permissive Prohibitory Bill. Well, in the year 1609, the celebrated Act of Elizabeth was passed, on which our poor-law is founded. That Act enacted that every man was to contribute in the parish according to his ability. This Act lasted 122 years, I believe without any amendment, and under it out-door relief might be given, but every one was to work for it. Then we had a system which lasted 73 years, when a bill brought in by Sir Edward Knatchbull was passed authorising the purchase or hire of workhouses to keep, maintain, and employ every poor person, those who refused to go there having no relief at all. We then came to the disastrous period of our poor-law, which lasted 39 years. In 1795, Sir William Young's Act was passed. This was followed by Gilbert's and by East's Acts in subsequent years, by which it was provided that the justices and the parishioners should give relief to poor persons in their houses. Forty years afterward we had what was termed then and is now termed still, the New Poor-law, by which relief to able-bodied labourers was abolished. Now, just mark the peculiar effect these Acts had on the expenditure for the relief of the poor. A hundred years ago the poor-rates amounted to £700,000 a-year. Thirty years afterwards, when they began to give out-door relief it was £2,000,000. In fifteen years afterwards it had risen to £8,000,000. In 1834, you passed the New poor-law and abolished out-door relief, and it dropped in three years to £4,000,000. You then began your lax and indiscriminate administration of the law, and what was the result? Why, in 1868 the expenditure had risen to £7,500,000 (Hear, hear). Now the case of the peasant under the old poor-law was

certainly a most wretched and degraded one. They were all paupers. A man had really to sell all he had before he could get employment, because the labourer generally had his wages supplemented by the rates. He was bound to his parish; he seldom had continuous work; his wages were very low, and if he had any idea of saving, why he could not, for everything was against him. Young unmarried men were not paid in the same ratio as married men, and the more children a labourer had the more relief would he or his master get from the parish. I am quite ready to admit that the case of the manufacturing operative was not much better, for the weaver then did not get more than nine shillings a week, and there were many in my district who I am told did not earn more than seven shillings or eight shillings a week, and they were often out of employment. Now, contrast that with the present condition of the labourer. The law of settlement is abolished; he may go wherever he pleases; he may emigrate to foreign countries, or he may go to large towns in the North and find two or three masters begging him to take employment. But still the indiscriminate administration of out-door relief has kept him in a state of semi-pauperism, and he looks upon the union as a sort of benefit club, and when he is sick he goes there. Almost the last time I was at our board of guardians a man who was the local secretary of one of these unions hurt his leg on the Monday and he applied to the relieving officer on the Tuesday, and the case came before the board. I ventured respectfully to suggest that I thought it was a premature application, and the case was passed over. On the following Saturday night there was a meeting of the labourers' union, and the guardians were one and all condemned for depriving the poor man of his rights, and they unanimously voted this poor sufferer the sum of twelve shillings as compensation for the bad treatment of the board (laughter). Then a good many labourers fancy that when they are sixty years old they can look to the Poor-law Union for a pension. And I must say that the way in which we administer the poor-law does not do much for the providence of the people, but most certainly favours the improvident. The consequence is that the wages, of the young men especially, are all spent, and you have improvident early marriages, and I do not doubt that even at the present moment, notwithstanding the comparatively large amount of wages which he receives, the labourer with a large young family is not very well off. Neither is a curate at £100 a year, nor a clerk at £50. When you have your quiver full your pocket is generally empty (Hear, hear, and laughter). We cannot go on paying higher wages and higher rates. You must apply the house test; and you may do it with very great advantage not only to yourselves but to the labourers. See what is done in the Atcham Union! And I have here the report of the Brixworth Union, published in the last report of the Poor-law Board. I see my hon. friend the member for Leicestershire here, and I will give you one or two of the recommendations they put forth as the principles to guide the guardians in the administration of relief. And here I would say that I think it a very good idea indeed to have some fixed principles to go upon, and not to let your private interest or your charity or your Christian benevolence come into play so much when you are at the board of guardians. They recommend that no outdoor relief be granted in any of the following cases: To non-residents; to wives deserted by their husbands; to wives or families of convicted prisoners; to single women with illegitimate children; to able-bodied widows with one child only;

to wives or families of militia men doing duty; to persons having relatives capable of maintaining them (I should like to find out who those persons are; I could never find them); and their last recommendation is, that you should not give relief to persons living in cottages or premises reported by the sanitary officer as unfavourable to health. And the report goes on to say: "As to the argument which, perhaps, may be urged that they are recommending a very hard course for the board to adopt, they would reply (in the words of Mr. Wodehouse, one of the poor-law inspectors), that guardians should remember that they are not dispensers of charity, but trustees of a fund compulsorily levied and falling very heavily upon those persons whose condition is but little removed above those to whose relief they are compelled to contribute, that a prodigal system of out-door relief will in the long run defeat the object which they have in view, and increase the misery they wish to alleviate. And further, that every case in which out-door relief is granted destroys the last feeling of independence which may yet remain in the mind of the applicant, whilst it has a direct tendency to encourage others to apply." The poor-law is no doubt a very good thing indeed to prevent a revolution. It is a great English charter that no man in England need starve; but I think it is a still sounder maxim, and one for which we have a higher authority, "if a man work not, neither should he eat." By work I mean not only providing for the wants of the day, but also for those changes and chances in this mortal life to which we may be subject. I am told that in Germany labourers are bound to provide for sickness and old age, and that a certain amount of their wages are stopped for this purpose, and in this country that applies to the police, railway servants, and a portion of the Government officials who are mulcted in the same way, and I hope that in an indirect manner the agricultural labourer will in the course of years be forced to do the same. Now, with regard to emigration, I will not run over the different schemes which have failed. Those to foreign countries, and particularly to South America, have been most disastrous. There were two families who went from my neighbourhood; one of them has never been heard of since they went, but the wife of the other labourer has written home in the greatest poverty and distress, hoping and wishing that they might have the means of returning to this country. She adds, in a post-script, "rum is a penny a glass, and there is enough for all" (laughter). My idea is that New Zealand and Australia are the best countries for a man to emigrate to, but it is a long bit of water that separates us from those colonies. When Mr. Arch went to Canada I was glad to hear it, because I have said for years that it is desirable to stem the tide of emigration that pours into the United States; but as three-fourths of the people who go there from this country are Irishmen, that is the way of accounting for it, for when you consider that some of the necessaries of life are 100 per cent. dearer there than they are here, and that the commercial panic they have just got rid of is attributed to the extraordinary wages they have been paying there (the wages are much lower now), I cannot understand why the tide of emigration still flows to the United States. But Mr. Arch went to Canada. You know that in America they have five autumns. You have heard of the Indian summers: he was there then; but he saw nothing of the five months' winter. He talked when he was there as if he did not like the country, and now that he has come back he seems as if he were desirous of returning. Mr. Clayden, his secretary, thinks emigration should be made easy, and that people should go to Canada as to the promised land, where they are to inhabit houses that they did not build. But I should like to recal to the

meeting what Mr. Clayden wrote home when he was there. Of course, I cannot understand how it is these gentlemen tell two different tales. Here is one of the impressions he had of the labourers: "Anything more desolate than that¹ wild tract through the forest, I cannot conceive. The hundred acres of land given to settlers are a sort of white elephant to the unfortunate recipients. The donation drags them down to the very verge of barbarism. The truth is none but the hardiest and most persevering men can do any good in these wild regions, and they must lay their account for years of 'roughing it.' I am driven to the conclusion that if men in England were to work as hard, and to live as hard, and to abstain from strong drink, as they do, and must do, to get on abroad, very few of them would need to leave their old homes. Those poor villagers of my acquaintance in Berkshire, Oxfordshire, and Wiltshire are rich by comparison with many of these hundreds of acres. They have social comforts and advantages which I look in vain for among the scattered shanties of these Canadian forests. The truth is that the voluntary hardships of Canadian settlers are far greater than any of the voluntary ones that are imposed on the English labourer." Then he says: "The comfortable, jolly-faced farmers of old England need not grudge these Canadian farmers their rent-free domains. Verily, there are worse things than rent-audits. I have seen more haggard-faced farmers since I have been in Canada than I have during a forty years' residence in rural districts at home. And never have I seen during the same period such miserable-looking, lank and hopeless labourers as the few whom I have seen in the service of these terrible taskmasters." There is no doubt that in new countries there are many natural advantages enabling the labourer to rise. Some may become, as you see, landowners, which is a very grand sounding thing in this old country, but perhaps there is not so highly appreciated. But I am told that when he becomes a landowner he has to work harder than he did when he was a labourer; and perhaps it is there just what Mr. Charles Howard said of a small farmer in England, that if he wishes to get on he must do the work of two labourers, and live on the expenditure of one. But there are in England many ways of investing. You have your Post-office savings' banks and your friendly societies, and building societies, and I contend that any young labourer in the present day may, if he likes, have his own cottage. Take a young man from seventeen years of age to twenty-seven. You will say, I am quite sure that, at the present rate of wages, any young man could save three shillings a week, which, in ten years and three months, at four per cent. compound interest, would come to £100, and there are a good many sound societies that would give him a bonus of ten per cent. upon that. And with that capital, he could buy a cottage or two acres of arable land, if he thought proper. Then if you come to talk of benefit societies and clubs, surely it is the duty of every farmer now to take more interest in them, and see that they are sound and reliable. They are often constituted on the idea that the sick pay will be supplemented by parish relief. I say to the farmers, join them, not for the purpose of meddling with their fun and frolic which they have once a year, but to see that they are founded on just and rational principles. And I say, do not let the societies become too large. We are suffering in agricultural districts by these societies being extended to great towns. The sick clubs are perfectly sound in principle, but the rate of payment in the towns is not sufficient to compensate for the continued amount of sick pay in cities and great towns. I say this most advisedly, that you should not have a

society larger than your county. And then there is just one other point on the subject of these friendly societies from which I think there is a great national danger, and that is, some of these trades' unions being also great friendly societies. What are they doing? They put the whole of your contributions into hodge podge. You do not say what portion of it should go to the sick society, and what portion is for the purpose of defending the interests of the trade, and the consequence is that you may have the whole of the money expended in promoting strikes, and leave the members in their old age thoroughly destitute. Friendly societies have not formed yet a portion of the programme of the Agricultural Labourers' Union, but we are promised that they shall be so in a very short time. There is one point that I would glance at briefly, and this is the Education Question. It may be that in former days the labourers have been under-educated. In years to come we may be quite sure that they will be over-educated; at all events, that is my opinion. You may, perhaps, say to me, "Why, then, did you help to pass the Agricultural Children's Act?" I will tell you: Parliament had said that the children of the country should be educated, and I wished it to be done in the agricultural districts in the cheapest and best way, and at the least possible inconvenience to the farmers. I also wished to protect them from that bugbear of mine, the Education Rate. For the farmer to pay a rate for education is exactly the reverse of his income. You demand your sharp boys not for the farm but for the towns, and if a boy on a farm is a clever boy, in a short time he goes off to augment the class of poor clerks—people who live by their heads instead of their hands. I say that it is our duty—we of the middle class—to bring up some of our sons as skilled artisans rather than lean so much to poor gentility (cheers), and making them miserably paid clerks, and people of that sort—I say we ought to try and restore the balance somehow (Hear, hear). There is one other question which I will, with the permission of the meeting, touch upon. It is a dangerous one, but I do not think I should be doing right unless I said something about it—I mean the franchise. I am not going to talk about it politically, I am not going to say whether every seven years this constitution of ours wants to be reformed or amended, but I put it to you as a not improbable thing that the agricultural labourer will receive the franchise. We farmers have had the franchise forty years, and I am the only English tenant farmer in the House of Commons now. For these forty years, I do not hesitate to say, no act of Parliament has been passed in favour of the farmers (Hear, hear). We have now a householders' parliament. The householders have sent representatives there who have increased the rates considerably, and they have not yet sent one working man there. Suppose the agricultural labourer has a vote, and sends representatives of his special interest? Well, they may, perhaps, alter the Master and Servants Act, they may alter the legislation in reference to trades' unions; but, as farmers, we are told that they will help us to get a Tenant-Right Act, and that they will abolish the Game-laws for us. I do not doubt but that they will get rid of the Malt-tax (laughter); but, I would ask you this, is it at all likely that the material prosperity of the labourer will be improved, that his condition will be elevated, and that additions will be made to his home comforts? And when Mr. Arch says that he, with his 600,000 labourers, will take possession of Palace Yard, and knock for admission at the door of Parliament, I do not think that such tall talk is at all likely to advance his cause (Hear, hear). I am not one of those who think that higher wages will in the end be spent badly. I believe it is a common thing that when people have had short commons, and then obtain plenty, they will indulge themselves a little. I was told by the keeper of a beershop in an adjoining parish that since the days of strikes and unions he had drawn one barrel of beer extra in a week. But I do not believe that the working classes—especially those of a rural population—are either "venal, drunken or corrupt." They are not at all more drunken than the upper and middle classes were 50 years ago. We do not consume now more than two bushels of malt to the population per annum, and 100 years ago we consumed four bushels and a-half. And when we have paid for the whole of the drink consumed by the population it is only 2d. per head per day for the population. I believe on the other hand that the sound sense of the agricultural labourer will lead him in the end to spend his money well, and to increase his substantial comforts. He may ask for better cottages, and he has a right to have them (Hear, hear),

and in my opinion he will become fairly provident; but you must not expect the English labourer to save money like the French peasant (Hear, hear). It is as easy for the Celtic or the Gallic peasant to save money as for a fish to swim, but it is exactly the contrary in the case of an Anglo-Saxon. Either here or in America if he earns good wages he is sure to spend them liberally. He is a capital customer to the merchant and trader, and above all to the farmer. I cannot, however, go quite to the length of the excellent writer of this little book—"The Agricultural Labourer, by a Farmer's Son," when he says, "Farmers have nothing to fear in a pecuniary point of view from the movement now going on among the agricultural labourers. They cannot be losers by it. They may be the first sufferers, and some of them may be ruined. They may suffer for a time, but in the long run they cannot suffer from it. If labour is made more costly other people must pay for it." That is exactly the same argument as that which was put forward in the time of the cattle plague, but the fact that some persons are now getting 10d. a pound for their beef is no consolation to the Cheshire farmers who were ruined by that visitation (Hear, hear). Allow me to testify most heartily to the good conduct of the men on strike (cheers). I must say that, if I contrast that conduct with that of the Luddites, in 1830, when, as I am told, they went to the farms and broke machines, or contrast it with the conduct of the Sheffield trades' unionists. They may be a little disagreeable to an unpopular farmer; some may write silly letters to newspapers, and a few women may make foolish menaces—women will talk foolishly; but these are isolated cases, and, taken as a rule, though their conduct has been defiant and sulky, on the other hand, it has been quiet, orderly, and peaceful. And this is the more to be wondered at when we consider the advice their leaders have given them. I have read articles in the newspapers which were revolutionary, incendiary, and infidel, and the abuse they have heaped upon the poor unfortunate farmers, if one-tenth of it was true, would crush them to earth. But they have overdone it, and it reminds one of a certain angry old Pope:

He cursed him living, he cursed him dying!

Never was heard such a terrible curse!

But what gave rise to no little surprise,

Nobody seen'd one penny the worse.

The agitators will not seek reason, they will not hear argument; and when there was a conference proposed in the West of England the first question they decided that should be discussed was "To whom does the land of England really belong?" Well now the miners are tolerably advanced in their views, but I never heard that the first question they discussed at their meetings; was "To whom does the mines of England belong?" and considering the enormous prices we have had to pay for coal in the last few months I think they would have been rather more excusable in putting such a question. It is wonderful the amount of outside assistance this movement has evoked. Why there is that great and kind man, Mr. Samuel Morley, who gave them £500, and he told me that he gave it for the purpose of assisting poor labourers to migrate to places where they might better their condition. Whether the money was so expended he is the best judge. I agree with a writer who says "No man of sense thinks the peasant a criminal because he asks for higher wages; but, on the other hand, I cannot see why he should be praised for the demand as if he were doing something specially heroic. A wish for more pay is common and legitimate, but not meritorious or holy. There is no sacred, natural, or ordained rate of wages. The question is one of business, not of sentiment. The price of labour is as much a purely economical question as the price of eggs." Everybody thinks that strikes are all very well unless they happen to interfere with their own business. The press of London who supported the labourers' movement the moment there was a threatened strike among the bakers and the gas-stokers were the first to denounce it. They did not care two straws whether the corn rotted in the fields and the bread was spoiled there, but they said a combination existing which would starve London, and deprive it of its bread, and put it in darkness for even a few hours must be resisted if necessary by some new enactment. And now I have really done. I thank you most cordially for the kind and patient attention you have given to my long and rambling address. You may say to me, "What definite coun-

clusion have you arrived at?" Well, we do not pass resolutions in this room—I beg your pardon, we do not pass resolutions of this Club, happily; therefore, I do not want to put my sentiments, my experience, and my feelings in the shape of a resolution. But I have tried honestly to put the case fairly before you, and to balance interests as well as I could. I leave you to draw your own conclusions. There are some gentlemen who fondly fancy that the worst is past. I thought so a little time ago, but I do not now. I find that the organization is so great, and that the leaders of it are so exceedingly irate, that I fear mischief must eventually come of it. But on the other hand, I say to you, that if there should be a return of confidence on the part of the agricultural labourers, do not in any way repel it, but be considerate and kind. Make allowances for men who have been so wrongly advised and so cruelly deceived. I am confident on this point, that with the great majority of agricultural labourers a treatment that shall be courteous, and at the same time firm; friendly, but not familiar, charitable without cant and condescension, will command their trust and respect (cheers). But there is a minority, an increasing minority, but still I am happy to say only a fraction of the agricultural labourers to whom this old adage will apply:

Tender handed stroke a nettle,
And it stings you for your pains;
Grasp it like a man of mettle,
And it soft as silk remains.
'Tis the case with common natures,
Treat them kindly, they rebel;
But be rough as nutmeg-graters,
And the rogues obey you well.

—(loud cheers).

Mr. PELL, M.P., said he rose to say a few words on the subject which had been so ably introduced by his friend Mr. Read. He would first allude to what his friend had said about the condition of the agricultural labourer during the last ten or twelve years. He could fully endorse what fell from him on that point. Speaking from his own experience as an occupier of land in the Midland district, he said without hesitation that the rise of wages before this agitation commenced was as remarkable as, if not more remarkable than that which had occurred since (Hear, hear). He agreed with Mr. Read that the increase was not to be attributed solely to the dictation or advice of those who thought it their duty to try and better, as they phrased it, the condition of the agricultural labourers. He also agreed with Mr. Read in regard to the early proceedings of the Labourers' Union. Having been present at the meeting at St. James's Hall to which Mr. Read alluded, he testified from observation that the men who were then taking a leading part in the organization of the Union had departed very materially from the principles which they enunciated at that time. A friend of his, who was then in London, had told him that not long ago a number of labourers were obtained by him from the South for some ironworks in the North of England, the increase of wages being much more than equivalent to the increased cost of living. Last spring, there being a strike among the people of his district, he sent an agent down to the West of England, to the district with which Canon Brereton was connected, to obtain men. The wages of labourers there being ten or eleven shillings a week, he naturally expected to obtain men from that over-peopled district; but he found himself anticipated by the emissaries of the Union, who persuaded the agricultural labourers not to go to the North, where they were wanted, and where wages were double what they were receiving (Hear, hear). That was certainly contrary to the principles which were laid down when the organization was started. He was sure that none of those present were so unreasonable as to wish to check the free interchange of labour between one part of England and another, or to oppose the somewhat speculative ambition of the labourer who wished to be better off. He believed he had Union men on his own farm, indeed he knew he had, but he did not concern himself very much as to who were Union men and who were not, provided they adhered to the ordinary rules which were laid down, with decent civility and in a fair manner, and were willing to assist when they were wanted, instead of following that nonsensical rubbish which assumed that cows would always calve at a certain time and corn would always ripen at the same period, matters which of course farmers could not control. As to the rate of wages, if labourers lived in a district

where within two hours they could transport themselves by railway to a place where they could get five or six shillings a week more than they were receiving, no combination of farmers could keep them where they were, nor was any inducement on the part of a Union necessary to make them remove. What farmers ought to do was, he thought, to show their labourers that if they were to be independent, they must be independent at all points, and that it was vain for them to expect as a matter of right all that they had been receiving in the form of indiscriminate charity and assistance, which would not be good either for the community or for themselves. Mr. Read had referred to his (Mr. Pell's) experience as a member of the Board of Guardians of the Brixworth Union. He had before expressed the opinion that in districts where charity was very freely given, labourers, instead of being better off, were much worse off than in other districts. The effect of that state of things was to attract the poor to the neighbourhood. There were great houses, perhaps, which were in the habit of pensioning off the old, the result was that the old stuck to the spot in the hope of obtaining such assistance; while the young, whom farmers did not want to leave, went away. An unusual number of old, imbecile, and half-worn-out people who were not fit to cultivate the land remained in such places. Wages were in consequence lower than in other places, and it often happened that the recipients of the wages discounted them long before they received them. And what was true with regard to voluntary charity was also true with regard to enforced and regulated charity—in other words, the relief administered under the poor-law. He would like to tell the employers of labour, whom he was glad to see present in such large numbers, the result of the application of the principles as set forth in the report quoted by Mr. Read, which he advocated in his own union. He would not dwell on the money part of the question, because that was really not to be thought of so much as the improvement of the people, which was sure indeed to be followed by economy. They had reduced the pauperism exactly one-third in seven months. The effect of the course pursued was in fact most striking. The greatest cures had been wrought. Palpitations of the heart, which had resisted all the skill of the physician, backed by the care of the squire and his wife, had suddenly ceased, and some of the sufferers had been able to earn 2s. 6d. a-day in getting iron stone (laughter). The comparatively blind had been able to see much better than they used to do. And old people, finding that they would otherwise have to go to their relatives and children, were getting good wages (Hear, hear). As regarded benefit clubs, many persons seemed to think that they were the things to help the labourer out of all his difficulties. He did not believe they would, unless they were very good. No club would be really efficient if it made only a half-provision for its members. One of the first rules of some clubs was that when a man became ill an application should first be made to the poor-law guardians, and that if he could not get anything from them he should come to the club. That was a positive inducement to the managers of clubs not to make an adequate provision for the members, and so long as clubs were subsidised out of the poor-rates they were not likely to be efficient. Then, with regard to medical assistance, he had found that the indiscriminate giving of medical orders from the union had produced a most injurious effect upon the club and upon individual members requiring assistance. He thought Mr. Read was quite right in linking together the agricultural labourer and the poor-law. He (Mr. Pell) did not wish to see any harsh administration of the poor-law, but he felt certain that upon a wise and proper administration of it depended in a great degree the future of the agricultural labourers (Hear, hear).

Canon BRERETON (Norfolk) wished first to correct a mistake made by Mr. Pell, who had mentioned his name in speaking of the West of England.

Mr. PELL said he begged the reverend gentleman's pardon, he meant Canon Girdlestone (laughter).

Canon BRERETON said he should be very sorry if any gentleman in that room went away with a wrong impression on that point. He had been much longer resident in North Devon than Canon Girdlestone had, having been there nearly twenty years, and though he knew very well that there was a great deal there which admitted of improvement in the condition of the labourer as well as in that of the farmer, yet he had found that an offer of 12s. a-week did not draw away many labourers while he lived there, the real value of the wages

and of what was received in addition being at least that amount (Hear, hear). In his opinion the farmers of that part of the country were very much maligned by the supposition that they paid only 7s. (Hear, hear). In the parish where he resided, and for some distance round, a large part of the farm labour was done by relatives of the occupier, who had a family interest in the matter, and the average amount of weekly wages did not at all represent the real value of labour in that district. In the census of 1861 it was remarked by the Registrar-General that the great diminution of the population observable in the parish of Halberton before Canon Girdlestone resided there, was owing to the fact that there had been a considerable emigration, and that being the case it was clear that the farmers there must have been unable to tyrannise over labourers or force their own prices upon them in the manner represented (Hear, hear). With regard to the administration of the poor-law and benefit clubs, it seemed to him that they ought to reflect upon what Mr. Pell had said about a stricter administration of the poor-law having in his union reduced the cost by one-third.

Mr. PELL: I said it would reduce the pauperism by one-third.

Canon BRERETON continued: Mr. Read remarked that, owing partly to a lax administration of poor-law relief the rates amounted to something like eight millions. Now, supposing that by a strict administration of the law the permanent rates were reduced by three millions, the question would arise, Who was to receive that? If £3,000,000 of the permanent poor-rate should ever cease to be paid, the landlords would thus gain three millions a-year, which represented a capital of £100,000,000, and the labourers were aware of that. The labourers believed that they had a claim upon their parishes, and he should like to see whether some of that claim could not be converted into something for the benefit clubs. If those clubs had £100,000,000 at their back, they might become all that could be wished; and he for one did not see how anyone could suffer from that. Of course no one should receive assistance from a club who was not really sick or aged; but he thought that if a labourer were provident he should also receive the value of what was in one sense his inheritance in this great country, viz., a reserve fund for the sick and destitute. The property of this country had been charged from time immemorial with provision for the sick, the aged, and the destitute, and what he desired was, that it should be received by such persons as club pensioners and not as paupers.

Mr. J. TRASK (Orcheston, Devizes) said he should not have risen but for the question just raised by Canon Brereton. The reverend gentleman seemed to think that the £3,000,000 which might be saved by an improved administration of the poor-law, would belong not to those who paid it, but to the poor; and that this £3,000,000 a year should be capitalised for their benefit. That was a most extraordinary view of the matter (Hear, hear). Previous to 1834 the expenditure was £8,000,000, and threatened to swallow up the whole rental in some districts (Hear, hear). In many parishes the rates amounted to 16s. in the pound, or more, and he believed that in a few isolated cases the burden exceeded 20s. By improved administration the gross amount was reduced to about £4,000,000, or by something like 40 per cent.; and did the Canon really mean to say that in point of honesty and fair dealing, the poor of this country were entitled to all that? (Hear, hear). For some years past there had been great complaints of the burden of the poor-rates, and in his opinion those complaints were well founded. He could point to many parishes where great impositions were practised, and the question had arisen, whether such things were to continue. If they had got into a rotten system, were they never to adopt a better? If any saving was made, those who have been, and are still paying a great deal too much, should have the benefit. He maintained that the poor of this country had no right to anything out of the rates except when they were suffering from destitution.

Canon BRERETON: I say they have no right to it unless they are destitute; but the question is whether in destitution they are to have relief from their unions or from their clubs.

Mr. J. TRASK said he contended that, when the guardians had relieved the destitute poor they had done all that they were legally called on to do. On the other hand persons who were not destitute ought not to have relief. Some years ago an old woman in a union with which he was acquainted died after having received relief year after year. The relieving

officer asked the board of guardians for the usual order for burial. It was granted, and the friends of the dead then had a grand funeral for her, hiring coaches and issuing printed cards announcing her death. In fact, it was clear that her friends were well able to support her; and it was a scandal that such a person should have been receiving relief. Of course no poor-law administration could be perfection, but he believed that at present for one case of extreme hardship there were forty cases of imposition. Agreeing as he did with Mr. Read, that labourers had a right to combine for their own advantage, he must say that if they have a right to leave their work without giving proper notice, so that the crops which are grown for the food of the people are spoilt or injured, they exercised a power that is not possessed by any other class of the community. Farmers could not all at once throw up their farms and stop their business (Hear, hear). Friendly societies would be much more useful if established on a better basis, and he hoped the Royal commission appointed to deal with the matter would make a report which would lead to some legislation for their improvement.

Mr. H. NEILD (The Grange, Worsley, Manchester) said he was much impressed with Mr. Read's remarks about the great increase of material wealth in this nation, as one great cause of the rise in the wages of the agricultural labourer. How was it that the increase of the wealth of occupiers of land did not keep pace with the general increase? (laughter). He would advise all occupiers to adopt the practice of paying by task or piece work. That would be one good mode of checking the evils of unions, of which they had had considerable experience in Lancashire. Another mode of doing that was to get past-emigrant labourers, who had been fortunate enough to get back to England, to relate to labourers their experience abroad. He had in his employ a clear-headed Irishman who once had a fit of emigration. That man, having landed at New York, examined thoroughly into the prospects of emigrants, and, having spent twelve days there, he returned to England, and he was now in his service. When any man talked about emigrating they always referred him to "Old Jemmy," as that man was called, and he (Mr. Neild) had not had a single emigrant from his farm for some years. As to the suggestion of Canon Brereton respecting the reputed three millions as saved by an improved administration of the poor-law, being appropriated as a benefit fund for the labourers, he hoped that that generous idea would now receive its quietus for ever (laughter).

Mr. R. H. MASSEN (Pendeford, Wolverhampton) said he should not have occupied any of the time of that meeting but for the remarks of the rev. gentleman on his left (Canon Brereton), at which he for one felt considerable surprise. If the Canon wanted to know what was to be done with the £3,000,000, he begged to tell him that he for one wanted £25 a-year out of it, the poor-rate having since he entered upon his farm increased by that amount. The rev. gentleman seemed to forget that such was the state of things in 1834, that it was necessary to pass the present poor-law, to ameliorate the condition of the agricultural body and of the rate-payers generally. He apparently considered that the labourers had a right to have the £3,000,000 per annum capitalised or invested for their benefit. Men of moderate education were unable to fathom the depths of such ideas as that (laughter). For his own part he must say he was completely dumfounded at the suggestion; and when he heard gentlemen of high station propounding such views, he was not surprised that persons of inferior station were so often misled. As to the views of Mr. Read, speaking generally, he thought they would be endorsed by all present. As to the principle of supply and demand, there was one great difference between the position of commercial men and that of farmers. It was impossible to shut up farms for six or twelve months because they were unremunerative; but when great pressure was put upon manufacturers or upon ironmasters, the former could shut up their mills and the latter could blow out their furnaces, and by so doing they could bring to reason men who by demanding an extortionate rate of wages tended to bring about such an unfortunate state of things as now existed on the other side of the Atlantic. Another important question was what position the agricultural labourer was likely to occupy at home in consequence of his becoming better educated and better able to form an opinion as to the position in which he was placed. There was nothing, he believed, which had so great a hold on the mind of the labourer as the possession of a comfortable cottage.

It was essential that landowners should provide the necessary cottage accommodation for labourers where it did not exist, so that men need not be compelled to go a considerable distance, as many had been compelled to do, to obtain a dwelling for themselves and their families. He trusted that Mr. Read had taken a darker view than need be taken of the general position of the Labourers' Unions. Let them all pay their labourers a fair remuneration for their work. He agreed with Mr. Neild that task-work was preferable to day-work. He also thought that that consideration which was always due from one man to another, would produce good results, and that in proportion as labourers became better educated would they better appreciate any good feelings which were manifested towards them. He felt sure that neither Mr. Read nor those who acted with him wished to crush agricultural labourers (Hear, hear). On the contrary, they wished to see them in a better position, and for that reason they asked them to reflect before taking any steps which might tend to their injury instead of their advantage (Hear, hear).

Mr. G. STREET (Maulden, Amptill) said he was one of those who thought that the altered circumstances of the times justified a demand for a fresh incidence of taxation and an altered basis of rating. There was a time when the poor of this country looked upon their parish as their home, and scarcely ever went outside it to seek for employment; but in times of railway communication, increased intelligence, and an increased demand for labour, the youths of their villages, instead of lingering about the village green or some frequented corner, or instead of meeting together in a public-house to plan some poaching affair, were found at a railway station taking a ticket for some place where they could get better remuneration for their labour. The question naturally arose whether, under these altered circumstances, industries which competed with agriculture for labour ought not to pay a share of the rates levied for the support of the poor. When the poor-law system was established no one could foresee that altered state of things. Moreover, additional burdens in the form of rates had been imposed on farmers within the last few years. It was quite right that men should be called upon to keep their premises in a decent state, and in such a state that they would not be a nuisance to their neighbours; but all that involved expense. The same remark applied to the new Education Act; and he wanted to know whether the present system of rating was fair (cries of "Question"). With regard to the spread of education he rather differed from Mr. Read as to its probable effect upon the poor. At present the most intelligent youths in the rural districts migrated from them, but when all had been raised to one standard of education there would not be so much inducement to a few picked boys to go out as clerks and take situations on railways and elsewhere away from their native place, and that those would come to the conclusion that the healthy and pleasant homes of the village were preferable to the close dwellings of large towns (Hear, hear). One word in reference to Mr. Arch's idea of Irelandising this country. He found that since he returned from Canada Mr. Arch had recommended that in order to keep agricultural labourers among them they should let each man have about five acres of land—in other words, that the land of this country should be cut up into a second Ireland. He (Mr. Street) wanted to know of what use the labourer would then be to the farmer (Hear, hear). It was found already that when a man had more than a rood, or at all events half an acre, of land he wanted more time for it than could be spared.

Mr. J. TRASK (Northington Down, Alrexford), thought they were much indebted to Mr. Read for pointing out as he had done in his able introduction that the fact that agricultural labourers were in the receipt of such high wages was an additional reason for a careful administration of the poor-law, the funds raised by poor-rates not being intended for those whose wages enabled them to provide against times of need. He was glad to hear from Mr. Pell, speaking as Chairman of the Brixworth Union, that the pauperism of that union had been so much diminished; and he believed that a similar result would follow in most other unions if the guardians attended more to the duties of their office and were less influenced by their feelings. As regarded Labourers' Unions, he did not wish to be hard against anybody, but somehow or other he could not feel kindly towards many who belonged to them. Farming, as he did, pretty largely, he had a good many labourers. Before last Michaelmas some of them were union men, and finding that in an adjoining parish the labourers

were acting under the orders of the great leaders of strikes, he told his men that they must decide whether they would serve him or the secretary of the National Labourers' Union. One of them elected to serve the secretary, after having been in his employment for 7 or 8 years, during which time he had received at least a pound a-week. Having received 7s. to take him and his family a distance of 70 miles, he stayed where he was, and was now employed in stone-breaking. They hardly knew who were and who were not Union men among those whom they employed. During the heavy periods of the hay and corn harvest, the Union leaders might choose to order that men should cease working at 2 o'clock on Saturday and not begin again before 7 o'clock on Monday morning, and it was necessary for them to set their faces against that, as men of business, and men who had a great deal at stake. Mr. Read justly said that in some districts farmers had more to fear from their brother farmers than from labourers. They had also much to fear from little squires and chattering parsons and he might add that he had known cases in which after men had left a farm they had gone to the neighbouring mansion and obtained employment at higher wages than they received before. He did not know how farmers were to meet things of that kind, or how they were to combine; but, at all events, let them be true to themselves (cheers). He entirely concurred in the opinion that the poor-law required a much stricter administration. He could not help remarking that he had known cases in which when the servant of an ex-officio guardian became ill, there was an immediate application to the Board for relief; and he hoped that all Boards, while dealing tenderly with proper cases, would be careful to discriminate far more than had been customary.

Mr. J. TREADWELL (Upper Winchendon, Aylesbury) said Mr. Read alluded in his admirable address to the necessity of benefit societies being established on a good sound basis. That question had in his opinion a good deal to do with the solution of the vexed poor-law problem; and what was especially wanted was, he thought, benefit societies which would be able to secure to the labourer in return for what he subscribed a sufficient amount for his support if any sickness or accident befell him, without having to come upon the rates. He was one of those who thought that if societies could not get a sufficient guarantee fund without that the Government ought to come in to enable the poor man to provide for himself in times of adversity (Hear, hear). As to Canon Brereton's remarks he thought the reverend gentleman made a mistake, and that what he meant to say was that the £3,000,000 of which he spoke should be given to the farmers; in which case they might perhaps all agree with him (laughter). He fully concurred in all that had been said about the administration of the poor-law. Mr. Ducean, the chairman of the Newport Pagnell Union, could state that in that union the expenses had been reduced by nearly one-half.

Mr. J. NASH as an employer of labour for upwards of forty years wished to observe that in his neighbourhood the masters and men had formed a sort of benefit club between them, and during the whole period he had mentioned there had not, he believed, been an instance of a member of the club applying for poor relief. He felt certain that if benefit clubs were properly managed that would give an immense relief to the rates.

The CHAIRMAN then said: Gentlemen, in closing this very interesting discussion I will only observe that after the very exhaustive address of Mr. Read and the many excellent speeches which have followed, you can hardly expect me to do more than tender my meed of praise to Mr. Read for the able manner in which he introduced the subject (cheers). Mr. Read will now say a few words in reply.

Mr. READ then replied. Alluding to the remark of Mr. Street that the spread of education was likely to raise all labourers to the same high level, he said that gentlemen seemed to forget that at the school where he was himself educated there were dunces and dolts who benefited very little and who probably did not make much use of their education afterwards (Hear, hear). The greater part of the criticism in the discussion was, happily for himself, directed not against his remarks, but against those of Canon Brereton; and he must say that that criticism seemed to him perfectly just. He, like Mr. Masfen, thought that farmers ought to have some of the money that was saved. He had occupied his present farm only about eight years, and whether it was owing to the improvements

which had been made in the neighbourhood, or whatever might be the cause, he paid considerably more in the form of rates than when he entered upon his occupation. If anyone ought to benefit by reduction it was surely the tenant (Hear, hear).

On the motion of Mr. BRADSHAW, seconded by Mr. T. HORLEY, a cordial vote of thanks was given to Mr. Read for his introduction of the subject.

Mr. NEWTON said that as that was the last occasion on which they could have the pleasure of seeing Mr. Thompson in the chair he wished to propose a vote of thanks to him for the admirable manner in which he had discharged the duties of his office (cheers).

Mr. JAMES WOOD seconded the motion, which was carried by acclamation, and this terminated the proceedings.

THE LABOURER'S CASE AT THE FARMERS' CLUB

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—The rules of the Farmers' Club did not allow me an opportunity of remonstrating against the mistaken view which some of the speakers had somewhat impatiently taken of my remarks on capitalising for the security of benefit clubs some portion of the present permanent poor-rate. Mr. Pell had made a statement that in a certain union the pauperism had been reduced within a few months one-third of its ordinary amount by a stricter application of the workhouse test. I ventured to use Mr. Pell's statement as an illustration of what would be the effect if a real improvement in the labourer's condition by higher permanent wages should prove to be established, and if, for instance, one-third of the amount he has hitherto depended on as poor-rate should no longer be required for his sustenance. It is clear that the chargeable property would be relieved to the extent of the capitalised value of that reduction. If in all England it should amount to £3,000,000 annual reduction, the capital value of that reduction would be about £100,000,000. And I put it to the meeting to reflect whether, if anything approaching that capital could be transferred from pauperism to provident clubs, the result would not be to place the English labourer in a position which no country in the world could rival, and this without injury to any one or confiscation of a single individual's property. The speakers who followed me jumped at the conclusion that I meant to claim for the labourer their property, and said plainly, "Oh, we mean to put any savings we can effect on the poor-rates into our own pockets; and you, chattering parson, are making it difficult for us to do so by putting in a claim on the labourer's part." Now I quite acknowledge that there is an economy to be very beneficially exercised, the savings of which very properly should go to the ratepayers; and I doubt whether there was one man in the room who, in proportion to his income, would derive more real relief from such economy than myself. But I was not thinking about this margin of extravagance and superfluity, within which the ratepayers have a right to expect relief, as they undoubtedly do suffer severely from carelessness. But I was going to the point to which it seemed to me both Mr. Read's subject and his excellent address must have brought all our minds, viz., the future relationship between the agricultural labourer and the poor-law. And I maintain that as soon as you can see your way to effect a reduction of the permanent charge, you are bound, as protectors of public property, to see that one class alone—the owners of charged property—do not reap all the benefit. Not that I would grudge it them if they were really in a position to claim it, and there were no alternative. I heartily wish to see the land and houses of England not deteriorated but improved as the best and most substantial investment for that valuable class of Englishmen—the permanent residents. I should be delighted if such a time should

come that the landlords of England were able to say, "We held our lands subject to the condition that no one should starve. This condition deteriorated the value of our property for two or three centuries from 10 to 20 per cent. At last, by the prosperity of the whole community, destitution has been so reduced that the charge upon our property is, and is likely to be for the future, only 5 per cent. We claim the full benefit of this happy state of things." But such a time will never come. The English labourer will not forego his claim. The more spirited and independent will rise out of the class or emigrate; but the breed of paupers will continue, unless with the consent of their own class by degrees some portion of this pauper fund, which has obtained in the popular feeling, if not legally, all the essence of a public fund, is transferred to the support of sickness and old age, on the principle of mutual insurance and common contribution of those who are to participate in the benefit.

With your permission I will on a future occasion resume this subject. My unpremeditated remarks were misunderstood, and, I must add, misrepresented, though perhaps I was the chief offender against myself. But I feel sure that the object of these remarks, being nothing else than the permanent improved position of the honest agricultural labourers who wish to stay in their English homes, will be appreciated by no class so generously as the English farmer.

I have the honour to be, sir, yours faithfully,

J. L. BRERETON.

United University Club, Pall Mall East.

THE ANNUAL DINNER.

The annual dinner took place on the Tuesday evening in the Show week, at the Salisbury Hotel, and was attended by upwards of 100 gentlemen. The chair was taken by the president of the Club for the present year, Mr. John Thompson, of Badminton, Chippenham, the vice-chair being filled by the president-elect, Mr. Major-Lucas. The dinner itself was of the best kind, and its substantial attractions were increased by the present of a stag heavier from his Grace the Duke of Beaufort.

After the toast of "The Queen," the CHAIRMAN proposed "His Royal Highness the Prince of Wales, the Princess of Wales, and the rest of the Royal Family," and in doing so reminded the company that the Prince of Wales was a constant exhibitor of stock at the Smithfield Show and other agricultural meetings.

In proposing "The Army, the Navy, the Militia, and the Volunteers," the CHAIRMAN said he felt confident that our soldiers on the Coast of Africa would show the indomitable pluck that British soldiers engaged in active service always had shown, adding that the English army led by gentlemen would go anywhere (cheers).

Sir G. JENKINSON, M.P., in responding as a former officer of the army, said if ever there were a moment when a company of Englishmen were bound to pay such a tribute as that to the army the present was such a moment, seeing that part of our gallant troops were now employed in a service which could produce neither honour, emolument, nor profit, when they had to wage war against a set of savages who knew not the arts which regulated warfare between civilised nations, and, what was worse, were exposed to the most deadly climate in the world (Hear, hear). Whatever might be the result of the deliberations of the Royal Commission on the purchase system, the officers of the army might always be relied upon to do their duty to their Queen and country (cheers).

The CHAIRMAN then proposed "Success to the Farmers' Club, and thanks to those gentlemen who have read papers

during the past year" (cheers). He said it was a matter of great gratification to him to be able to state that at no former period had the Club been in so prosperous a condition as now. Fifty-nine new members had been elected in the course of the year, and the financial position of the Club had also considerably improved. Still, it often struck him as remarkable that comparatively so few of their own class of agriculturists availed themselves of the obvious advantages of the institution. He feared, indeed, that tenant-farmers were rather too exclusive in their habits, though it was a fault which he hoped was becoming gradually less apparent than formerly, for he felt sure that people, whatever their occupation, who confined themselves to one locality, acquired contracted ideas; in other words, their minds did not expand with the advance of the times we live in. The discussions during this past twelve months had been important. They had embraced the education of the farmer, the large and the small-farm system, the progress of steam cultivation, the storage of water, the diseases of cattle, and the condition of the labourer. All these questions had been introduced by gentlemen who had paid a great deal of attention and devoted a large measure of ability to their consideration. The advantages of the Club, however, were not confined merely to its discussions; for the social intercourse and the intercommunication of so many minds collected from different parts of the country must also have been productive of valuable results. The advantages were such, indeed, as they could not obtain by confining themselves to their local clubs, however good they might be; and he himself, after eighteen years' membership, was willing to bear his testimony to the kindness with which he had always been received, and the valuable information he had accumulated by associating with the members of the Club (loud cheers).

The toast having been drunk with great cordiality,

Mr. C. S. READ, M.P., rose, amid cheering, to respond. He said, on behalf of those members of the Club who had read papers during the past year he returned their sincere and hearty thanks for the kind manner in which their services had been acknowledged. He supposed he had also to return thanks to them for their drinking their own health (laughter)—that was to say, "Prosperity to the Farmers' Club." He was very glad indeed to hear so good a report from the chairman. It was pleasant to be informed that the finances were in such a good state, and to be reminded how useful the Club was. He fully sympathised in the wish of the chairman that there were more tenant-farmers in the Club, and he would also desire to see a more general attendance of members in that building, as he often found his breakfast there rather solitary. At previous annual dinners he had taken the liberty of alluding to one or two prominent subjects which had occupied the attention of Parliament relating to agriculture, and, with their kind permission and indulgence, he would do so on that occasion (cheers). He would just glance at one or two topics. And first, he would mention the abortive and unfortunate result of the inquiry into the operation of the Contagious Diseases (Animals) Act. He was quite sure they would all agree with him that although the committee made one or two good recommendations in their report, yet, in its main features, that document was adverse to the agricultural interest, and it appeared to him that instead of what was suggested keeping foreign diseases from their stock, those diseases would still come into the country as they had hitherto done. The recent Order for the slaughtering of cattle affected with pleuropneumonia seemed to him most one-sided and unjust. The Government still admitted stock from countries on the Continent where disease was raging; and, moreover, they admitted cattle from Ireland, and they in England had the pleasure of slaughtering them when they had come over (Hear, hear). In the county of Norfolk they had recently had a quantity of Irish cattle affected after having been in Norfolk a few weeks, clearly proving that they did not catch the disorder in that county, but contracted it at their homes in Ireland. The Privy Council ought to have been aware that it was impossible to levy rates in Ireland to compensate owners of stock before they thought proper to issue an Order which must prove very costly to the ratepayers of England, and which, till it was made universal over the whole of the United Kingdom, could not be made beneficial to agriculture (Hear, hear). Another matter which he wished to mention was the strange fate that befel their Tenant-Right Bill. He had been roughly handled in the press and by some very kind writers, who thought that on that occasion he shirked his duty. He had the authority

of his friend, Mr. James Howard, who had generously backed him up as regarded his conduct, for saying that on the occasion when the bill was withdrawn he did all that he could be expected to do, and he hoped that the members of the Farmers' Club would endorse that opinion (cheers). They were aware that the bill was put down for a second reading on a Wednesday. Two bills preceded it. It was not till the night before that he knew that one of those bills was to be withdrawn. Then he received from his friend, Mr. Howard, a telegram stating that he was so unwell that he could not possibly be in his place in Parliament to move the second reading of their bill. Now, what was he to do? He was not prepared with a good long speech to introduce the bill; but he held himself in reserve to answer any objection that might be urged against it. It was said that he could not have seconded the motion for the second reading of the bill, and replied to objections. That was easily done. After the proposer had made a speech, the member who seconded had nothing to do but take off his hat, which was not a very difficult operation, and if he did not say anything at that time he might make a speech in the course of the debate. That was what he intended to do, and he hoped that he should prove equal to the occasion. But replying to objections to the weak points of the bill was a totally different thing from advocating its main provisions and setting forth its good points (Hear, hear). They might rely upon it that he had plenty of courage, but discretion was sometimes the better part of valour. There was on the paper a most insidious amendment, which, not being well up in Parliamentary tactics, he should not have known exactly how to meet. Had it been simply a proposal that the bill be read a second time that day six months he would, notwithstanding the imperfect manner in which he had prepared himself, have gone on; but when there was a rigmorole sort of amendment, setting forth the advantages of freedom of contract and matters of that kind, he felt that he had need of the tact of a Tallyrand to deal with such a proposal as that of Lord Eleho. He should like to know what amount of obloquy he would have had to endure if he had proceeded and failed. As it was he had suffered rather sharply, but if he had faced that amendment and been defeated he would have deserved all the censure that could be heaped upon him. He must say he was not sorry that the bill had to be put off, for he was not very well pleased with the sort of outside influence which was brought to bear upon it. He should much prefer landlords, land-agents, and farmers managing a matter of that kind among themselves, without the interference of people who would perhaps do the thing in a different way from that in which they desired to have it done, and who would, he was quite sure, in the end make a muddle of it (Hear, hear). Before free-trade were continually being told by people that it would not signify a straw if we did not grow a bushel of wheat. Now they were going on a totally different tack, and saying we did not produce half enough. In his opinion they were right now in a certain degree, but they had taken too visionary a view of the subject. He felt bound to enter his protest against the idea which prevailed in this country outside the agricultural interest, and which appeared to be shared by some of the political leaders of the nation, that the land of England might be made to double its present amount of produce (Hear, hear). It was a much easier matter, he said, to produce fertility than to maintain it; and his serious conviction was that it was much easier to get a farm into a good state of cultivation than to maintain its fertility afterwards. It was the first pound of manure that paid best, and the last shilling that often spoiled the lot. Land would not always answer to the whip the second or third time as on the first. He was astonished, therefore, to hear so painstaking, careful, and thoughtful a statesman as the Earl of Derby saying that it was his deliberate opinion that the land of England might be made to double its present produce, and, still more, that Lord Leicester should back up that opinion. He (Mr. Read) would not say anything uncomplimentary to the Holkham tenantry, but he was prepared to assert that on three-fourths of the estate no more corn was grown now than twenty years ago. It was farmed really well then, and had been farmed right well since, but there was no increase in the produce. The other fourth, which had been indifferently farmed, might have been brought up to a higher yield; but he contended that, after reaching a certain point of perfection, with their limited knowledge of chemistry and science generally, all their science failed them, and when they had passed a certain limit they could go no further. Then

it was constantly said, "See what your landlords' laws have done for you! You do not grow one-half the wheat that you ought." Well, it was not for him to defend either the landlords or the landlords' laws; but it so happened that, notwithstanding they were so exceptionally bad, this country was growing more corn than any other under heaven. We raised double per acre the corn that was grown in France, and as a rule we were ahead of the most productive portions of Europe (Hear, hear). Before sitting down he had a very pleasing task to perform—he had to propose the health of the chairman (cheers). They had in that case the right man in the right place. He was an excellent judge of stock, having just recently acted at Birmingham and Islington, as he was also one of the judges of farms for the Royal Agricultural Society at Hull; while he was well known in the district where he lived as a just, intelligent, and liberal land-agent, and he served a right good master in the noble duke (the Duke of Beaufort). The chairman expressed a wish that there were more tenant-farmers in that Club. He (Mr. Read) was sorry that there were not more land-agents. As a class they wanted educating quite as much as tenant-farmers (laughter and cheers); and if they came there, besides hearing something to their disadvantage, they might also hear something to their advantage (cheers). He now asked them to drink—and he was sure they would do it with great cordiality—the health of their chairman, Mr. Thompson (loud cheers).

The toast having been drunk very heartily,

The CHAIRMAN briefly returned thanks, thanking the Committee and the Secretary for the able assistance he had received from them in the discharge of his duties, and adding that he should always remember with pleasure the time when he presided over that Club.

Mr. PELL, M.P., in proposing "The Royal Agricultural Society of England, the Highland Society of Scotland, and the Royal Agricultural Society of Ireland," said no one there could doubt that those societies were beneficial in uniting together the agriculturists of the three kingdoms, and were doing a great deal of good.

Mr. TREADWELL, in responding, said while they occasionally saw a very good Shorthorn from Ireland they also saw a great deal of disease from that country which they could very well dispense with. This country obtained a large quantity of good beef from Scotland, but he did not think very much of Scotch sheep, and he thought that if Scotchmen came to England for sheep they might effect considerable improvement. With regard to the Royal Agricultural Society of England he wished to express his opinion that with the funds at their command the Council might do a little more good (cheers).

Mr. H. TRETHERY had great pleasure in proposing the health of the vice-chairman on that occasion, and the chairman elect, Mr. Major-Lucas, of Aylesbury (cheers). That gentleman was known to most of them, and held a very high position in the neighbourhood in which he resided. He was a large occupier of land, and was placed in the happy position of occupying his own land. Mr. Reid remarked, in effect, that that Club was as good a school for land-agents as for tenant-farmers. As a land-agent himself, and as one who had been a member of the Club from within three years after its formation (cheers), he cordially endorsed that opinion; and he believed it would be better for all—for agents, for tenants, and also for landlords—if there were more general and frequent communication between them in that Club (cheers). He now proposed the health of Mr. Major-Lucas (cheers).

After a cordial response to the toast,

Mr. MAJOR-LUCAS, in returning thanks, said, like his predecessors in office, he should, when he had entered in the duties of the chair, rely on the support of the committee and members of the Club, and on the excellent advice and assistance of their Secretary, Mr. Corbet; and remembering what able men had passed the chair, he was sensible how necessary those aids would be to him. He had now to propose "The Smithfield Club," an institution which had forcibly illustrated some of the chief characteristics of the people of this country; and he had great pleasure in coupling with the toast the name of Mr. T. L. Senior.

Mr. T. L. SENIOR, in returning thanks, was quite sure they would all agree with him, that the present show was one of the most successful shows that they had had for many years (cheers). The system of giving £100 prizes at Birmingham to the first four breeds in the catalogue, which was tried this year for the first time, had worked admirably, and he

thought the Smithfield Club should adopt it. Though defeated himself this year, he was not extinguished; but as regarded the champion prize, he now saw that a little bullock had no more chance than that black bottle.

Mr. CROUCH proposed "The Committee of Management." The high position to which those gentlemen had raised the Club in the estimation of the country entitled them to the gratitude of the members, and everyone who had watched the proceedings of the Club must feel that it had a most efficient body of men at the head of its affairs (cheers).

After a hearty response,

Mr. H. CHEFFINS, in returning thanks, observed that the members of the Club had that day shown their confidence in the committee, by re-electing all who were eligible; and it was a great satisfaction to them to know that the members felt that they had done their best (cheers).

The CHAIRMAN said, the next toast was one which he felt sure would have a hearty reception from all of them—the secretary, Mr. Corbet (cheers). The Club was particularly fortunate in having as good a secretary as was possessed by any society; but perhaps only those who held the position which he then occupied, as chairman of the Club, could fully appreciate Mr. Corbet's merits (Hear, hear). He was very glad that it was during his own chairmanship that the committee had been able to show their appreciation of his services in a substantial manner, and he hoped the Club would have the benefit of those services for many years to come (cheers). They all esteemed him not only in connection with his duties, but also for his warm-hearted friendship, and they all knew his honesty and integrity (cheers).

The toast having been drunk with three cheers,

Mr. H. CORBET, in returning thanks, said there once lived in a remote part of France a worthy priest who, amongst the arduous duties which he performed in the course of each year, had to deliver an address on the merits of the patron saint of the district. But as each anniversary came round that good man found, alas! that neither his genius nor his inventive powers increased with the occasion; and so, when another came, he addressed his congregation somewhat in this fashion: "My brethren, since we last met I have not been able to discover anything very novel or strange in the history of him whom we are met to-day to honour. You know as well as I do how deservedly he occupies a high place in the calendar; you know as well as I do how his earthly career was attended with every good and every useful quality, and you know as well as I do that we are exceedingly happy in coming here to do honour to him. If I were to say more I might only weary you, or, as the day is very warm, and your seats are very comfortable, I might send you to sleep." And so he concluded his discourse. If they would allow their imaginations to travel for a moment so far, he would ask them to suppose him (Mr. Corbet) to be that holy man (laughter). Since they last met, he had not been able to discover anything very novel or strange in the history of the Society which they were all there to honour. They knew as well as he did how useful and meritorious its career had been, and they, he was sure, had had equal pleasure with himself in coming there to do honour to it. If he were to say anything more, as the room was rather warm, and as he hoped their seats were very comfortable, he might not only weary them, but perhaps send them to sleep (laughter). There he might very becomingly stop; but he would, with their permission, say a few words more, as, unlike his rev. prototype, he could not expect to have all the talking to himself. He had the honour to sit at the council table of two or three other societies, where, when the annual dinner was in prospect, there was always immense difficulty in selecting a chairman outside the society—a prince or a duke, a lord or some great man; but in the Farmers' Club there was no such difficulty. Following the example of a well-known comedian, they took the chair themselves (laughter); and the chief recommendation of the man who presided at their annual dinner was that he was essentially a farmer (cheers). They happened on one occasion to have a member of Parliament in the chair, but he was, if possible, far more appreciated as a tenant-farmer than as a member of Parliament; as the great object of that Club was to teach men farming. There was once a Prime Minister of this country who, being a Scotchman, would not patronise any man unless he were also a Scotchman. It happened, however, that somebody had done something so very meritorious that the great man in return was obliged to do something for him, when he said, "Weel, what shall I

mak' you?" to which the reply was, "I think you had better try and make me a Scotchman" (laughter). In like manner, they tried in the first instance to make a man a farmer; and he believed that more good in the way of farming was taught in that very room than on the tented field of the Royal Agricultural Society, in the fatted stalls of Smithfield, or in the studios of Cirencester (cheers). It was recorded in the chronicles of the Pickwick Club, that Mr. Weller, when called as a witness, was found to say as little as possible about the case and as much as possible about everything else. He would follow that illustrious example, and, beyond thanking them for the manner in which they had received his name, and for the attention with which they had listened to his remarks, would sit down, after saying as little as possible about the Secretary, and as much as possible about anybody else (cheers).

The toast of "The Visitors" followed, and was responded to by Mr. Head, of the firm of Ransomes, Sims, and Head, who bore witness, from his own experience, to the superiority of English over foreign farming.

The company then separated.

THE GENERAL MEETING.

This annual meeting was also held on the Tuesday, Mr. John Thompson in the chair, when the following report from the Committee was received and adopted:

The Balance-sheet for the past year is altogether one of the most satisfactory which the Committee of the Farmers' Club has ever been enabled to offer. Tested by such main points as the acquisition of strength and the possession of funds, the result is alike encouraging. Fifty-nine new members have been elected; the amount of subscriptions received exceeds that for many years previously; there is a larger available balance in the bank, and the general assets of the Club show as favourably in comparison. Under these circumstances the Committee has been enabled to make an increase in the salary of the secretary; while one item on the expenditure side of the account is rather beyond the customary charges appearing in such a place. This stands as a grant of £20 to the Royal Agricultural Society of England, a vote accorded as conveying some tangible approval of the course adopted by the Council of the Society in promoting the analysis

of manures and feeding stuffs, and upholding the acts of its officers. In the Report for the year 1872 it was stated that a Special Committee had been appointed to consider and report on the Tenant-Right Bill, which Mr. James Howard, M.P., backed by Mr. Sewell Read, M.P., proposed to bring before Parliament; the progress of the principle with which the Farmers' Club has so long been identified being thus very becomingly left in the care of two members of the Club. This Special Committee had subsequently several sittings, and a copy of the bill, as ultimately approved by the Special Committee, together with the report adopted by the General Committee of the Club, appeared in the *Club Journal* for March. It is much to be regretted that Mr. Howard from illness was unable to proceed with the bill, but the many discussions over its several clauses have done much to extend information and remove prejudice as to the intentions of the measure. The Committee cannot but think that the subjects standing on the card for the year have been very well timed for consideration; as the Education of the Farmer, the Relative Size of Farms, the Progress of Steam Cultivation, the Management of our Water Supplies, the Losses of Stock, and the lease of the Labourer probably never commanded more attention than at the time when they came in turn before the Farmers' Club. The Committee has only to hope that it may be as fortunate in the arrangement of the next card; as with so much new blood recently introduced it is very desirable that the younger members of the Club should take their part in suggesting subjects or preparing papers. Mr. E. M. Major-Lucas, of Mercer's Hoase, Aylesbury, has been elected Chairman of the Club for the year 1874.

The following members of Committee, who went out by rotation, were re-elected: Messrs. G. M. Allender; T. Brown (Elwyn); W. Brown (Tring); H. Chellius; L. A. Coussmaker; W. Eve; J. K. Fowler; E. Little; R. Marsh; G. Martin; B. P. Shearer; J. Thomas, (Beds); and J. Trask; and Mr. Owen Wallis was elected a member of the Committee in the place of Mr. M. Reynolds, who was ineligible for re-election from not having attended two meetings of the Committee during the year.

Messrs. T. Willson, N. Rix, and the Reverend E. Smythies were re-elected auditors, and a vote of thanks passed to them for their services.

The proceedings closed with a vote of thanks to the Chairman.

THE SMITHFIELD SHOW WEEK.

The sad story of the Smithfield Club is told out in another part of our Paper, while nothing could have worked better than the opening day. The miserable wrangle of last year over the adjudication of the Champion prizes was avoided by the adoption of the system which immediately after the close of the show in 1872 we insisted on as the only means by which the recurrence of so unseemly a squabble could be guarded against. This was, that each set of judges should bring into the ring for the final issues only the Champion animals of their own classes, although, strange to say, one of the stewards strongly resisted so manifest an amendment! The result, however, will no doubt quietly settle him into a minority of one. Beyond the nomination of His Royal Highness the Prince of Wales as President of the Club for 1875, the chief feature at the General Meeting was the election by vote of eight new members of Council from some nineteen or twenty nominated, the final state of the poll showing Mr. Sewell Read to be the most popular man here, as he probably would be if tried by such a test at any other Agricultural Society in England. The number of votes polled, however, were not declared, the names of the successful candidates being merely given in the order in which they stood on the list, and against this omission Mr. Wilmore has entered his protest; as there can be no question but that in an election determined by votes, the numbers *must* be given before the return can

be regarded as complete. Only imagine the "row" which would ensue if at a county, a borough, or a school board contest, the successful candidates took their seats on the mere word of the returning officer!

The phalanx of reporters which faced the "popular member" of the Smithfield Club, when on the preceding evening he spoke at the Farmers' Club on the agricultural labourer, told of how much interest is now taken in this question beyond the class ranks of master and man. In a speech as admirably studied as effectively delivered Mr. Read exhibited a grasp of very statesman-like character. If wages become permanently higher as they promise to do, the landowner must look to this as a home question in the way of rents and cottages. If the men combine it were better that the farmers should not combine against them by refusing to employ Union men, or "nursing their wrath" in other ways; while the labourers themselves must be prepared to do more work for more money, or in other words to have their value estimated by the piece and not by the day. The address itself should set men of all grades a-thinking of how they may help each other, but the subsequent discussion was hardly worthy of it, and some attempted personalities singularly out of tone with the calm, comprehensive, and ever genial manner of the introducer of the subject. It is very noticeable that no agricultural dinner has ever really succeeded in London but that of the Farmers' Club, and

this was a greater success than ever, what with a large company, a prosperous year, and a chairman quite in his place. Indeed, as Mr. Sewell Read (again) showed, the Club or its committee has been very happy in developing merit in this way, for Mr. Thompson has, during his year of office, been also distinguished by kindred societies of similar standing. Thus, at the instance of the Royal Agricultural Society he acted as one of the judges over the Yorkshire farms, and on the day preceding the discharge of his duties in Salisbury Square was one of the judges for our most fashionable breed of stock at the Smithfield Club.

As at that of the Farmers' Club there was nothing of much moment going on at the general meeting of the Royal Agricultural Society, where the attendance was small and the proceedings for the most part formal. As, however, we suggested at Hull, a Temple of Victory is to be erected at Bedford, an advertisement in itself which may possibly bring many a firm again into competition, a sentence in the report running thus: "The experiment of a parade of the prize implements on the first two days of the show was made at Hull; and as it appeared to give wide-spread satisfaction, it is proposed next year to erect a special exhibition shed for this purpose in a prominent part of the show-yard." If the Council will

only, further, set the judging at Bedford for nine instead of eight o'clock, then people will have time to come in on the opening morning from the "adjacent" towns, about the handiest of which would appear to be London. A very lengthy report of the Council meeting on Wednesday, embracing a number of sub-reports from the several committees, necessarily stands over. It is with much regret, however, that we notice the withdrawal from all active duties of Mr. H. S. Thompson, consequent on declining health. No man ever worked harder in Hanover-square than Mr. Thompson, and it was purely an omission at the general meeting on Thursday when his name was not associated with Mr. Pusey, Mr. Handley, and Mr. Holland, as commoners who had filled the President's chair with so much honour to themselves and so much advantage to the Society.

Far among the most important information which came out at the meeting on Wednesday of the Central Chamber of Agriculture centred over the auditor's report, which went to show that the Chamber was virtually in a state of insolvency, members and local Chambers being alike heavily in arrear of subscription. Our reports of the meetings must be here left to tell out the story of a remarkable rather than an eventful week.

THE SUPPLY OF GUANO.

What is to be done to supply the place of Peruvian guano, the source of which appears to be fast working out? "Find other deposits, of which there are plenty in many parts of the world," is the reply that would be made to the question. But the quality of the Peruvian article, which renders it so exceptionally valuable to the farmer, is due to the almost entire absence of rain in that country. A shower fell a few years ago to the amazement of the inhabitants, those under seventeen years of age having never seen such a phenomenon in their lives, an interval of that extent having elapsed since the previous shower. Copious night-dews are the substitutes provided by Providence to supply the place of rain; but it must be evident to any one that the absence of rain must have a powerfully conservative effect upon the materials or elements of which Peruvian guano is composed, and which are peculiarly liable to the deteriorating influence of water in the shape of rain falling upon it from time to time. This *alone* causes the difference existing between the properties and, consequently, the increased value of one—the Peruvian—over all other kinds which have hitherto been discovered; no other possessing the amount of azote or of phosphates of the Peruvian, and we believe there is no hope of discovering any country in which the absence of rain is coupled with the immense and marvellous clouds of sea birds which are the immediate producers of the guano. However the stock is so reduced in the Chincha Islands that the purchaser must now be satisfied with a simple guarantee that the guano is delivered pure and unadulterated. Such is the present condition of the Peruvian guano trade, which during the few years that it has lasted has produced almost a revolution in the application of manure to the land, and helped, by the collateral operations arising from it, to spread a general knowledge of agricultural chemistry and of the application of its principles in the management of the land.

It will be evident that any scarcity of the more valuable article, will leave a wide opening for practices, which, in fact, are known both in the United Kingdom and on the European continent, specially in France, where

there are numerous manufactories of guano, as so called. Several articles on the subject have appeared in the *Echo Agricole*, from which we learn that certain manufacturers are taking advantage of the dearth of guano to foist upon the public spurious compounds under the same form, or as near it as they can produce it, for which twice, thrice, or four times the intrinsic value is charged. M. Corenwinder, the founder and president of the Agricultural Committee of Lisle, has, with other members of that body, thoroughly investigated this subject, and been the means of exposing the frauds that have been palmed upon the agriculturists. Some of the sellers of worthless articles declare that they have improved upon the real Peruvian guano, by taking from it the volatile azotes and the phosphates, which they allege are dissipated immediately they are spread upon the land, and have substituted fixed substances which, in fact, are fixed enough to do neither good nor harm, being quite unavailable to any crop whatever. A colouring matter is given to this mixture similar to the colour of genuine Peruvian guano, so that without an analysis it is impossible for an ordinary purchaser to detect the fraud except by its results upon the crops, or by a previous close analysis, which the purchaser has not always the opportunity of employing. The *Echo Agricole* gives the analysis of several samples containing various proportions of azote. Thus, an artificial guano containing 2.17 per cent. of azote is sold at 25f. per 100 kilos. (or £11 per ton), worth only 6f. 25c. (or one-fourth) per ton. Another containing only 2.43 per cent. of azote is sold at 20f. (or 16s.) per 100 kilogrammes (or £8 8s.) per ton, worth 7f. per 100 kilogrammes, or less than £3 per ton. We give one more—American guano. This is composed of 4.74 azote, 7.27 phosphate of lime, 11.43 water, and the rest per cent. of various animal matters. The price of this compound is 31f. (or £1 4s. 10d.) per 100 kilos., worth 14f., or £6 8s. per ton.

Such are the frauds upon the French farmers, who, generally speaking, are but little qualified to detect them, nor disposed to expend any money in analyses, which they do not understand sufficiently to have any confidence in. It is otherwise with the English

farmers, who have for many years been indoctrinated in the value of chemistry and its appliances in the analysis of matters employed in the fertilisation of the soil, and have moreover reliable men of science within reach to undertake the operation. The exposure of sundry frauds attempted here has put the farmers upon the alert in their purchases, and few of them would now buy the article without having previously a sample for the purpose of an analysis to ascertain its intrinsic value. The sample given, as offered in France, was sold at 33*l.* 15*s.*, and sent to M. Corewinder direct from the cargo imported, without passing through the hands of any agent or purchaser who could adulterate it before the analysis was made. This will be some guide to the buyer; but it is to be hoped that other deposits

will yet be discovered, and that the supply will not be absolutely cut off by the exhaustion of the present stores; as it is, indeed, understood that immense quantities have been found in the mountains that bound the Chilian and Peruvian States on the East; and a list of 46 different islands and places on the mainland has been published by the Peruvian authorities as containing deposits more or less in amount, and of different qualities. Whether the climatic conditions of those mountains are as favourable to the properties of the guano is a question we cannot speak to; but we hope it will be thrown open to the access of the European traders, so that the farmers who have learned its value may not be wholly deprived of its aid in the renovation of the soil.

THE CENTRAL CHAMBER AND ITS ORGAN.

Notwithstanding the untoward circumstances under which the great Carnival of Agriculture has just been celebrated, it is satisfactory to see that the Societies associated with, and, as it were, the mouthpieces of the pursuit, flourish exceedingly. Try them as we may, by the meetings they held or the reports they offered, the Royal Agricultural Society of England, the Smithfield Club, and the Farmers' Club were never more prosperous than they are just at present. To this rule there is of course one remarkable exception: the most pretentious of all these bodies, the Central Chamber of Agriculture, has, according to its auditor, £40 in hand wherewith to meet some £70 of liabilities; or, in other words, the Central Chamber was last week in a position to pay a little more than ten shillings in the pound. And the auditor went on to say, naturally enough, that "it was disgraceful such a Society should stand in such a position," as he dwelt on the heavy arrear list which he found. Here, it is manifest, the point of the story centres; not only do individual subscribers decline to go on subscribing, but some of "the Local Chambers throughout Great Britain," of which the Central Chamber calls itself the head, have neglected to send any further tribute. This is the more noticeable as, if the executive of the Central Chamber has displayed any particular energy in doing anything, it has been in asking for money. Under some excuse the hat has always been going round, or the begging-letter circulated, until one begins to think the renowned Mr. Joseph Ady must have taken the financial department under his control. People may have very possibly got sick of this sort of thing; but in any case the actual facts are so damaging that a copy of the auditor's report was not to be obtained at the meeting, while, although it is stated in a kind of preface to the pamphlet of reports issued that "the statement of the financial sub-committee, with the report of the auditor, is appended," neither of these official papers are to be found in the copies with which our representative was supplied!

The falling away of the Local Chambers could only have been expected from all that has been occurring for some time past. One Chamber protests against the irrelevant nonsense talked at the Central Chamber; another asks when they are going to work in earnest at head quarters at questions which really affect agriculture; expression is given at a third to a hope that reports over which the Central committees are busied may never be finished; and a fourth, at Gloucester, only the other day, declares that these Central Reports (on Tenant-Right) give very little information, as that which they do give about Gloucestershire is not to be trusted. Six weeks or so since we ventured to characterise this said report, so far

as it went, as "a melancholy rigmarole proclaiming failure in every line of it." The plain truth is that the Central Chamber of Agriculture has from the first been a mere job, worked with little ability and proportionate success; as it has now arrived at this grand epoch in its career—it is bound hand and foot to the landlords over Local-Taxation; it is shirking instead of organizing any movement against the Malt Tax at the coming election, and it has shelved, so far as it had any power to do so, the Tenant-Right cry by the stale trick of appointing a committee, which was never wanted, and which has failed miserably in the outset. With such a glorious consummation can we wonder at its actual possessions reaching to as much as ten shillings in the pound, or at one of its own officers characterising this as a disgraceful position?

From the first, when almost altogether unsupported, we never hesitated to express our opinion as to the conduct of the Chamber of Agriculture, and we have suffered accordingly whenever a broken link in our armour was thought to offer an opening. Thus, only a fortnight since the Organ actually devoted a leader of more than two columns to the merits of the Birmingham Champion Ox of the previous week, quoting with peculiar complacency *The Times*, and itself on "the grandest beast in the show," and with little mercy gibbering us after this fashion: "*The Mark Lane Express* turns up its nose at such a specimen of prize oxship. It says: 'The very winner hardly looks like a thoroughbred one, but is simply a great mountain of beef of not very prime quality, while he begins with a poor, plain, mean head, and has as little style about him as any beast which ever took so high a place.'" And then the Organ, although it protests against our "off-hand manner," proceeds in a very off-hand manner to settle the question in this way: "Of course, the beast is a grand one, or else all the different sets of judges must have been woefully wrong, and *The Mark Lane Express* right."

Still our critic would "like to know who is wrong and who is right," and by the next Monday he is thus answered by "A Midland Judge" in his own columns: "Having had the privilege of viewing the four animals which were by their previous triumphs in their several classes selected to compete for the further honour of the best in the bovine classes exhibited, I had a better opportunity of judging them as they were led up and down the avenue than those who merely saw them tied up, and I then thought that he was the least worthy of the high distinction—an opinion in which I was, upon a closer inspection, fully confirmed. That he had a great carcase, moderately evenly covered with flesh, is beyond question. He had a fine fable back, good spring of rib, and conse-

quently a good middle piece; but I failed to distinguish that fine rich touch which all Shorthorn breeders so much aim at—in fact, my opinion is he lacked quality. His character, too, was anything but that which my eye recognises as that of the pure-bred Shorthorn, and I fully endorse the following words of one of your contemporaries: ‘He begins with a poor, plain, mean head, and has as little style about him as any beast which ever took so high a place.’ His neck was mean and weak in the extreme, his shoulders badly covered, his brisket by no means what it should have been; his flank, purse, and rounds were the worst I ever touched for an animal of such pretensions, to say nothing of a badly set-on tail and patchy rump.” This very moderate beast, according to a man who expresses himself like a judge, *the worst of the four* was Mr. Wortley’s champion ox, which commanded the “high praise of *The Times*, and was by the Organ “the grandest beast of the show;” whilst the contemporary whose description the Midland Judge “fully endorses” is *The Mark Lane Express*. How thoroughly do the Dogberry of *The Times* and the Verges of the Organ in the characters of middle-headed watchmen observe the behest to write each other down an ass. At Leeds this “grand beast” was beaten by Mr. Reid’s heifer, in turn since beaten by another Birmingham entry, so that the Hereford ox, for which we went in the outset and which “A Midland Judge” also prefers, was, probably alike for looks and quality the best animal this year in Bingley Hall. It is only right to add that we knew nothing of the Midland Judge’s letter until it was published, nor do we now know the name of the author.

With one sentence, however, in this suicidal leader we heartily agree: “Clearly there are some editors or reporters who either do not examine the beasts they are going to write about, or, if they do, are incompetent to perceive and appreciate the merits and deficiencies in form, quality, and character in the specimens before them.” Clearly there are, and with permission we will illustrate this by “the leading Journal,” or, in other words, by the practice of *The Times* reporter—who before now has given very complimentary descriptions of animals, which unfortunately were not present at the meeting he was writing about—who only at Hull proclaimed, with all the “high praise” at his command, a young Shorthorn to be the first prize bull, though his chief merit was in standing in the *net stall* to the first prize—and who, at Birmingham, two or three years since, wrote up a “superb” Devon as the best beast in Bingley Hall, which never took any prize whatever at Islington in the following week. Clearly “there are some editors or reporters who either do not examine the beasts they are going to write about,” or very possibly never see them at all; and who are “competent” for little better than being crammed by a butcher or a very disinterested owner. The Organ must have had some such an editor or reporter in his eye when he passed this severe sentence.

THE ROYAL AGRICULTURAL BENEVOLENT INSTITUTION.

At the December meeting of the Council, Mr. C. S. Cantrell in the chair, it was announced that Mr. Donald Nicoll had withdrawn his name from the Council of the Institution.

The receipt of a legacy of £100 was reported.

The deaths of two pensioners were reported.

It was decided that in the case of candidates permanently disabled the qualification age should be reduced from 45 to 40 years of age.

Some complaints advanced against the quality of the food supplied to the children at the schools were considered unreasonable.

It was resolved in future to hold the December meeting of the Council in the Smithfield Club show-week, as suggested in *The Mark Lane Express*.

FRENCH TRADE SINCE THE WAR.—In the recent debate on the Budget of the Minister of Agriculture and Commerce in the French Assembly, the minister made an interesting statement as to the development of the French export trade since the war. The fact to which he called attention is one which has justly attracted some previous notice, viz., that the exports of France in the present year exceed by £20,000,000 the exports in 1869, which, as the minister puts it, was the most flourishing of the *régime* which preceded the present. The minister recognises that much of the increase is due merely to a rise of price; but there is, nevertheless, he asserts, an enormous progress, on which the French people have a right to congratulate themselves. The minister also draws attention to the fact that the increase takes place under *régime* of competition, and is in no way in protected industries, the only new advantage which French industry enjoys, as compared with former periods, being the absence of taxes on raw materials. The following is a list of the more important items in which the increase has taken place:—

Tissues of silk	... ..	£3,000,000
„ wool	... ..	2,680,000
„ cotton	... ..	400,000
Works in Leather, &c.	... ..	2,400,000
Jewellery and Gold work	... ..	880,000
Watch making	... ..	160,000
Tools and other works in metals	... ..	3,000,000

The principal increase is thus in articles of manufacture in which France has had a pre-eminence, that is, France has been able to develop her characteristic industries, but the minister remarks as to the last item, that it is customary now in France to purchase articles for which recourse was formerly had to England. Such is the account of the French minister, and it is certainly a remarkable one considering the shock which must have been given to France trade by the unhappy war of 1870-71, the fact that this has been a year of crisis in several countries with which France deals, and the additional circumstance that the France of 1873 is smaller by two manufacturing provinces with a population of more than two millions than the France of 1869. There are only two possible qualifications to the account, to which we think attention may be drawn, without questioning that the account, should be substantially satisfactory to the French people. One is that to some extent the apparent exports of France may have been increased by the loss of two provinces—what was formerly a home trade between one part of France and another becoming a foreign trade, and so swelling the totals of the latter. Is there any means of telling how much the diminished France of to-day exported to the lost provinces, as the amount, if it can be stated or guessed at, clearly falls to be deducted in a comparison with the former period, a contrary rectification being also made in the former account in respect of the share which the lost provinces contributed to the former exports of France? The other qualification is that some of the increased exports may indicate no real increase of the industry of France, but may be a sign merely of diminished wealth. France must export more because of the large debt which she has contracted abroad as the result of the last war, and the interest of which she must pay. Does she pay the amount without any diminution of home consumption, or does the new debt abroad actually take something from the people which they formerly enjoyed? There is a suspicion that the latter may be the case, as the imports have certainly not increased as well as the exports, and it would be desirable to have the statistics of French trade and industry carefully analysed to see whether any weight is to be given to this qualification of the minister’s account—*Economist*.

WINFRITH FARMERS' CLUB.

PARASITES.

The opening meeting of the winter session took place at Wool. Mr. O. W. Farrer, the Recorder of Wareham, was set down in the programme for a lecture on the Sanitary Act, but his place was taken by Mr. George Bennett, of Winfrith, whose indisposition had prevented his presence at a meeting fixed for October. Mr. J. J. Bates, of Lulworth, occupied the chair.

Mr. J. BENNETT then read the following paper "On Parasites." When asked a twelvemonth since to take this subject little thought that it was one of such extent, interest, or importance. Unfortunately for me, I have not been able to obtain a vast amount of information that I had wished to have access to, as I am unable to read the German language, and this particular subject seems to me to have been treated *in extenso* by our German savans. Such being the case, I hope you will pardon me if I fail to set before you this evening a very learned and wise discourse upon a subject that at first sight does not commend itself to people generally, but it only requires to be slightly investigated and I am sure an interest will soon arise. I saw some very good advice a short time since, which I mean to adopt as far as I can. I have had to do with a lot of hard names and long scientific words; these I mean to leave out and expunge as far as possible. The advice was simply this—"In particular arts beware of that affectation of speaking technically, by which ignorance is often disguised and knowledge disgraced." In the first place I think it will be as well to come to some understanding as to what a parasite is, and what is meant by the term. I shall simply define it as a plant or animal which attaches itself to and lives in or upon another. We find them in the animal and vegetable kingdoms. These creatures are found to exist in almost every living being; and, not only so, but in all parts of their bodies, such as the viscera, muscles, brain, skin, and even eye. Some appear to have no appreciable effect upon the organisation or on the subject, whose body they may occupy for years without giving rise to a suspicion of their existence, whilst others cause death in a short period. Again, in the vegetable world almost every plant has its own special parasite in the form of either a vegetable or animal, and that to such an extent that sometimes whole fields of grain, tubers, or hops are nearly destroyed by them. It can hardly be supposed that these creatures are altogether created to be a pest to the world; it seems rather more probable that where they exist in due limitation they have a beneficial effect in cleansing and purifying those parts of the animal and vegetable bodies on which they feed; and that they only become specially injurious when they become extremely numerous, and suck away the very life-blood of the creatures that sustain them. For of their numbers in special cases, such for instance as in what is sometimes called the cotton worm, or disease of sheep, where the whole mass of flesh becomes white the cotton with an infinite number of little thread-like worms—in this and other cases, I say, their numbers are beyond all calculation. And, indeed, we may say of parasites in general, the law with them is to increase rapidly. Of animal parasites we may say their varieties are incalculable, some being very conspicuous and large, while others on the contrary are so small that it requires a powerful microscope to see them at all. If it be true that nearly all animals, small and great, are more or less infested with parasitical companions, it naturally follows that they must be of all sizes—a truth which Deaa Swift has beautifully, though humorously, expressed in his well known lines:—

The little flees that do so tease,
Have smaller fleas that bite 'em;
And those again have lesser fleas,
And so *ad infinitum*.

Let me draw your attention to the disease in sheep, caused by a parasite called a fluke or liver fluke. On wet lands there is perhaps no parasite from which the farmer suffers more than from the liver fluke. Dr. Cobbold says that the ravages of this disease have been of the most disastrous and extensive character. A writer in the *Edinburgh Veterinary*

Review says, that in the season of 1831 and 1832 the estimated deaths of sheep from rot was between one and two millions. Supposing the number to have been one-and-a-half millions, this would represent a sum of something like four millions sterling. Scores of cases have occurred where farmers have lost from three to eight hundred sheep in a single season, in many cases causing their complete ruin. The number of flukes inhabiting a sheep's liver is sometimes very considerable. The eggs of a fluke may be numbered by thousands, as found in the bile contained in the liver ducts. Though of comparatively rare occurrence in the human subject, it is in an indirect manner extremely injurious to man. By its prevalence in the lower animals it cuts off a large supply of healthy food, at the same time producing a quantity of meat unfit for the market, but which, nevertheless, is largely eaten by our poorer inhabitants. The liver fluke is not only extremely destructive by carrying off thousands of our sheep, but it also affects our larger cattle. The disease therefore is of great importance, as it cannot fail to prove highly prejudicial to our social interests. Outbreaks occurred in the years 1809, 1816, 1824, 1830, 1853, and 1860. A wet season seems to further the multiplication of parasites, and on the other hand a fine, dry, open season tends to check the growth and wanderings of the larvæ, thus rendering the flocks comparatively secure. Long continued wet, and a succession of wet seasons, seem particularly favourable to this disease. Sheep feeding in salt-water marshes seem to be exempt. The mixing of salt with our sheep and cattle food serves as a preventive and curative agent. Moisture being essential to the growth and development of the fluke larvæ, sheep cannot be infested as long as they remain on high and dry grounds, and even in low pasture they can scarcely take the disease as long as they are folded and fed on hay, turnips, and fodder procured from drier situations. For rot-affected sheep my opinion is that the only way to treat them is by the free use of salt, transference of the rot-affected animals to dry ground, good shelter, supplying them with beans or peas, and the fodder constantly changed. From this ravaging disorder in sheep caused by parasites, allow me to direct your attention to other disorders in domestic animals that have their origin in the presence of parasitical creatures. First, as to giddiness in sheep. This disorder is caused by the presence of hydatids on the brain, and their presence there may be recognised by the restless and wandering habits of the sheep so affected. The parasites causing this disorder are supposed to be produced from eggs taken in the food, and afterwards reaching the brain through the channel of the blood. When they become large or are numerous they are the means of gradually absorbing the brain, thus causing very alarming symptoms. The disease is difficult of cure. Trepanning has been tried, and also passing a wire up the nostril, but probably it is the wisest thing to kill the animal. Allow me in passing to refer to a less important disorder than the one last spoken of—namely, the gape disease in fowls. This is caused by a particular kind of worm belonging to the order of Sclerostoma. The remedy adopted by some is to strip a feather and remove the worm by pushing the same down the throat. Some people apply turpentine externally. In the case of partridges being affected change of food and place is recommended, with an infusion of rue and garlic, instead of plain water to drink. I will now pass on to the subject of tape-worms. The human subject is affected by no less than ten distinct species. The tape-worm inhabiting fish exhibits very distinct characteristics from those of birds or mammals, inasmuch as they are furnished with special hook appendages employed as supplementary organs of boring and anchorage. Though dogs and many of our domestic animals are often passing tape-worms, they do not seem to suffer severely from their doing so. It is only when the length of the parasite becomes very great, and requires a corresponding quantity of nourishment to support it, that it begins to sap the constitution of the animal in which it is lodged. Though looking like a worm of many yards in length, when more closely examined it is found to be a compound animal, resembling very much a chain,

where every link is a distinct creature, but so united together as to look like one lengthened-out worm. Cestoid parasites are found in the ox, although in no great extent. The larvae of tape-worms abound in cattle, while the cestoids in their adult condition are of less frequent occurrence. The beef measles, although unknown in England, is frequently found in India whilst serving out the meat rations to the troops. It is a larval parasite or tape-worm in an immature state, like that which infests the human body. Experiments have proved that the ox is equally as liable as the pig to certain tape-worm larvae within the substance of their flesh. If a calf be induced to swallow ripe eggs of the human tape-worm, the ova there introduced will in time transform into measles. Swine will undergo a large amount of parasitism without apparently exhibiting so much suffering as other animals. Measly pork is more often detected than measly cattle, the reason being that in the latter the appearances are few and far between. The measles disorder (called cestode tuberculosis with equal propriety) occurs in the sheep, pig, ox, or other animals. To discover this disease a microscope, or at all events a strong magnifying glass, is required. When properly developed the beef measles is $\frac{1}{4}$ inch in diameter, this being much smaller than the cystereus of the pig. But there are other diagnostic signs of greater value. We may justly say that of all the forms of animal life parasites are possibly the lowest. They are deficient of many of the organs that are possessed by those that are above them. Thus we say of internal worms, or entozoa in general, the organs of sense, &c., seem to be limited to that of feeling. In some the digestive organs are altogether wanting, the nutriment penetrating the tissue as in a fungus or conferva. No breathing apparatus is required, living as they frequently live, in cells and cavities. These worms are produced by budding, spontaneous division, or by eggs. The embryo developed from the egg does not always grow up immediately into an animal similar to its parent. It transforms itself into a larva, capable of giving birth without fecundation to other larvae, which are alone capable of becoming animals similar to the parent worm. These larvae are generally found in the tissue of animals very different from the one in which the perfect worm exists, so that before one of them can complete its development it must be transported into another animal's body. Thus the white cell or vesicle, causing a fearful disease in pigs, developing very rapidly in the muscular tissue, transforms itself into tape-worm in the human intestines. One kind of worm, having five mouths, lives in the pulmonary cavities of the rattlesnake, another in the bladder of frogs, and another in the skin of a common worm; thus we have "A worm upon a worm." Among the parasitical creatures that are a great annoyance to our farm stock may be also noticed here the flesh flies on sheep. They deposit their eggs on some damp place in the wool, which soon arrives at the maggot state, causing great inconvenience and loss. Ticks, too, are very troublesome to the flock, yet they tend to cleanse away impurities from the skin. And the maggots of the lot, residing in the frontal sinus, are also frightful enemies to the sheep. Causing them to sneeze has been known to bring the maggot from the nose. If sheep could be induced to become snuff-takers they would never suffer from the bot. What shall I say of bugs?

No doubt they are fierce parasites,

Without respect for person;

If one a tender thin skin bites,

Another bites a coarse one.

Yet, independent of their evil propensities for biting, I read in the *Saturday Magazine* that they used to be a favourite medicine with doctors for colic. An old writer says: "Truly it is a remedy not to be despised, but it is no new remedy; it is a certain cure, inasmuch as a governor of Zurich was so helped by their use that he would have liked to have written a commendation in their favour." If I try to soften down their bad properties, and to bring into prominence their good ones, I am only following the example of a great authority; for Shakespeare, in speaking of parasitical men, calls them

Most smiling, smooth, detested parasites,

Courteous destroyers, affable wolves, meek liars.

I now bring before your notice another parasite. Think of our blood vessels, and the blood vessels of other animals, being the channels through which insect parasites are flowing in countless numbers, like fish in great rivers and all their smaller branches. The hematozoön, a blood parasite, infests

the human blood, and this has been now proved by Dr. Lewis. It is $\frac{1}{6}$ th of an inch in length, and as broad as one of the red blood discs. Nothing as yet is known of its organs. As our knowledge of entozoa extends we may find other at present obscure diseases associated with the presence of some such parasite as this. The discovery of its dwelling-place is of course the first step to its removal. For the sake of variation in our subject, I would here briefly refer to the beneficial uses of parasitical life. In the fertilisation of the yucca plant there has been found a great difficulty to obtain seed in this country. This arises from the fact that the yucca, being an insect loving plant, a certain small moth collects the pollen and inserts it into the proper receptacle, and with the pollen deposits a few eggs; the larvae of the insect feed upon the seeds when matured. And, indeed, it almost seems that the plant and the insect are inseparable. Not having this particular insect in this country, we are unable to procure the seed of this particular plant. Parasites, if not deriving nutriment from the animals on which they are found, must be a great annoyance, and must certainly retard the flight of birds and insects. We owe a debt of gratitude to a large and important class of flies of the ichneumon family that are true parasites, and that live on other insects, enemies both in the ovum, worm, and chrysalis state. Parasites, as a rule, begin life in the egg form, passing from that into the larvæ or caterpillar state, and then into the third or proper state; but sometimes this arrangement is somewhat altered, and, as a French naturalist named Faber has noticed, some insects have to pass through what may be termed intermediate states; that is to say, not only eggs larvæ, and pupa, but modifications of their states; this he terms hypometamorphosis (this is the case with one of the bee parasites—the oil beetle). Bees afflicted with a parasitical worm inducing disease. These creatures feed on the fatty tissue, pass through their usual change, and then exchange their living quarters for the water, where they lay millions of eggs, which are again ready to be taken up by any animal frequenting the moist localities in which they are found. And, whilst speaking of bees, there is a microscopic fungus called *nucoor mellitophorus* that infests bees, filling the stomach with an immense number of microscopic spores, that greatly weaken the insect. The tachine, an insect that causes immense damage to bees, is the means of a disease called the foul brood, analogous to typhus fever in the human subject. It lays its eggs in the larvæ of the bee, and the perfect insect shortly comes to maturity; the young bee is killed, and its decaying body causes a poison similar to typhus fever to arise in its immediate neighbourhood or brood. There are two facts that I had almost forgotten to mention; the first is that dogs, when troubled with a certain kind of fleas, by biting and gribbling at them, the fleas find their way into the stomach, from hence the embryos are set forth by the gastric juice, giving rise to parasitical worms. Secondly, Dr. Cobbold mentions the curious fact that he calculates that about 4,000 people are affected with tapeworm in the metropolis; and, supposing that each day one of the two segments of the living worm pass into the sewers, causing 40,000 eggs, the sewerage is then placed over the land, and these eggs may be swallowed by cattle, the covering of the eggs preserving them from atmospheric influence. As the creatures of the parasitical animal are so numerous, I might have drawn your attention to more than I have done; but as there is still a further branch of our subject untouched—namely, vegetable parasites, I must hurry on to that, concluding my remarks on animal parasites with some brief information regarding their development. The science of helminthology or entozoology, makes us acquainted with the forms, habits, structure, development, distribution, and classifications of a large number of invertebrate organisms which take up their abode at one or more periods of their life-time in or on bodies of man or other animals. Dr. Cobbold says that the happiest and perhaps after all the most truly philosophical way of studying the entozoa is to regard them as a particular fauna, destined to occupy an equally particular territory—that territory is the wide-spread domain of the interior of the bodies of man and other animals. Each animal or host may be regarded as a continent, and each part or viscus of his body may be noted as a district. Each district has its special attractions for particular parasitic forms; yet at the same time neither the district nor the continent are suitable localities as a permanent resting place for the invader. None

of the internal parasites continue in one state; all have a tendency to roam; migration is the soul of their prosperity, change of residence the *sine qua non* of their existence; whilst a blockade in the interior, prolonged beyond the proper period, terminates only in crification and death. I now venture to draw your notice to various disorders inflicted on the higher forms of animal life, as also upon various trees and plants, and different sorts of crops, by parasitical fungi and other forms of vegetable life, as well as the ravages created in crops by worms, flies, and so forth, members of the parasitical family. The bean parasite, the Aphis Faba or the Black Dolphin, arrives with an east wind, and is most destructive to the bean crop. It is supposed to derive its nourishment from the sap of the plant. Its powers of reproduction are enormous. Kollar states that it multiplies after the rate of 729 millions in one season. This blight (so called) is arrested by topping the plants; and some persons assume that by this means the pods of the bean become enlarged and more fully developed. A check to this parasite is the larvæ of the ladybird, ichneumon, and maggots of other insects. And here I may notice that the larvæ of certain parasitical flies feed upon some of our insect enemies, and thus destroy them, as seen in the case of the bugs and beetles found amongst the beans. A plan sometimes adopted is to grow beans and peas together; this is done for more than one reason. Firstly, the bean serves as a support to the pea, keeping it off the ground, and giving it air and light. Secondly, in case of an affection of the green or black aphid, one stands a chance of saving one of the two crops, the black affecting the bean being especially favoured by an east wind, and the green aphid by the south-west wind. Why this should be I cannot venture a reason; and on this point I should wish for information from any member of the club. Mouldiness in bread is frequently developed. It arises not from germs in the atmosphere, but from inferior flour kept under wrong conditions. It is stated that excess of salt added to the bread prevents the production of this parasitical fungi. The potato disease, the *Peronospora infestans*, no doubt arises from a parasitical fungoid. It cannot be traced back to its beginning, nor can the first appearance of typhus or any other malignant fever. The fungus that produces such dire results amongst this most valuable vegetable is not only found on the potato, but also on the night shade of our hedges, and very commonly on the fruit of the tomato; nor does it confine itself to the same natural order as the potato, but is found on plants of other orders, to wit, the Scrophulariaceæ. A curious fact may be here mentioned—that the mycelium of a fungus is a great incentive to the production of the green colouring matter of the leaves, thus accounting for the extreme healthy appearance immediately preceding the attack or after the germination of the spores. The parasite never appears on the upper side of the leaf, but always on the under surface. In perfecting itself it destroys the matrix on which it grows, and causes the leaves to dry up and putrefy. The fungus really stops the breathing apparatus of the leaves by filling up the stomachs or mouths; by this means the stem and leaves become surecharged with moisture, producing rot and decay. The spores when ripe are given off by the fungus, and, by means of the wind and showers, the disease is spread with alarming rapidity over large districts. Besides the germ or spores other bodies are also found called oospores, or a secondary sort of fruit of the potato fungus, which do not germinate or perish at once, but remain for a whole season, until circumstances of a favourable character occur, when they reproduce their parent forms. The fungus of the potato fruit affects the leaves, then the stem, and lastly the tuber. It appears that the fungus penetrates from the exterior or cuticle to the interior, the eyes being the last to succumb; and I question very much if planting the eyes is not a sure way of spreading the disease. Destroying the haulm immediately it is sometimes best recommended to stop it, but if delayed the fungus soon gets to the tuber. When the disease occurs in a field where the resting spores have been developed it does so from beneath upwards; these plants soon affect the healthy ones in an opposite direction, that is from the leaves downwards, and so the crop perishes. Early planting of early sorts, I opine, is the best preventive. Amongst animals that suffer from vegetable fungi in the shape of parasites we may name the horse. Thus we read in *The Times* newspaper, April 3, 1873: "The vegetable origin of the horse disease is the subject of a paper in *The American Naturalist*, by Mr.

Moorhouse, of New York. He examined the matter exuding from the nostrils of the affected animals, and, besides the regular pus, found no less than three kinds of vegetable organisms, all in states of vigorous development. One was a species of minute lichen, known as *Uredo lario scruposo*. These were in every form of development, there being hundreds of fragments in a single drop. Another was an unknown species of *Aspergillus*, also giving evidence of propagation and growth. The third form was an unknown species, not hitherto described. In order to prove that these spores were floating in the atmosphere, they were caught on moistened glass in the atmosphere in the vicinity of the disease. This is regarded as bringing the atmospheric and vegetable origin of this disease nearer to demonstration, but yet not as proving it, as the atmospheric vegetable spores may have simply found a favourable nidus in which to germinate in the mucous matter given off by the disease." Parasites in plants are most numerous in the tropical regions. Sometimes a tree may present various kinds of foliage, arising from the different kinds of parasitic intruders. In Britain only a few species are known. I will here mention the dodder. It has been described "as a non-parallel, having no leaves, but red threads, and after it has fastened its clasps or small tendrils on the lime, thyme, nettle, madder, or such like, it quits the root, and, like a clinging parasite, lives upon another's trencher, and like an ungrateful guest, first starves and then kills its entertainer, for which reason indigenous clowns curse it by the name of 'hell-weed,' and in Sussex by the name of 'Devil's Guts.'" Gerard also describes it as a strange herb altogether, without leaves or root, like unto threads very much snarled or wrapped together, confusedly winding itself about bushes and hedges, and sundry kinds of herbs. Dodder, when first produced, lives as an ordinary plant in the roots, the roots deriving nutriment from the same. It then puts out a tendril, and, if fortunate enough to attach itself to a becoming plant, it soon produces more tendrils, which continually wind themselves round the plant, piercing its texture and deriving nutriment from it. Its own roots after a time wither, and from this time it is entirely independent of the soil. One peculiarity of the dodder is that it can mature its seed in the capsule, and by so doing, it becomes a parasite at once. Dodder germinates from seeds like our ordinary plants, and must be sown with the clover seed; but it has the power of remaining in the soil without germinating for a longer period than the clover. The dodder soon becomes like the polype, so that if cut up into many fragments, each one becomes a separate plant, so that harrowing or tearing abroad is of no use to rid the plant. The only effectual way is to dig up the soil and burn thoroughly. Some people have recommended a weak solution of sulphate of iron to be applied with a watering-pot, but this remedy can only be adopted when the plant has not made much havoc. De Candolle recommends the way to get rid of this troublesome pest is to mow such portions of the crop as are infested before the seed is fallen, and, if this has taken place, to replace the crop by some sort of grass that has not the privilege of being affected by this plant. Flax is sometimes affected with it. Brown rape is again another parasite which attaches itself to the clover roots, and is most probably sown with the cloverseed. It is a leafless plant that attaches itself to the ends of the roots, causing them to swell, and from this swelling they derive their nutriment. In some countries this parasite is often found, and the mode adopted for its extirpation is to steep the seed in an alkaline solution. It is supposed that the seeds attach themselves by a kind of oil which floats to the surface, and are then poured off with the water. I am inclined to think that lichens do not procure their sustenance from the essential juices of the plant or tree on which they are found, but from decaying portions of the bark and from the atmosphere, although they add very much to the picturesque appearance of the aged monarchs of the forest gen. Mistletoe in severe winters is cut from the apple-tree and given to sheep, which eat it readily; it is said to preserve them from rot. This plant is found on the oak, lime, black poplar, willow, pear, and almond tree in France and Spain, and sometimes on the olive tree about Jerusalem. The old Druids used to consider this plant most sacred, probably from its scarcity. The seeds have a peculiar way of germination. They send out a rootlet that bends over until it reaches the body of the substance to which the seed has been attached; having reached this the root swells out and extends between the inner bark and the soft wood. As growth advances the roots become embedded in

the solid wood, but do not by their own account penetrate. When several plants are nourished from one branch it often causes not only the death of the particular branch but also their own death from want of nourishment. It is therefore expedient to free orchards from this undesirable pest. Smut is a parasitical fungus that destroys the centre of the flower, feeding on the fleshy mass that it produces, and materially interferes with the yield of wheat, although it does not so much interfere with the quality as the quantity. Bunt, on the other hand, confines itself to the mature wheat grain, and may be recognised by the offensive smell when crushed. The diseased grain remaining in the crop of wheat spoils a large bulk, as, unlike the smut, it remains until harvest, and does not get dispersed previously. It will not here be probably out of place to mention the reason that we adopt a solution of blue vitriol to steep our seed wheat in, or the use of lime. It is simply this—that the germ of the bunt fungus is covered with an oleaginous substance which, when mixed with an alkaline body, as lime, becomes saponified, or, on the other hand, mixed with a styptic metallic salt solution, it destroys the germ, which, being deprived of its covering, ceases to germinate, and rots in the soil, and thus prevents the occurrence of the disease. For my own part I prefer the use of vitriol. On this point I should like the opinion of those present. Steeping grain in a metallic solution serves also to destroy the germinating power of sickly wheat grains, which are only a fit receptacle for some of our numerous insect and fungoid enemies. With regard to lichens a diversity of opinion exists. Some contend that they are the means of attracting moisture to the trees on which they grow, and thus assist in their nutriment and growth; others, on the contrary, contend that they are detrimental to all timber trees. My own impression is that to a certain extent they are injurious, inasmuch as they derive for the support of their thallus an amount of inorganic substances from the bark on which they are found, these substances not being contributed by the atmosphere. I may here mention the new vine disease, the *Phylloxera vastatrix*. This peculiar parasite in all its threefold states, whether covering the roof, clinging to the branches, under side of the leaf, or when lying, is a particularly obnoxious and dangerous enemy. It seems to prefer the vine to other plants, although it is by no means certain that others are not similarly affected. Although the insect is not of itself difficult to kill, the best plan as yet found out is to burn both vine and soil, not forgetting to destroy the roots of the vine, which may become affected if allowed to remain. Even at the risk of being tedious I will bring before your notice a very remarkable way in which parasites make themselves of use in beautifying the ladies. If they sometimes create great ravages among the silkworms, and in this way make the ladies' silk dresses all the more expensive, they seem to try to make up for it by assisting the mussels and oysters in the structure of those beautiful pearls that add so much to the charms of the female sex. I will read to you an extract from the *Lancet* on this subject: "In a late number of the journal of the Linnean Society there will be found some interesting remarks by Mr. Garner, F.L.S., 'On the Formation of British Pearls and their possible Improvement.' Every one is aware that an oyster or a mussel, as the case may be, when irritated by a foreign body, not having the means of scratching itself, is reduced to the necessity of toning down the annoyance of the inevitable presence of the intruder by shedding around it, through the agency of its 'mantle,' layer after layer of lovely 'nacre,' or mother-of-pearl. Such is the origin of those pearly concretions which may be found adherent to the inside of the shells of the above-named molluscs. The rounder and more valued pearls are said to be formed in the soft parts only of the animal, of which a good example may be seen in the educational series in the Museum of the Royal College of Surgeons, in the shape of a round pearl embedded in the foot of a *maio*, or a fresh-water pearl mussel. Mr. Garner has found reason to abandon the generally received idea of the grain of sand which plays the part of the crumbled rose-leaf to the molluscous sybarite, and concludes, from observations made on the marine mussel (*mytilus*)—his conclusions being supported by the independent researches of Signor Antonio Villa, in Italy—that the exciting cause is no inorganic particle, but is actually a minute parasitical protozoan (a species of *distoma*) in the *mytilus*; while in the *anodon*, or fresh-water mussel, it is a minute mite, *acarus (Acar)*—in fact, an itch insect. The presence of such parasite, as a nucleus he has proved by treat-

ing the pearls with a dilute acid. Mr. Garner then hints at the possibility of setting on foot a king of pearl-nursery, so to speak, where the cultivation of this precious ornament may be carried on, citing the Chinese as an example, who, as is well known, not only introduce metallic figures of Buddha between the shell and mantle (there to be pearl-washed by the mollusc for the ultimate benefit of the faithful), but even go so far as to bring about what may be termed a 'margariferous' diathesis, by contaminating the water inhabited by the mussel. With regard to such diathesis, it may be interesting to mention a theory of a celebrated French zoologist, M. Lacaze Duthiers, put forward some years ago by the 'Annales des Sciences Naturelles'—that a mollusc so affected is in the condition of a calculous or gouty subject, its blood being highly charged with the material which goes towards the secretion of pearly substances; the excess of which over and above what is required for the nacreous lining of the shell is precipitated in the form of a pearl, much as in the analogous case of a man a calculus is formed in the kidney or bladder, or a concretion of urate of soda above the neckles. The reader of Sheridan's 'Critic' may remember how that the raving 'Tilburnia' cries 'Can an oyster fall in love?' But an aldermanic mussel is well-nigh as ludicrous in conception as an amorous oyster, especially when it simulates humanity, as far as to be actually laid up with gout in the foot." I am afraid, Mr. Chairman and gentlemen, that in this discourse I have been prosy and tedious, but please to bear with my imperfections, for I have laboured under various difficulties in gathering together a simple repast to gratify your scientific appetites. If I have done nothing else, I hope I may have spurred up some to look into natural history more than they have hitherto done, for it is a large, a wide, and an interesting field to labour in. I have drawn your attention to a few parasitical forms, such as most concern us; but the few I have referred to bear no more comparison to the whole army of these creatures than a handful of sand bears to all the sand banks in all the seas. Wherever the Great Creator has laid up a store of food, in all parts of the vegetable and animal kingdom, as well on dry land as in the sea, in the chill regions of the north as in the sunny south, there He has created some animals to feed upon it. There are Cecay and waste going on in every created being, and there are other created beings formed to pick up and turn to use that waste, so that no crumbs of feeding matter may be lost. As some of these strange parasites are liable to increase and multiply to a pestiferous extent, it is our advantage and our duty, as lords of creation, to seek out for the ways and means of keeping them under control, of bringing them into the subjection of man. As we have been able to bring the wild beasts of the forest under our sway and to tame them, so may we hope, by sifting into the causes of the ravages of parasites, looking out for counterbalancing influences, if we do not entirely eradicate them, we shall at least greatly diminish their injurious tendencies.

The lecture was illustrated with microscopic parasites mounted on small glass slides.

The PRESIDENT asked whether it was definitely settled amongst scientific men that the disease in sheep originated in the feeding of the animal or from internal causes?

Mr. BENNETT answered that it was from feeding—that was the latest theory. There must exist the larva; the germ must be taken into the body.

Mr. MARKE mentioned a case of some sheep which were sold on the understanding that they were free from the malady; it turned out, however, that they had it and were therefore unsound. They were driven from seller to buyer, a distance of three or four miles. The business men, called in as arbitrators in the matter, said, "You must find out who drove those sheep, and the road over which they were driven." This was done, and it was proved beyond doubt that they were driven over a certain road where other sheep had taken the same disease. Mr. Bennett had referred to the blight in peas and beans, recommending the two to be sown together. Some five or six years ago he (Mr. Marke) was induced to adopt that plan. The beans came up in beautiful bloom, but a blight took them, the flowers falling off, and what few under-pods that were formed coming to nothing at all. He had not a yield of as many beans as he had sown, but he considered that the fact of his growing them with the peas saved the latter to a very great extent.

Mr. BENNETT asked Mr. Marke whether he used lime or vitriol for steeping wheat before seeding.

Mr. MARKE replied that he used vitriol for some years; but there was a certain amount of smut one season, and then he went back to the old-fashioned system of lime and salt; he added salt to the water until it floated an egg and then he applied the lime.

Mr. T. RANDALL supposed the lime was to dry the wheat.

Mr. MARKE said "yes;" it dried wheat as much as anything.

In acknowledging a vote of thanks, Mr. BENNETT said he

was convinced that farmers, as a rule, were not sufficiently in the habit of making observations on natural history and carrying out investigations in that science. He was sure that the habit was not only interesting but also peculiarly profitable. They should know more of these things than they did at present. If they devoted a little time to going round their fields and investigating, if for even only five minutes each day, they would be increasing their store of knowledge and benefiting the community at large.

STAINDROP FARMERS' CLUB.

FARM BUILDINGS.

At the last meeting, Mr. W. T. Scarth in the chair,

Mr. R. S. BAINBRIDGE read the following paper: Farm buildings, as best suited for economy of space, food, manure, and construction may be divided into four classes. 1st, the old-fashioned fold yard with its covered lair at one end. 2nd, the byre system. 3rd, the box system, which, however, I will consider in connection with the 4th class; and 4th, the modern, and as yet seldom met with, covered homestead, under a series of roofs, and with but four outer main walls. Before treating of the different classes, with their several advantages and disadvantages, I would wish to lay down the following axiom, viz., That a beast is here treated as a meat-producing machine, and that warmth and comfort are food savers. Folds (open), 1st class: The fold-yard system with its eating-troughs, generally ranged around the sides, present the following advantages and disadvantages: Advantages—On a large straw-producing farm it offers a ready means of treading down a large amount of straw into manure, and should the stables, byres, and piggeries adjoin, it forms an easy vehicle for mixing the cold manures with those of a more heating character, and if properly spouted, so that no more water mixes with the manure than what falls directly on to it, no great deterioration accrues to such manure, and if of not too large a size, say to hold half-a-dozen beasts and with a south aspect, the animals will thrive and do well in them, more especially in the spring, and if water is then supplied to them in properly-constructed troughs. The disadvantages of the fold system: Straw, we know by chemical analysis, contains a portion of feeding matter, and the fold system is wasteful in the extreme as regards straw—too much trodden under foot, and too little passing through the animal. 2nd, in however well sorted a lot of cattle some will be the masters, and deprive the others of their fair share of food, and this, in a fold containing a large number of animals, is a serious drawback, more especially in the present day, when a much larger proportion of artificial food is used than was ever dreamt of in the olden times, and not seldom is a beast actually lamed by the knocking about it incurs from its stronger mates, and no more dismal a sight is to be seen on a cold wet morning than a lot of beasts standing with their backs up, in an open fold, devouring half-frozen turnips, chilling their bodies, and disturbing their tempers by the process, to the no small detriment of their weaker brethren. I may here remark that the sharp edges of all folds should be rounded off. Class 2, Byres: The byre is greatly in use in this neighbourhood. Its advantages are many. 1st, a great saving of straw, easy food attendance, a constant dry lair, and each animal receiving its fair share of food, and the largest number of animals housed in a given space. Disadvantages: The manure must be constantly removed, entailing labour, and when this manure is thrown to the door, into unsputted yards (as far too large a percentage of the yards in this neighbourhood are), a large proportion of valuable and costly properties are washed out of it; and, in passing, I would remark that when one sees these dropping eaves on a wet day, washing the manure, and rotting the foundations of the buildings themselves, one is reminded of the old adage of the slip lost for the want of a half-penny worth of tar. 2nd, the animal cannot lick itself, and this non-use of nature's brush and comb is no small loss to the health and well-being of the animal (I am here speaking of feeding cattle never released from the stall). Many feeders use both brush and curry-comb to their tied-up animals, but this entails labour—a costly item. 3rd, standing in one position is unnatural, and in the case of bullocks the stall is apt to get wet and

uncomfortable, unless with a very good fall, but this requires the animal to stand unlevel. Boxes: These may be treated in connection with the next class, but as far as boxes are individually concerned, they are the best of all for comfort to the animal. Covered buildings: Advantages—1st, economy of space: The largest number of animals can be accommodated for the least outlay per head, owing to less walling being needed, and easy subdivision, the greatest cost being in the roofs. 2nd, food: No waste need, or ought ever to occur in a covered homestead, in either straw, food, or manure. We know that to keep up the heat of the body a certain proportion of food is consumed as fuel; if, therefore, we can provide a proportion of heat, artificially so to speak, to the animal, less food will be needed for fuel, and thereby go to produce beef instead. If on the contrary, the animal be kept too warm, we waste its food in the opposite way by sweating, and the system that will hit the happy medium (all other things being borne in mind as well) must, and ought to be the proper one to follow. Straw: No more is needed for bedding than that required for absorbing the actual excrement of the animal. Manure: The valuable salts contained in well-made manure are all retained. Disadvantages of covered homesteads: Liability of infectious diseases going through the whole herd. Lung disease might easily be transmitted throughout, as also foot-and-mouth disease, and the above diseases actually occurred to the writer of this paper in such a building, though the diseased animals were at once removed to the milking boxes that were carefully walled off from the rest of the buildings. The diseases were, however, of a very mild kind, and in the case of foot-and-mouth disease many of the animals were not off their food for more than three days, or even less, which may be attributed to the comfort the animals enjoyed. Another drawback is in the case of fire, as the whole of the cattle might perish from their being all together, so to speak. This, however, is mainly a matter of extra insurance. Draughts: Some covered steadings have been constructed without a due regard to avoid draughts. This, however, is an error in construction, and not the fault of the system. I will now proceed to describe a covered farm-stead which contains the fold (but covered in), the byre, but without its water-washed yard for the manure to go into, and the box system all in one. The steading stands on a natural slope, and the ground work of the building consists of two terraces, a divisional wall separating them, the lowest being a large fold-yard for store cattle; and the full width of the building under a series of four roofs. These are supported on metal pillars, which are hollow, to convey the water from the gutters of the roofs into the drain below. The fold is capable of holding 40 head of cattle, and easily divided by rails fitting into grooves in the pillars, which are some 10 feet apart. On one side of this fold, and communicating by small doors, are the piggeries, which are two or three feet above the level of the fold. By means of these doors the manure is thrown out. Along the top of this large fold, and raised some four feet, runs a passage, and into this passage open the stables and byres, whence the manure is conveyed into the lower fold and spread about, and by this means the several kinds of manure are well mixed. The boxes (both single and double) are ranged in three parallel lines in the north side of the upper terrace, having feeding passages between them, and are sunk four feet below the level of the passages. The byres come next, a passage dividing them from the yard boxes, containing four or five beasts each, in the intermediate state of wintering and feeding. All

this upper terrace is open, only divided by rails, except in the case of the byres, where there is a light wooden boarding, six feet high, before their heads, to prevent them seeing the cattle feeding in the boxes. At the head of the boxes and byres, and running parallel with them, stand the barns and turnip-house, from the latter of which runs a line of rails, communicating with all the feeding passages by turn-tables. These turnip-truck rails being simply T-iron, nailed on to horizontal wooden sleepers, are cheap, and easily repaired. The stable is merely partitioned off from the mid-feeding boxes by a wooden lattice work, between the roof-supporting pillars. A harness room runs the full length of the stable, and communicates by three doors, also through a wooden lattice, and in front of the horses runs a passage for feeding, the hay-house being midway down this passage, and corn-bin as well; this latter being connected with the granaries by a spout to convey the corn without needing to be carried. The slates, both in the stable and rest of the building (except the granaries), are unpainted, and this, together with the opening in the roofs hereafter described, makes the stable very cool, not to say cold; but the horses were always healthy, though apt to be rough in their coats. The whole building is watered from a raised tank, into which the water from the higher roofs is conducted. The roofs are slated with blue slate (into which are inserted glass slabs in sufficient numbers to give plenty of light), and are unpainted. Three-fourths of the way up, there is an overlapping roof, pitched three inches above the lower, and giving ventilation along the entire range, and so pure and cool is the air in the whole building from this mode of ventilation, that the difference of temperature between the inner and outer air was found to be only about three degrees, as taken by thermometer on several occasions, at a height of eight feet from the ground; and the ventilation being so far above the level of the animals, prevents that most undesirable drawback, a draught; and this cool temperature does away with the objection sometimes raised against covered steadings for store cattle, viz., that of making the animals' coats too fine for grazing. The pig-sties, cart-sheds, and implement houses are under a fifth roof, the granaries being above, and are walled off from the rest of the building by a single-brick-thick wall. We have here economy of food, from the cattle being kept dry and comfortable. Economy of straw: The animals need no more bedding than their own excrement requires to keep all dry and clean; and in the case of the lower folds, the straw that comes from the stable is found nearly sufficient to keep them supplied. Economy of manure. None washed away, all preserved, and from the undeteriorated salts of ammonia, &c., preserved thereby, it was found to be positively injurious to turn the manure, as it heated to such an extent, and this saved all that extra labour, and was quite short enough from so little bedding being used. Existing buildings can never be altered to equal a well considered and properly constructed covered steading, but still given the old fold-yard, with its surroundings of barns, and stables, &c., by roofing in the open space with a series of roofs, supported simply on metal pillars, the number being according to the size of the yard, we have then a dry comfortable lair, easily converted into anything desired, be it loose box, calf cripp, pens for ewes and lambs at lambing times, or anything else, by simply dividing the covered space with a few hurdles, or rails; and no one who has ever tried the covered system for one year, I believe, ever disliked it, thus proving that prejudice against it arises only from inexperience. Cost: All depends on the locality, but from the absence of expensive divisional walls, it need not exceed ordinary farm buildings, and if the manure is one-fourth better than that made under the old system, and I believe it to be more, we have here an estate improver, well worthy the consideration of all land-owners. But in building all farm steadings it should be remembered that the expense of the buildings should be in proportion to, and not exceed, the requirements and size of the farm, and should always be placed as nearly as possible in the centre of the farm, as the loss of time to the draughts on a farm ill-planned as regards position of buildings, would, if put together at the year's end, amount to something enormous, and in the present state of the labour market, a serious drawback to the value of such a farm. In conclusion, it may be fearlessly stated that an efficient, and labour economising steading is the handmaid to high farming; without it, both food, manure, and labour, are wasted daily throughout the year, and no landlord can now either plead poverty, or having

but a life interest in his property, as any excuse for not having good buildings on his estate, as the Lands Improvement Company are now always ready to advance the requisite capital, which becomes a rent charge on the estate itself for a certain number of years. If that man may be said to be a benefactor to his country who makes two blades of grass grow where one grew before, how much more that landlord who provides efficient and economical farm buildings, instead of the ill-constructed homesteads too often to be met with, whereby thousands of pounds are yearly, nay, daily wasted! The time is at hand when the nation will demand that no longer shall its natural resources be wasted, and the price of bread and meat thereby increased, either by crops being devoured by an undue quantity of game, or by insecurity for tenants' capital, from the want of a broad based common-sense Tenant-Right, encouraging the free investment of capital in the land, and for the economical use of such capital the farm-steading must be so constructed as to become a meat and manure making manufactory.

The PRESIDENT thanked Mr. Bainbridge for his good paper, and thought farms must have good steadings, as the loss was great in time, labour and food without proper buildings for the stock; he himself had experience of good buildings, although he laboured under the disadvantage of their being made out of old buildings. If there are draughts, that is the fault of the architect having constructed them badly, as the cattle should be free from wet or draughts; a great economy of food is made, as cattle are spoiled in open sheds, so also is the manure which water deteriorates, and he considered manure made in covered places worth more than twice that of open yards, as from the beginning of November to that of March, the rainfall lessened the value of the manure considerably, and left little more than rotted straw. Landowners could resort to the Loan Companies for money to erect buildings, the tenants paying interest, which they would be willing to do; of course the buildings should be made suitable to the size and food producing powers of the occupation. Covered buildings will pay anyone, and they can be built at a less cost than open ones, and they give a good supply of water from the roofs if collected into tanks.

Mr. R. KAY, jun., thought bullocks should be in boxes, and the beasts tied up in stalls; young cattle he would not put into covered places, nor could all the straw be consumed in them.

Mr. J. HAWDON was quite of opinion that young animals should not be kept in covered sheds, as they retained their coats much better in open ones. In covered houses the manure heated under the beasts. Perhaps the manure was better under covered buildings, but all should be spouted. The labour in cleaning out covered places was greater, and he had often found bullocks that had open courts to go to lying outside in the curia n.

Mr. SUTTON observed that farms ought to have suitable buildings. Open ones consumed too much straw, whereas the covered ones economised it.

Mr. BRUNSKILL thought the paper would by going to the public do good, and induce the landlords to erect new, and improve the present buildings. Covered buildings must enhance the value of the manure, as rains wash out the various salts. The health of the animals will be better, and they will never look behind them. He thought there had been great improvements in this neighbourhood.

Mr. J. HARRISON thought that large farms were for covered in buildings, as the expense was too great for small ones.

Mr. S. POWELL testified that he had listened to a very practical paper. He quite agreed with Mr. Hawdon and Mr. Kay about young cattle being in open folds. As for the observation of the previous speaker he thought it was only necessary to make smaller buildings for smaller farms.

Mr. T. JACKSON agreed with what had been said. He liked covering in all stock, old or young. Calves when starved turned out very lousy. Their own breed of cattle would not do when turned out, although perhaps Irish animals might; but all were better in than out, as they had no comfort.

Mr. MULVEY observed that stabling had not been taken up so far. He was of opinion that it wanted looking after. He saw the bad effects of unroofed ventilation every day, that being the cause of much disease, and had often seen the poll evil caused by the doors being too low.

Mr. KAY thought the subject had been brought before them in a very able manner. The point with him was which description of buildings would pay the best. In cattle feeding this country would compete against the world. They had the best cattle and accommodation, whereby the most meat could be made from the food given. He knew a farm at Nafferton where the ostend covered $7\frac{1}{2}$ acres of ground, which was carrying things to an extent. Good ventilation was very necessary, and he liked open courts for young cattle, as they exercised themselves and kept all right. Manure was all very well, but the health of the animal was more so. Economy of food was a great point, but he thought bought food the best as to economy. Standing on the manure was a disadvantage. When animals were tied up the manure was taken away, and the food given at regular times, and each beast got what was for it. He considered draughts were bad, but there should be plenty of ventilation. Places were enclosed without sufficient attention being paid thereto, and the giving the food with the least labour. The straw and turnips should be in the centre

of the building, and the roads outside. Warmth is food, and open courts give ventilation. Extra water falling upon the manure is bad, all should be properly spotted.

Mr. BAYBRIDGE, in commenting on the remarks made, said Mr. Seath thought the manure made in open yards only rotted straw, but that was going too far. He could not agree with Mr. Kay and Mr. Howdon in their ideas of managing young cattle. He quite agreed with Mr. Brunskill that cattle were kept healthy under covered buildings, and the food was economised. In the stables he mentioned they were as light as any house, having glass slabs in the roof, there was no disease, and though the coats of the horses were rough, there were no veterinary bills.

The PRESIDENT maintained that young cattle did best when kept from winds and rains, than otherwise. Open yards were bad for cattle, young or old. He was of opinion that covered buildings properly built were the best, as food was economised, and beasts gained weight the fastest. The ventilation should be both in the ridge and also the roof.

CROYDON FARMERS' CLUB.

THE ADULTERATION OF FOOD.

At the last meeting, Mr. ROBT. W. FULLER, the president, in the chair, reminded the members that the show of the Bath and West of England Society in 1875 might be held at Croydon. He alluded to the liberal response which had been made by the gentry and tradesmen to the appeal for subscriptions for defraying the necessary preliminary expenses. He did not wish it to be thought that there was any lukewarmness on the part of the agriculturists, and he suggested that the members of the Club should endeavour to interest persons in the show, and obtain subscriptions, as the contributions of agriculturists towards the sum necessary for the undertaking, thus showing that both in mind and purse they were in accord with the promoters of the show. It might also be advisable that a committee from the Club should be formed to assist in bringing such a desirable project to a successful issue.

Professor JONES, F.C.S., then proceeded to deliver the first of a series of three lectures on The Adulteration of the Food of Man and Beast. The lecturer's table was improvised as a small laboratory, and his remarks throughout were illustrated by experiment. He commenced by saying that the adulteration of food was a question which at this particular time was of the utmost importance to all classes, and he should treat the matter more particularly with regard to substances connected more or less with agriculture. The Adulteration Act of 1872 placed in our hands the power of remedying existing evils, and he hoped the time was not far distant when the means of carrying out the Act would be more fully and satisfactorily developed. At present the district analysts were fettered for the want of proper remuneration, and men of solely medical attainments were in many instances appointed, instead of those whose whole time was devoted to the study and practice of analytical chemistry. The demand for some of the articles of daily consumption, more particularly milk, was often far greater than the supply, and that was one of the principal causes of adulteration, not because there was any direct extra profit attending it, but because the vendors were thus enabled to secure a greater number of customers. The adulteration of food was more extensively carried on in the poorer districts, where the rates would not admit of proper remuneration for the labours of analysts and others concerned in the detection of cases. The fee of 2s. 6d., 5s., or at most 10s. 6d. was fearfully inadequate remuneration for careful scientific labour, unless accompanied by a compensating annual stipend. Those who framed the Act could not have had the smallest conception of the labour and care necessary for the detection of adulteration, even in its simplest forms. Adulteration nowadays was not of the dangerous character it used to be, but consisted principally of the substitution of cheaper ingredients for a portion—often the greater portion—of the genuine article. Perhaps no substance was more adulterated than milk, but the adulteration was generally confined to the harmless ingredient, water. A great revolution had lately been effected in this matter, and the late numerous prosecutions had had a most salutary effect, at all events on the London supply. Milk might be regarded as a compound of every

subject necessary (for the young especially) for the development of the human frame. The lecturer produced a tabulated statement, showing the elements of which milk was composed, and the percentage of the several elements in the milk of different animals, from which it appeared that the quantity of fatty, caseine, and albuminous matter was the greatest from a bitch. In mares' milk there were only traces of fatty matter, and only 1.7 of caseine and albumen, as compared with 16.8 in bitches' milk. It might be inferred, therefore, that if foals were fed on bitches' milk they would become extraordinary animals. The nourishing properties of women's milk were so nearly related to those of cows' milk that the latter was generally given when the natural food of the mother failed. The composition and quality of milk were, of course, subject to variation from different causes, such as age and condition of animal, nature of the food, &c. In lecturing the Club last year upon the composition of wheat and cereals generally, it would be remembered that he arranged their constituents in the same order as he had shown in the table before them in the case of milk—namely, fat producers, and muscle and bone-formers. In the cereals we met with oil, sugar, and starch as the fat-forming substances; then gluten, &c., as muscle-forming; then phosphate of lime, magnesia, &c., as bone-forming; and one could not but be struck with the similarity in the composition of all these and the composition of manures. In manures we have three groups of substances—first, the mineral portion, consisting chiefly of phosphate of lime and magnesia, or bone-earth; these contributed to the solid structure of the plant, and formed its backbone. Next came the organic portion, which might be subdivided into, first, the nitrogen, composed of such substances as ammonia, salts, and mineral matter, corresponding to the nitrogenous portion of food; and, second, the carbonaceous portion, or that which is deficient in nitrogen—this part corresponding to the starch, gum, sugar, and oil, or fat-forming substances of food. Thus there was a wonderful relationship between the composition of manures, food, and animals. And why should there not be? for did they not contribute to one another? and were they not convertible, the one into the other? All scientific farming was based upon this relationship. For example, a farmer wished to grow wheat. He required, first, the substances which form the principal ingredients of wheat, viz., the nitrogenous, the carbonaceous, and the mineral; secondly, the proportion in which they exist in wheat, viz., water, 15 parts; husk or fibre, 15; starch, gum, and sugar, 55; fat, 3; gluten and other nitrogenous or muscle-forming substances, 10; mineral matter (phosphates), 2. Thus it would be seen that phosphates would be required, and nitrogenous manures (such as ammonia salts), to form the gluten; and the soil should therefore contain these substances in large quantity. Suppose a farmer wishes to produce cheese from his milk. Now, cheese is pre-eminently a nitrogenous substance, and is made from the casein and caseine of the milk. It is therefore necessary that a nitrogenous kind of food should be supplied to his cows, such as beans, peas, vetches, and clover, with oil-

cake. Beans and peas give large quantities of legumin, a substance almost analogous to casein. If a person wished to produce butter from the milk instead of cheese, then a purely carbonaceous and oily food should be employed. Mr. Jones having shown the difference in the composition of the milk of a cow when fed with different kinds of food, he proceeded to consider the means of testing the purity of milk. When milk was examined under the microscope, it presented itself as a clear liquid, with myriads of tiny globules floating about in it. The globules were thin-skinned balloons, filled with oil, and, when the milk was left at rest, the greater portion of these globules, being much lighter than the rest of the milk, rose to the surface and constituted the cream. In the process of churning, the globules or balloons were burst, and then the oil flowed out, the whole settling into a solid, oily mass, called butter. Much had been said about the lactometer as a means of detecting adulterations in milk, but he had not much faith in it. He produced one of these instruments, and showed the method of using it, but he considered it was a fallacious test, which it would be extremely dangerous to depend upon, for a dishonest tradesman would soon find a method of making up the density of milk that had been over-dosed with water. He then exhibited his own method of testing milk, which was to evaporate it to perfect dryness in a porcelain or platinum dish, and weigh the residue. Good milk ought not to yield less than 5 per cent. of cream, which was a fair average, and a cow fed upon oilcake would often give milk with 25 per cent. of cream. The lecturer went on to demonstrate that casein was separated from milk which had been previously skimmed by the addition of an acid, and he explained that the peculiar action of rennet upon milk was supposed to be due to the pepsine contained in the rennet. The sugar of milk, or lactose, was made from milk in Switzerland in large quantities during the manufacture of a certain kind of cheese; and this sugar, like other sugars, was capable of being converted into alcohol by fermentation. Indeed, this process was carried on in Tartary to a considerable extent with mares' milk. It seemed rather an extraordinary idea that a man might be enabled to get intoxicated from milk, but the thing might thus easily be done. Milk was sometimes adulterated with chalk, but this was probably only to neutralise the acid when the milk was on the turn. Flour was also sometimes added to milk, but its presence could be detected by a very simple test. In the analysis of milk, the amount of bone-forming matter must be ascertained by simply incinerating the dried residue from the evaporation, and weighing the ash, which consisted chiefly of phosphates and other bone-forming matter. In the same manner the amount of the mineral portion of any organic substance could be ascertained. He pointed out that milk yields on an average about a half per cent. of mineral matter. Ten gallons of milk would therefore yield about half a pound of bone phosphates; and if a cow gave twenty quarts of milk a day she must take about 2 lbs. of bone phosphate from the soil each week, which must be returned to the land in order to reproduce a like quantity. Thus we seemed to be at work in a circle; for there was no more bone phosphate in the world now than there was in the time of Noah, but as there was more need of it so was there a wider circulation of it. Like all other laws of nature, it was a law of mutual reciprocity; for we returned to the earth that which we took from her, and what we sowed we reaped. The lecturer next referred to bread, and congratulated his hearers on the fact that the staff of life was now so little subject to adulteration. Formerly ground bone-dust was freely used, and possibly that fact had some connection with the old nursery rhyme, "I'll grind his bones to make me bread." This form of adulteration, however, was easily detected by the same process as he had shown with regard to milk. He believed, however, that bread was rarely adulterated except by the addition of alum, water, potatoes, and rice or other grain. The bakers said the alum caused the loaves to separate better, and certainly it made inferior flour appear whiter, for which reason adulteration with alum was made punishable. The method of detecting the presence of alum in bread was to extract it by letting water soak through the bread, and then test the liquid and examine the crystals under the microscope. Some analysts professed to rely upon the reaction that alum would give with tincture of logwood, but he demonstrated that the test was unreliable, and said he had seen bread entirely free from alum give the same reaction. The addition of potatoes to bread was harmless, except that

they did not contain so much nutritious matter as flour. The presence of potatoes was easily detected under the microscope, owing to the difference between the globules of potato starch, and those of flour. Whilst on the question of starch he would briefly allude to mustard, which was adulterated to a frightful extent, with starch, turmeric, &c. Some mustard that had been sent to him for analysis had contained no mustard proper whatever, but simply turmeric and starch, the pungency being given by a little Cayenne pepper. He showed simple tests for detecting the presence of turmeric and starch, the principal ingredients used in adulteration, and analysed a packet of "pure mustard" he had that day bought in Croydon. It turned out to contain no turmeric, but a large quantity of starch. The test applied in ascertaining the purity of mustard was potash. If turmeric was present the potash would turn the mixture to a deep orange colour, but it would have no effect on pure mustard. Mustard was like the Glenfield starch, "If you want it pure, you must see that you get it." Referring next to the food of the lower animals, he said they were better off than man. In most cases they got their food fresh from the hand of nature, and it was only when oilcake and other artificial foods were introduced that they shared man's misfortunes. The principal adulterating ingredient was starch; it was so cheap that it was used in almost all artificial foods. He had found it in large quantities in oil cake, though pure oilcake should contain none at all. Locust beans were also ground up and mixed with oilcake. He did not object to them as injurious to health, but when one asked for pure oilcake and paid the price for it, one had a right to have it. The useless husk of cocoa was also used for adulteration. Pure oilcake was made from flat seeds. The oil was pressed from those seeds, and then the cake was sent to England. Rape seed, cotton seed, and even mustard seed, were also used in large quantities for purposes of adulteration, and he had known a cow die from the mustard so introduced to its stomach. Oilcake should contain 10 per cent. of oil and 6 per cent. of albuminous matter, and unless obtained from a respectable house it should always be subjected to a chemical analysis, for, like mustard, it was nearly always adulterated. Starch was largely used, and indeed some starch was an advantage, but too much of it produced excessive fat, and was windy sort of food. Carbon was the chief element of such food, and the excess of it was given off from the lungs in the form of carbonic acid gas. The bodies of animals are continually undergoing a change; all animals share alike in this universal law. We are constantly consuming, and our former selves pass away. Although we retain the same outline and the same features, yet we are gradually decaying. The decayed portions pass away, and their places are supplied by fresh elements. We are like some specimens of ancient architecture; first one piece falls away, and then another, till nothing but the outline of the original is left. We are nothing but passing shadows, dissolving views, one substance melting into another, and the carbon, hydrogen, or other element of to-day becomes the food for the structure of to-morrow's plant. It is well that we have now a recognised system for the suppression of adulteration of food. We have no more food-forming elements in the world now than we had when the world rose fresh from the diluvian waters, but those elements are now more freely circulated. The world now teems with life, and the consumption of food has increased. Adulteration of food and nutritious food with inferior matter is calculated to degenerate the race. It is like tobacco and alcohol, as partial substitutes for food, stimulating, but not strengthening. The world is getting wiser as it grows older, and science must some day be the universal study.

Dr. COLES, as a visitor, alluded to the adulteration of milk, and said it was quite right that before a man got into the witness-box to swear milk was adulterated he should apply the tests spoken of by the lecturer, but those tests would be too long and too difficult to be carried out in private households. For private purposes he thought the lactometer and the test-tube combined were a sufficiently reliable test. The lecturer had said 5 per cent. of cream was a fair average, but he (Dr. Coles) thought it rather low.

Dr. JONES: I have found the cream in good milk as low as 3½ per cent.

Dr. COLES: I have tested specimens of Croydon milk and found the cream to vary from 10 to 3½ per cent. I thought the man who sold me the latter must be a rogue, but after what the lecturer has said it is possible I may have done him in-

justice in thinking so. There is milk sold in Croydon which only gives $3\frac{1}{2}$ per cent. of cream, but if the Adulteration Act is put in force I hope and believe there will be less of it. In regard to the large amount of muscle and bone-forming matter in the milk of the bitch, as compared with larger animals, Dr. Coles suggested it was due to the fact that a bitch gave birth to and had to feed so many more young at a time than other animals, and therefore required a greater amount of nourishment in the milk. That was only another proof of the omniscience of the Creator.

Dr. JONES: I am much obliged to Dr. Coles for that explanation. It had never occurred to me before, but I think it is conclusive.

Dr. SHORTHOUSE said the milk varied in quality according to the time of year, and the nature of the cow. The milk, he believed, was generally poorest in May and best in August.

He agreed with the lecturer that efficient analysts could not be secured for the money offered by public authorities, and he ridiculed the incompetency of some men who had been appointed public analysts.

Mr. WALKER, differing from Dr. Shorthouse, said the cows never gave better milk, and more butter was never churned than in the month of May.

Dr. SHORTHOUSE: I was only alluding to cows fed on grass.

Mr. WALKER said his experience of cows went to show that if fed on poor food the milk would not yield more than $3\frac{1}{2}$ per cent. of cream, but if fed on more nutritious food a much larger per centage of cream would be obtained.

A vote of thanks to the lecturer having been passed, the meeting terminated.

THE EAST LOTHIAN AGRICULTURAL CLUB.

At the last monthly meeting at Haddington, Mr. R. Scott-Skirving, Campton, in the chair, the subject for discussion was, "Whether a tenant who has a right to grow potatoes during the last years of his lease has a right, where the straw is entirely steelbow, to take straw *ad libitum* for the storage thereof."

The CHAIRMAN said that before introducing the subject for discussion he wished to say a word about a matter in which the county was very much interested. There was to be a meeting of the road trustees on the 21st of this month, and he was sorry that he could not attend it, as he had an engagement in London on that day. At that meeting a proposition was to be made, and he had no doubt it would be strongly supported, to borrow a considerable sum of money to put the roads in better order, and all the officials wished to have that money borrowed. Mr. McConnell strongly advocated it, and he (the Chairman) rose to say that he hoped the whole of their representatives would be in their places at that meeting to oppose this proposal with their utmost power. Who was to pay that money were it borrowed? They knew who paid the last. It came on the trading community. The money that was borrowed was paid ultimately by the tolls or by private subscription. If they borrowed money just now, the farmer would have to pay two-thirds, to begin with, on the assessment; and as the proposed plan was to pay off the borrowed money in a given number of years, it would follow that a man with a few years of his lease to run would have to pay about two-thirds, or perhaps three-fourths, more than the owner of the land which was to be permanently benefited. One honourable borough talked loudly of the patriotism and generosity of the farmers; but he wished to see generosity, like charity, begin at home, and he thought the proprietors should pay an equal share with the farmers. If they did that, they would have sufficient funds to keep all the roads in proper order. At present the roads were certainly not what they should be, particularly in the west. This arose from the increase of mineral traffic, and he thought the farmers should petition Parliament to bring in a bill for Scotland on this subject. A bill was introduced last year by the member for Eife, which contained a wise provision, to the effect that the owners of mines and minerals should be put in this position, that when a petition was made to the sheriff of the county they could be charged twice, thrice, or even up to four times. It would not be fair to charge all mines at the same rate, for there were some which did not cut up the roads at all; but he thought it would be fair to lead evidence regarding each particular mine, and that the proprietor of a mine who cut up the roads excessively should pay at a greater rate than a mere agricultural subject. He had just to say, in closing, that he thought the borrowing powers under existing circumstances should be opposing, and that they should petition the Government to bring in a bill to deal with the subjects, because he was afraid no private member would be able to carry through the bill.

Mr. DURIE (Barveymains) said there would be plenty of money to keep the roads in proper order if the landlords paid in the same proportion as the tenants.

Mr. ROBERTSON (Newmains) said there seemed to be something radically wrong with this business, for while they collected £3,000 of assessment, fully £1,100 were swallowed by the expenses of management.

The CHAIRMAN then introduced the subject which had been chosen for discussion at the present meeting. He did not think it could be doubted that the tenant had a right to take straw to cover any legitimate amount of potatoes. Wheat, barley, oats, and beans were in the same position. They must have straw to cover them from the weather, just the same as for potatoes, and, as nobody ever questioned the covering of their barnyard with the straw of the previous crop, he did not see why they should not cover their potatoes with straw also.

Mr. SMITH (Stevenson Mains) said that if a tenant had liberty to grow potatoes, there was no doubt he was entitled to protect that crop until such time as he could dispose of it in the market. He had been called upon to act as arbiter in such cases, and he had always decided that the waygoing tenant was entitled to protect his crop in the usual manner, and could therefore take the steelbow straw.

Mr. WYLIE (Bolton), while agreeing with the previous speakers, said that if the straw were taken to cover potatoes in a field at the extreme end of a farm it was but reasonable to say that the tenant should cart it back to the barnyard.

Mr. DOUGLAS (Athenstaneford) said it was manifest that if a tenant had a right to grow potatoes during the last years of his lease, he had just as good a right to protect his potato crop as to protect his grain crop by thatching. Although a tenant drove the straw to protect the potato crop in the field where they had grown, he did not think it followed that he was bound to drive back that straw to the barn.

Mr. WYLIE took exception to Mr. Douglas's statement, and said the rule was that the tenant should leave the straw at the barn.

Mr. HARVEY (Whittingham Mains) said that if a tenant had a right to grow a reasonable quantity of potatoes, he should get a reasonable quantity of straw to cover them, and he thought the outgoing tenant might be well pleased to cart the straw to the barnyard or some depot. He would not allow a tenant, if he had a very large quantity of potatoes, to say, "You must give me straw." He would say to such a one, "No; you are getting a certain quantity of straw, but you will not get any amount you may ask." In regard to the quantity to be used, he thought it required about a stone of straw to cover a boll of potatoes.

Mr. ROBERTSON (Newmains) did not think an outgoing tenant had the right to demand straw to cover his potatoes from the incoming tenant. He ought to make provision out of a former crop, and not to take advantage of the straw belonging to the incoming tenant. It would be well, he said, to have any right of this kind properly defined in their leases.

Mr. RICHARDSON (Mainshill) was of opinion that the straw of a previous crop ought to be preserved to cover the potatoes. By his lease, he had a right to the straw, and a corner of the field for pitting his potatoes, but he was bound to drive the straw back to the barn.

After some further remarks,

The CHAIRMAN said he thought the mind of the meeting was embodied in the following resolution, which he begged to propose: "That an outgoing tenant, having power to grow a given amount of potatoes during the last year of his lease, has also a right, from use and wont, to protect the crop with straw."

Mr. DURIE seconded the motion, which was carried.

Mr. HARPER (Sawdon) said their chairman had recently visited Kansas, in conjunction with other agriculturists from Scotland and England, at the request of Mr. Grant, who had bought a large tract of territory in that State, and he was certain the members of the Club would esteem it a privilege if Mr. Scot-Skirving would state his opinion of the value of that land for agricultural purposes.

The CHAIRMAN said he was not prepared at this time to make more than a few desultory remarks about the agriculture of Central America, but he hoped by-and-by to bring before the public in various ways some of the strange and beautiful and exciting scenes which he witnessed in America. He had always been fond of travelling, and it had been his good fortune to have this propensity gratified. He had travelled a great deal in Europe, Asia, and in Africa, and he gladly embraced the proposal to travel over a great part of America. It was perhaps necessary that he should say something about the origin of this expedition. Mr. Grant was a native of Aberdeenshire. He was born in humble circumstances, but he went to London and made a large fortune. Retiring in great measure from business, he travelled for pleasure in America, and it was while passing over the vast regions in Central America that the thought struck him, although he was not an agriculturalist, that this was the most wonderful country he had ever seen. He accordingly bought a piece of this land, in size about as large as the county of Mid-Lothian. It was purchased not for the purpose of farming it, but as a speculation. Mr. Grant wished to cut it up into square miles, and sell it to other people, and in order to advertise it, as they might say, he invited half-a-dozen gentlemen from Scotland, England, and America to visit his great estate, which had been named Victoria, in honour of Her Majesty the Queen. To these gentlemen Mr. Grant said, "I have picked you gentlemen out as persons who know something of agriculture. Come and look at this country, and tell the people what you think about it. If it is a bad country, say so. You are not to say one word that you do not thoroughly believe." He (the chairman) went on these terms, along with two other gentlemen from Scotland, two from England, and one from America—six in all. In travelling over America one could not help being struck with the enormous extent and also the flatness of that country. Although the United States had a population exceeding that of Great Britain and Ireland, the people were so scattered, that after one proceeded a short distance from the Atlantic he got into a virgin country. The fertility of the soil was shown by the gigantic vegetation which everywhere met the eye. When the deputation visited Kansas, it was in the worst time of the year—the middle of August. He was told that in spring the plains were covered with the most glorious verdure; but when they arrived the grass was burned up, and his first impression was that it was the most wretched place in the world, where neither man nor beast could exist. He found, however, that on this dry prairie grass, cattle, sheep, horses, and other animals grew perfectly fit. A report was drawn up by the deputation, in which they stated that Mr. Grant's property was possessed of extraordinary resources, and offered a very inviting field for agricultural purposes; and that the land might be most profitably cultivated, and was capable of producing almost every kind of crop. He confessed that it went against the grain with him to do anything to aggrandise the Yankees. He would rather like to see people go to the British colonies. In Shetland he believed a young sheep-farmer would make money. Canada had its buffalo grounds to compete with Kansas; but it was his candid opinion that a young man who went to Canada should not be a farmer, for the ground there contained multitudes of tree roots, and was covered to such an extent with boulders that the labour of working the soil was perfectly overwhelming. In Kansas, on the contrary, the plough went through the prairie lands as smoothly as in the best cultivated fields of East Lothian. In Victoria there were two East Lothian farmers; and he would recommend young men with a capital of from £1,000 to £2,000 to go out to that country. For his own part he would not go out there, for he would not live under a Republican Government like that of the United States; but there were other men with less strong prejudices and feelings; and besides they might go out and "spoil the Egyptians." They should go out and make money, and then come back to spend it in this country. It was useless for a young farmer to pay £3 per acre for a farm in this country

when he could get a whole farm to himself for ever for £1 an acre in Victoria. A farmer whom he "interviewed" gave him the following as his experience: "Land costs from 5 to 10 dollars per acre. To build a house and dig a well costs from £80 to £150, the house being a good dwelling, with four rooms, a kitchen, and other conveniences. Taxes are nominal. If a sheep stock is kept, Missouri ewes cost about 4 dollars; but while I was at Victoria I saw a letter offering good young ewes at 2½ dollars. The produce cannot be taken at more than one lamb a year, and the clip averages 5lbs. all over. Deaths are variously estimated at from 10 to 15 per cent. There are no insect pests which attack sheep (so I was assured), but scab is not unknown. English rams should certainly be introduced, which would greatly improve the breed. Cows can also be had in any number, and breeders should get bulls of English breeds." The account given by another farmer was as follows: "He ploughed his land by hiring men, who provided everything necessary, and did the work, the first ploughing of prairie grass costing three dollars per acre. The ground is then sown with Indian corn, the only crop suitable for the first year, and if the farmer chose he may go on sowing corn after corn for many years without manure, only going a little deeper each year to turn up new soil. The following are the statistics of the first year's crop—Ploughing, 1st year, 3 dollars; Indian corn seed, 15 cents; putting in seed, 1 dollar; harvesting, 1 dollar; cobbing and earthing, 1 dollar—total cost, 6 dollars 15 cents. Return—Average crop, 40 bushels (though there might be 70 bushels). The produce sells readily on the spot at 60 cents per bushel, which, at 40 bushels per acre, is 24 dollars. If we deduct the 6 dollars 15 cents, or say 7 dollars, there is a clear profit of 17 dollars per acre, which, taking the greenback at 3s. 6d., is 59s. 6d. Wheat, oats, or barley may follow the Indian corn the second year. The wheat is sown either in autumn or spring. Millet can also be grown. Wheat costs about the same to produce as Indian corn, only the seed costs a little more. A crop of wheat not far from Victoria yielded 37 bushels this year. It was trodden out by oxen, the old, wasteful plan of the East. Flails should be got while the place is in its infancy. Barley averages 30 bushels, oats from 50 to 80. I should have said a common herd can be got for 20 dollars a month, but 40 dollars would require to be paid for a shepherd, with a lodging." The chairman went on to say that Victoria was one of the healthiest places on the face of the globe. It was a habitable country, although it was too hot in summer and too cold in winter, just as other parts of America. In New York he saw the barometer at 104 degrees in the shade in summer, and he was told that in winter the frost penetrated four and a-half or five feet into the soil. He concluded by saying that Victoria offered a capital field for healthy young men with a capital of from £1,000 to £2,000.

At the close of the address a vote of thanks was passed to Mr. Scot-Skirving.

THE CRYSTAL PALACE POULTRY SHOW.—There is no such place for a poultry show as the Palace at Sydenham, and the entries here of fowls ran up to 2,200 pens, with 1,200 of pigeons, and 150 of rabbits. Some of the better sorts like the Dorkings, Bramahs, and Hamburgs were very generally good, while many of the Game were still light and leggy—a more perfect bird being the Game Bantam, a very model of compact framing and handsome appearance. The geese are getting more and more extraordinary for size and weight, and Mr. J. K. Fowler's champion gander is a very wonder in this way. There can surely be nothing much more nasty in the shape of sight-seeing than a cat show, and next to that we should say a rabbit show, although the Palace is so lofty, and its avenues so wide, that even a collection of rabbits is not a nuisance; but these fancy articles like rabbits and pigeons should form a separate section, where they would no doubt attract "the nice young men," who, according to the old definition, "keep tame rabbits and kiss their sisters."

THE BREEDING AND MANAGEMENT OF AGRICULTURAL HORSES.

At the annual meeting of the Formartine Agricultural Association Mr. Cassie, V.S. and farmer at Woodend, Straloch, read a paper on the above subject.

Mr. CASSIE said good horses cannot, as some would seem to think, be bred by chance, and to produce them every breeder must see to it that all the qualities that go to constitute goodness are present in both sire and dam. Many farmers seem to think that if they can secure a good stallion it matters little whether the mare he is put to be so or not. This is a great mistake; for if the one be not as nearly perfect as the other, disappointment is almost sure to follow, it being quite common for either sire or dam to transmit defects to their offspring. On the other hand, a sire and dam may themselves be all that could be wished, and yet their stock will often show numerous imperfections. Instances of this sort are generally set down to the inscrutable action of some mysterious law in nature, but if they were more closely studied their mystery would often vanish when it was seen that, though absent in immediate parents, these imperfections could be traced to similar ones possessed by more ancient ancestors. What class of horses ought we to breed, which, when reared, will always command a ready sale and a good price? At present, anything of the horse kind that can decently move on four legs will sell, and sell well too; but the tide may soon turn when the demand will cease, except for certain classes, and one of these is saddle or harness horses. Now, a good horse of this class (for such we should always aim at) should have a nice small head, with a fine mouth, bright eyes, and active sharp-pointed ear, neither too small nor too far apart. He should also have a longish neck, fine at the throat, full and crest-shaped above, but not too fleshy below. His withers should be high, his back not too short, his loins broad, and his quarters long. His hind limbs should be strong in the thighs, but fine as they approach the hocks. His hocks should have well-developed bones, and be free from all puffiness, curbs, and spavins. Below the hocks his legs should be clean, and broad when seen on the sides. His pasterns should be rather long, and his feet not too big, but well-formed and strong. The flanks of such a horse should be light, but also plump and round. His chest should be deep and full behind the shoulders. From the withers his shoulder-blades should incline forward, and be well covered with muscle. His fore-legs should not be too far apart, nor too far under his body. They should be full on leaving the trunk, but go tapering towards the knees. His knees should be broad when looked at in front, with the tendons "untied" behind. Like the hind, his fore-pasterns should be long, and his hoo's sound, well-shaped, and strong. They should be wider in the soles than those of the hind, and be placed so that a line running from the centres of their toes, through the middle of their heels, would lie parallel with the length of his body. In a horse of this class, a good form is not the only good quality required; he must also be a good goer—good as regards both speed and action, and when these are all combined in one of a good colour and a fair size, they will generally force a long price out of him when he appears in a market. Now, many farmers could breed horses of this stamp. By putting nice, rather under-sized, light-made cart mares, when they possessed such, to thoroughbred stallions, they could do it. From such a union, judiciously made, a valuable, and at all times much sought for, half-bred, which, by-and-by, might come to form one of a two-hundred-guinea pair in some gentleman's carriage, might fairly be expected. Among sires, there may be but few a breeder can get to choose from; but among dams he must reject all with big ugly heads, long listless ears, thick fleshy necks, short heavy bodies, bushy manes and tails, thick hairy ill-formed legs, or large flat feet. He should also avoid all that are not sound, or at least they should be free from all hereditary disease, such as splints, spavins, and others that are apt to produce incurable lameness, or otherwise unfit them for duty. Again, those who attempt to breed running horses from mares that want spirit, or have bad tempers or bad action, will most likely be disappointed with the result. Another class of horses which might be profitably bred by farmers are those used for lorries and heavy vans. No special race is reared for them,

but good strong animals with a "tip of breeding in them" would suit well. In describing such animals, it might be said that they are rather light-bodied, long-backed, and leggy; but the fact that they are such will not make them bad beasts, if their legs are good, their back strong, and their bodies round. Besides having a good carcass, back, and legs, a good horse of this sort should also have a nice head, bright eyes, and active ears, or he will want spirit. He should also have deep shoulders, strong loins, and fleshy quarters, or he will be devoid of strength. To these must be added sound limbs and good feet, with the ability and will to move them, or action will be wanting with him. Besides being useful for the machine spoken of, horses of this sort would also do well for farm work. Many of the horses presently used on farms are too heavy for the nature of the work required on them. When the soil is wet, their own weight so sinks them in it that they cannot get along with that ease and activity which those with larger legs and lighter bodies would. Active horses are of great importance to farmers in a bad harvest or a late spring, and animals with this quality should never be wanting for them. This class of animals would be obtained from strong, active, clean-limbed cart mares and large-sized, half-bred stallions. Well-bred horses of this stamp would not only be handsome to look at, but there would be found combined in them a more than ordinary amount of activity, strength, and endurance. Heavy draught horses are a third class which farmers might profitably breed, and they are the class which the majority of Aberdeenshire farmers do breed. At present, it cannot be said that their doing so does not pay, for it is nothing uncommon to hear of £100 and upwards being received for good heavy ones of this variety. These long prices might have been more general had greater attention in the past been given to the breeding of them. Any farmer knows a strong horse, but many (those of this company, of course, excepted) do not know a good one. As applied to horses of this class, the term has respect solely to form, size, and soundness. A good one should be at least 16½ hands high, with a pretty large head, a pleasant face, a thick neck, a wide breast, and heavy upright shoulders. He should also have a broad and short back, strong loins, deep chest, round and full flanks, broad and well-rounded quarters, muscular thighs and forearms, large and clean hock and knee-joints, stout leg bones, with full tendons behind, short strong pasterns, and deep sound feet. His forelegs should be well apart, and well under his body, from which they should descend in a perpendicular direction when he stands at ease. This class of horses are in this district generally bred from what is said to be pure Clydesdale stallions and strong mares of, I may say, any and every breed. Whatever they are bred, the parents of such should be selected with care, and it should especially be seen that both have healthy constitutions, good tempers, and sound limbs. Side bones are particularly to be guarded against in breeding animals of this class—they are the great bane of the race, and it must never be forgotten that a disposition to them is transmissible from parents to progeny. Side bones and ring bones, which are analogous in nature, often produce lameness that will reduce an animal in value to little more than half what he would have brought without them. The high condition in which many stallions are kept, makes it often difficult to detect weak points in them, but an effort should always be made to use stallions full on the points the mares they are put to may be defective in. In choosing sires, farmers should specially avoid those that have Roman noses, dull eyes, and drooping ears, as the stock by such are often sulky, sleepy, large brutes. Colour is a quality that should not be altogether overlooked in breeding horses. Bays, blacks, browns, and chestnuts are, by dealers at least, preferred to light greys and whites. The latter will not with them so long retain their youth, while the former are often known to regain it in their hinds, and hence they will give a better price for them when advanced in years. It is always well when the time of a foal's birth is at hand to commit its mother to the care of some faithful and experienced person, and also to place her in a box by herself when not at work. Till the foal is born, it is best when in the box, to have the mare tied to a corner of it, which will prevent her from lying down in an

awkward position, as she might if untied when labour comes on her. A new-born foal requires some attention till fairly mounted on its legs, after which, when it is seen to be well, it may generally be left to the care of its mother. When the weather is mild, and grass to be had, the pair will do best in the fields, where, after a time, they may be left entirely to themselves. When foals are being weaned, which should not be done under five months old, they should never be put into a field where wire is used for a fence, or where dangerous ditches surround, as in their desperate efforts to get at their mothers they frequently dash themselves against such a fence or into such a ditch, and thereby inflict upon themselves injuries that may last with their lives, or, it may be, entirely destroy them. If when being weaned, foals are shut up in a house, they should be supplied with soft green food, such as clover and tares, otherwise they may cram themselves with dry food, and thereby produce complaints of a serious and often fatal nature. Weaned foals, if they have not been accustomed to corn before taken often their mothers, should now be induced to eat it, otherwise they will speedily fall off in condition, which at this period of their lives should be specially guarded against. Our forefather farmers used to think it undesirable to let the "foal beet" off their young horses, and that idea might with profit be acted upon in the present day. Some farmers say that young horses are none the worse to lose condition in winter, they soon make it up again in spring and summer. This to appearance may be true; but if a system of come-and-go with the condition of young horses be in this way established, their owners will perhaps find it continue to work in the winters of their after years, when its operation would rather not be seen. With colts that are stabled in winter, it is often seen that in addition to their being stunted in size, they also turn out to be "soft," or as it is sometimes expressed, to be beasts with no "bottom" in them. A few handfuls of corn and a wisp of hay or straw given to young horses in the morning before they are turned to the field, in winter the same when they are housed at night, will always be found a safe investment. It is good for them to have freedom in a field for some time daily during good winter weather; but it is a bad practice, when they have no shelter, to keep them out all day, as some do, when it is cold and wet and stormy. Their shaggy coats in wet days get filled with rain, and when they are so they have much the same effect on them as a drenched suit would have upon their master, some of whom would do well to conceive what they would do were they as their colts often are, forced to stand a whole winter night in a filthy hovel, through which the wind could blow in all directions. Cold and dirt are conditions in which horses, young or old, do not thrive, and as this seems to be a law in nature with them, their owners must comply with it or reap the consequences. When rising three years, before it can be said that they are fully reared, horses bred on farms are usually made to work upon them. There would be nothing wrong in this if too much of it were not demanded of them. It happens, however, that before they are six years old many horses are ruined by hard work, and have got so spiritless, crushed, and broken as to render them prematurely stiff and old. Apart from their frames being naturally raw and flabby, and unfit for work while in a growing state, this unfitness is increased by the fact that at this time horses often do not feed well from the soreness of their mouths during the shedding of their teeth, which also happens at this period. A horse begins to shed his teeth at about two and three-quarters years old, at which period he drops the middle nippers above and below, and also the first and second grinders in each side of each jaw, and by the time he is little more than three years he has 12 new teeth up and in wear. At a year after this he sheds the next pair of nippers and also the third pair of grinders in each jaw, which, in about three months after, are replaced by new ones. About this time the sixth pairs of grinders, which, like the fourth and fifth pairs, are never shed, appear. In the course of the following year he gets the corner nippers renewed, after which the horse is said to have a full mouth. It will thus be seen that for two whole years a young horse has trouble in his mouth from teeth, and often feeds but indifferently in consequence. This should be remembered by those who own horses of this age, and should induce them to deal as gently with them in regard to work as possible. Horses on farms may be said to consist of two classes, a supplementary and a working—the latter forming part of the working plant of the

farm. As regards the first-class, it is to the farmers' interest that they be managed so as to bring them to the greatest value possible, at the least possible expense; and as regards the second, to make them serve his ends as long and as cheaply as he can spare them, and dispose of them to the best advantage. The value of young horses, in addition to their size, quality, and soundness, is determined by their quietness at work. To aid in effecting this last, they should be early handled, and when foals made handy to halter, lead, and bind, and as they advance in years their acquaintance with these should be kept up. When they are to be trained for work they should be committed to the care of men in whom the "bumps" of patience are well developed, and even with such it may be enjoined that their whips be left at home during not a few of their early "yokings." If they cannot be saved from hard work it will be best to do it on the principle of "gaug aft and load light," for one extra pull may do damage that can never be repaired. The state of their harness has often to be looked after. Ill fitting collars often spoil the shoulders of young horses, and make them more rebellious when at work than otherwise they would be. In spring time, when horses get thin, what was once well-fitting collars got too big for them, the draught gets too low, and they roll about upon their shoulders, often causing painful sores, which lay them aside from work for weeks. Grooming cannot with impunity be neglected. When the grass season gets late and the weather cold working horses should be housed at night, for exposure then is often the cause of their heavy coats. Grooms should have good implements supplied, and at this season should use them well. Clipping is of much value to running horses, and so is a half-clip to many farm ones. Their work is done with far more comfort to themselves afterwards, and they thrive better. When horses come wet into their stable they should be well rubbed down; and if the stable is a high-roofed one they should be covered with a rug after. Stables should be well ventilated, and should also have plenty of light in them; the latter prevents the accumulation of filth by urging to its removal. The feeding of horses is another important point in the management of horses. Many farmers would be great gainers by paying more attention to this matter. Some servants when they have access to the corn bin give the horses they have in charge too much corn. Many of them have the erroneous notion that the more corn their horses get the fatter they must be, and instances are not uncommon where more than six bushels a week are given to a single pair. Too much corn indisposes horses for eating other provender, and occasionally subjects them to serious disease. Four bushels of good sound oats weekly, along with a few Swedish turnips or other roots, and plenty of good straw, will keep a pair of healthy farm horses in good order through the winter, even though they be pretty hard wrought. If, then, such an allowance be sufficient for a pair, it is folly and waste to give them more. Hay may have to be substituted for straw, but no more corn will be necessary to sustain them, even when they have to go "their ten hours" in the busy spring season. If sound and healthy horses that are doing only fair work do not keep in good condition with these supplies the master may inquire whether the carelessness of the groom be not to blame for it. Servants that carefully feed their horses would be a gain to many masters, even though they paid them £1 a half-year of extra wages. Some horses are nice feeders, and need to be coaxed to eat. A careful horseman will keep his eye on such, and will, by giving small and oft-repeated handfuls, constrain them to eat enough to keep themselves in good order, whereas a careless one, by inattention, would soon let them be run down "to skin and bone." Horses that are greedy feeders, or that swallow their corn whole, should have it bruised or ground. A little chaff mixed with corn helps to make horses chew it—and well-chewed corn is of far more importance than many think. Unless it be well ground and mixed with saliva in their mouths it is but imperfectly digested in their stomachs, and without perfect digestion there its full benefit is not obtained. A full drink of water immediately after being fed should never be allowed to horses. When water is drunk by them the bulk of it goes directly to their large intestines, and little of it is retained in their stomachs. In passing through them, however, the water carries considerable quantities of their contents to where it lodges in the intestines. If, then, the contents of horses' stomachs are washed out of them before they are digested, they are in a manner lost, no nourishment being de-

rived from them. Colics in horses frequently arise from this cause, and to it the appearance of corn entire among the dung is often due. The articles of food, as well as the quantity they get, are also matters which demand consideration in the management of horses. Bere and barley are often given to them with profit instead of corn, and their relative value as articles of food stand in about the same proportion as their specific weights do. Damp straw or musty hay should never be given as food for horses. The former is apt to scour them, and the latter frequently affects their wind. It is affirmed by some that if their hay and straw be cut, and their corn bruised, horses can be kept at one-fourth less cost than when these are given them whole. Everyone knows the value of grass as an article of food for horses. A month of it in the early part of the season, when it is young and tender, is worth two when it gets old and tough. Great care must be taken of horses when first put on grass—indeed, changes of food of any kind must to them be introduced with caution, as many have had to pay dearly for neglect of this. Even a change of water has at times been known to affect some horses, so very sensible does their alimentary track seem to be. A shallow watering place in a running stream should never be allowed for horses while at grass. Fatal results have often been induced from their drinking sand along with water from such a place.

Mr. MARR (Kingoodie) : I concur with Mr. Cassie's views except in one point, which I suppose he possibly knows better about than I do, and that is as to giving horses cold water to drink immediately after they are fed. He says it carries away the substance of the food; but I think that if the corn were bruised, even although the water did carry off any portion of the nutriment, it would lodge in the alimentary canal, where it would be absorbed, and return to the system of the horse.

Mr. CASSIE said, as was well known, the horse had a very small stomach, and experiments had often been tried, which went to prove what he had said. In Edinburgh, old horses had been fed with split peas, and then supplied with water, immediately before being killed. It was found that the water had carried the peas 50 to 60 feet into the intestines, where no digestion took place at all. His opinion was based on these experiments.

Mr. MARR said he thought it was a great matter to have the corn bruised at all events.

Mr. MILNE (Woodland) : With what Mr. Cassie has said I quite agree, except as regards the size of the horses farmers should have. Mr. Cassie spoke of light horses of good spirit as the best horses we could have. I think in the meantime, when our land is wet, and we are driving turnips, the heavier horses we can get the better.

Mr. ARGO (Cairdseat) : I do not pretend to be thoroughly posted up in the breeding and rearing of horses, but I think Mr. Cassie has given us a very able lecture. I can coincide with all he has said. As to what Mr. Milne has mentioned about having heavy horses in this wet weather, I take an opposite view from him. The lighter the horse, he sinks the less into the land. I would act on the maxim Mr. Cassie quoted: "Gang the aftener and load the lighter."

Mr. TAYLOR (Cairnfechel) : The essay we have heard is very instructive. With regard to heavy and light horses, I have used both, and I find that light horses give as much work as heavy, and are much easier kept up. With regard to feeding, I adopt the system Mr. Cassie has mentioned, giving four bushels of corn and Swedish turnips. Of course I bruise the corn. I give no boiled meat to horses.

Mr. CORMACK (Mill of Udny) said he had been unfortunate with his horses. He had some mares served four years, and never had a foal.

Mr. THOMSON (Newseaf) : So far as my judgment goes, I can agree with Mr. Cassie in nearly everything he has said. I am something like Mill of Udny; I have been very unlucky in getting foals for a long time back. I used to try to get as good-looking a horse as I could find, but now I am obliged to try and get one that I think will have a foal. As to the rearing after we have got foals, I think we cannot be too careful with them. I have seen them sometimes when they were allowed to run about the fields in winter and got little shelter. I do not think that is a good way to treat them. I think we should try and keep the foal beef upon them. They should not be too early trained. We ruin many of our horses at about four years old. Whenever they are tractable at farm-work, they are made to do work with horses double their age, and thus

they are ruined. As to feeding, a long time ago it was usual with most people to give bait, a lot of shellocks and toom hulls. But I dropped that a considerable time ago, and gave oats alone, to the extent of five or six bushels to the pair. I found that did not suit, and I now give them four bushels of good oats, with bran at night, instead of bait. My horses have thriven much better this year upon that than they did last year; but I suppose we have better straw. Hay and straw are often injudiciously given to horses. Large quantities of it are thrown in before them, and they tear one-half of it down amongst their feet, and destroy it. They should get little at a time, and get often when we can get servants to do that. Of course the benefit of good grooming is self-evident.

Mr. DAVIDSON (Mains of Cairnbrogie) : I have listened to Mr. Cassie's paper with very great pleasure indeed. The practical hints he has thrown out to us should not be without their effect. The object of discussion is not by any means so much to criticise the essay as to endeavour, if possible, to throw more light upon the subject by stating what is our experience, and the practice among ourselves, from which we cannot fail to learn useful lessons. The breeding of horses is a department of the farmer's work now-a-days attended with more profit than it has been for a long time; and in all probability horses will command high prices for a good many years to come. We cannot be too careful in the selection of both sires and dams. There is one point I would like to bring before the meeting, as to the time of having foals. At present the owners of entire horses put them out at a certain date, and take them in at a certain date. My idea is that they are put out a month too early, and taken in, at any rate, a month too soon. I have no doubt, if we were to represent it to the owners of horses, they would be able to see it to be to their own profit to be a month later in sending them out. It costs them a great deal more the first month they travel than in any subsequent month. And really what is the use of having a foal dropped when the work has not been accomplished, and when there is no green or natural food to give to the mares? I do not think we should have foals at an earlier date than the 1st of April, when the grass is beginning to come, to put them out upon it. The feeding of horses was a part of the question which I was looking forward to getting some information upon. My practice hitherto has been the ancient one of allowing four bushels of oats, bruised, of course, and bait; but I know that many of my neighbours have discontinued the bait, while I have continued it, and been a good deal annoyed with my horses taking colics at night. I have been told that giving bait is the principal cause of these attacks. If so, it is perhaps owing to the way it is prepared. It always seems to me that a good warm mash at night was a natural thing to give to a beast, but while they perhaps give it one night warm, there might be four nights in the week in which it was more like an icicle. I have discontinued giving bait, but have increased the allowance of oats, or rather, I am to follow Mr. Thomson's example, and give an allowance of bran. Grooming is a most important part of the keeping of a horse, and in this matter I think our servants usually display a good deal of care. If they have good beasts and good tackle, the servants like to keep them well. Half-clipping, I consider, for those that have heavy coats of hair, to be a great advantage. They come in fresher, and do not stand in a wet coat shivering, while they invariably begin to thrive after they get a half-clipping.

Mr. MILNE (Mill of Allatian) said he had bred as many horses as any one present. He was once a great breeder of horses. He bred work and also running horses, and for a long time had been unlucky. He did not take that care which Mr. Cassie had represented every farmer should do. He was partial to little horses. They would do double the work on the farm that great heavy cumbersome beasts would do.

Mr. THOMSON (Mill of Dumbreck) : Each one's experience seems to go very much in the run of another's. There is one question I would like to ask Mr. Cassie. In the breeding of horses, we have often heard it said that a different rule applies than in the breeding of cattle. Cattle take most after the sire, and it is said that horses take more after the dam than after the sire. I have heard it said that it is of more importance to breed out of a superior mare than after a superior horse. Of course, we should get a good male if we can, but my own idea is that it is of more consequence to get a

good female. I have bred a good many horses. Some people think that light horses do a great deal of work, and no doubt they do, at certain descriptions of farm-work, such as ploughing and harrowing, but not at carting. I have rather steep land, and I like a horse with a good grip in him. I think now-a-days when heavy horses command such different prices from light horses, we should breed what will command the market; and heavy horses will always command a market. In feeding horses I have stopped giving them bait. They were so troubled with colic, that if I happened to be from home, on my return I was sure to get a horse lying in the "dead-thraws" with pain. Since I dropped giving them bait, I have not known a case of colic. My allowance is 4 bushels of bruised oats, a feed of bran at night, and some Swedish turnips. My horses this season are in much better trim than I have seen them for years, but, of course, I attribute that to the quality of the corn and straw.

Mr. STEPHEN (Gilmorton): I have been very fortunate with the few horses I have bred. I never served a season but I happened to get a foal. I am a great advocate for boiled meat, especially for mares that are to get foals, and when they are getting old. I can keep up my mares upon boiled meat when I cannot do it upon grain. My mares are getting old, and I found they were nearly done last spring, and could hardly get them into condition at all. But I gave them boiled here twice a day, and it had the desired effect. If caution is used there is no fear of colic arising from boiled meat. I divide the diet, and do not give it all at once. I always have corn given in two quantities. If you take in a horse he eats greedily without chewing, and the corn does him no good. When he comes in, I would give a third part of the quantity, and half an hour after give him the rest. I consider it is important not to supper horses at a late hour. I would never give them above a third part of a "winlin" after eight o'clock. If you loose them at five o'clock, they have plenty of time to eat as much as they require by eight o'clock, and when you fill their stalls they stand the whole night at it, and do not rest well, and are not appetised in the morning for their breakfast. If you give them a small portion for their supper, they are pretty sure to be ready for a good breakfast, and are enabled to endure a good yoking. If the stall is filled at night, they cannot take breakfast, and they get faintish before the yoking is up. I have had a little experience in keeping horses, and it leads me to that opinion.

Mr. MANSON (Kilblean): I have not had much experience in horse rearing, but I agree with Mr. Cassie as to getting a little breeding in our horses. I have had some Clydesdale horses as well as half-bred horses. I think Mr. Cassie was misunderstood a little in some things he said. He did not mean to advocate light horses so much as having a little breeding in horses. I find that horses with a little breeding are more active, and have stood out the work better than heavy Clydesdale horses. The only disadvantage is, that I do not think they sell so well when they get old. They are apt to get pretty light in the body and thick in the leg. I should like Mr. Cassie's opinion as to giving horses Swedish turnips. I went through some stables in Aberdeen, where a lot of horses were, to inquire about the food the horses get. I found they had to use Swedish turnips with the greatest caution. One horse had only to get one turnip, while to another they could give twenty turnips. The man superintending the feeding of them said he always looked at whether a horse sweated much when at work; if it did, it ought not to get turnips. To those that stood work well, he would give a good deal of turnips. I do not know that the man was right, but I mentioned the matter to get an expression of experience as to the use of Swedish turnips.

Mr. CASSIE said he never heard of such a thing as Mr. Manson had mentioned. To his mind, a good Swedish turnip to a horse was as beneficial as a good apple to a man. He would not give them many turnips.

Mr. THOMSON said he would never give above six turnips at a time.

Mr. BROWN (Craig) said he continued the plan of giving boiled meat. He always filled the boiler well with turnips, and put good stuff on the top of them. He gave half a quarter of bruised corn, and the best of the straw. He could not get foals, but he always bought in a young pair every year. He liked to keep his young horses pretty well, if they could keep on the foal beef, it would be fully as well. The yoking of horses was a great matter. He had had a man for four

or five and twenty years, who waited upon the clips, and he so handled them that they could be shod or yoked with ease. If they were brought out to yoke without having been well handled, they could not be depended upon.

Mr. WALKER (Jillymauld) said he tried the breeding of carriage horses once, but it was a failure, from their liability to mishaps. There was not, he found, nearly the same risk with cart horses. If they got a good sire and good dam, they were nearly always sure of a good foal. He could not say that the progeny would take after the sire or the dam, because he got a first prize for a mare whose progeny was neither like sire nor dam, but very like the partner of the dam at which she was looking when covered. He sold the mare for £80, and he would not sell the foal for as much. Mr. Cassie's remarks about careful servants were very important, £1 or even £5 being very well spent upon a man who would take proper care of a pair of young horses. If young horses were well begun, they never would break out, except under very bad usage. He agreed with Mr. Cassie that, in feeding, oats ought to be the staple commodity. But the oats ought to be bruised. He tried the boiling principle, but coals got so high, and other things came to be so expensive, that he stopped boiling, and had found that he had had less disease in consequence. He took a peck of bran, two of bruised oats, and poured two pailsful of boiling water over that, and gave the horses a feed of the mixture every night. He never gave it stale, but fresh every night, and it was the best system he had ever tried. He had never found colic or distemper from it. He would like to breed as heavy horses as he could; but it was hardly possible to get them the weight he would like them. He did not despise a good light horse if he was active. If a light horse could go twice where a heavy horse only went once, it would be all very well.

Mr. COCHRANE (Little Haddo) said: Carriage and running horses have been neglected a great deal in our quarter. I think the description Mr. Cassie has given as to the breeding of carriage horses is very minute and perfect. We all know the very great difficulty of getting a good 'shelt' in a market. It has been said by many that it is not profitable to breed such animals; but I rather think with Mr. Cassie, that if we have a handsome, light, quick-stepping mare to put to a bred horse, we would produce something that would take a side in a gentleman's carriage. I think our agricultural horses are inclined to get rather small; and I think they never incline to get too large. We have been getting a better class of stallions into the district for a few years past; and when we have come to keep horses that can go to the South and win prizes, I think it says a great deal for Aberdeenshire in that matter. I quite agree with those who hold that we ought not to breed our horses too light. If we have to sell them, we get higher prices for heavy mares and their produce; whereas, if too light in the bone, they will hardly purchase them, except it be for a light running van. With regard to feeding of horses, I coincide very much with Mr. Cassie. I only wish we could get our men to understand the matter as well as Mr. Cassie has laid it down. I have done away with boiling bait. My principle and method now is to give 4 bushels of oats to my horses. I grow a good deal of light barley on my clay land, and keep it, bruise it, and give the horses a feed on Wednesday and Saturday nights. The bruised barley I also mix with bran and hot water, and I find I can keep my horses in good condition. The bruised light barley, bran, and hot water, makes a capital meal to give to the horses in the evening. I also give my horses three or four Swedish turnips every day. I agree with Mr. Stephen that farmers should take some trouble with the feeding of their horses. I water mine before they go in, give them half-a-feed of corn, and half-an-hour after, when the men get their dinner, give a few Swedish turnips and the other half-feed of corn. I never saw anything wrong from giving them a few Swedish turnips. After horses work five hours, it is a great mistake to give them a whole feed of corn; they will do better if the feed is divided. I have been in the habit of watering my horses after eating and before they went to the yoke again, and I never thought of any objection to it till I heard Mr. Cassie's remarks. I will seriously consider whether I shall not stop the practice. Another thing worthy of attention is the injunction to give horses little at a time, and give it often. I always find that when anything is the matter with a horse it is on a Monday, because they were standing in the house and gorged during Sunday.

Mr. HAY (Little Ythsie) considered the feeding of horses

an important point in the working of the farm, and regretted that something had not been brought out as to the expense which ought to be incurred in keeping up the working staff. They had heard of horses getting oats and bran, but when they gave that sort of food it was apt to cost much more money. His plan was different from that of many present. He bruised no oats; because he had tried it, and found the horses get into worse condition. He gave six bushel of oats per week to the pair of horses, and that fed them well, if they did not give them water too early after feeding. When they gave hay to the horses, a great deal of it wasted, being sent to the dung-hill. To avoid that, he cut his hay and mixed it with straw, putting it in a close manger. As to travelling horses, he thought they should be sent out a fortnight or three weeks later, so that the foal might be weaned by the middle of September, when they generally began to lead an ordinary crop. He was of opinion that a good deal more depended upon having a good mare than horse, for obtaining a good foal. He had bred a good many horses, and had seen a mare that never had a bad foal, while he had seen a good horse that never had a good foal. A great deal depended upon the mare, especially in breeding cart horses. He did not think it paid farmers to breed sheltys. They were so liable to so many things that they were not worth the trouble or risk. And unless they were trained well, they were comparatively worthless. With a farm horse it was different, and a farmer had a good chance of making a job of it. The farmer should breed the horses that pay, and not fancy animals. If they could make good heavy horses pay better than light ones, there was no use keeping the light horse. If they had a heavy horse and a light one, if they kept the heavy animal they had more money on their farm. Some farms were better to have light horses, but so far as he was concerned, he would never breed one, and, if he could avoid it, he would never buy one.

Mr. CASSIE briefly noticed some of the remarks that had

been made. He did not mean that a farmer should breed light horses in preference to heavy ones. What he meant was only to suggest the best thing to do in case a farmer found himself with a light mare—have a foal after a bred horse, and it would likely prove profitable. He never meant farmers should train these half-breds. If they were handled a good deal by some cunning hobbler, it would go a good way to assist in their management. He did not advocate light horses on the farm; he would have three parts of the cart horse, and a part of breeding, just to get smartness. Mr. Hanson spoke of them getting thick in the legs, but he did not anticipate that. He did not approve of Mr. Stephen's plan of dividing the feed. If he wanted to prevent hasty eating, which was promoted by a deep trough, he would put the feed into a broad bottomed trough and spread it, so that the animal had to take it up in small quantities. It was then mixed well with saliva, which was necessary for digestion. As to Mr. Cochran's remark about horses being ill on Mondays, one way to avoid that was not to give anything during the hours in which the animal was at work on week days.

Mr. COCHRANE followed with some remarks about the practice of sending stallions out too early. Farmers had themselves to blame. The shows were held at an early date, and the horses being put in condition for them were sent out immediately after. He referred to the practice in Ayrshire and Lanarkshire, where the foals were not dropped till the spring work was done, and were only suckled for four months. He would never serve mares till about the end of April, and the horses would be sent out whenever they were wanted.

Mr. WALKER (Tilymauld) directed attention to the intimation by owners of stallions as to an intended increase of rates, and the discontinuance of the practice of paying a reduced rate when no foal was left. There was some little discussion on the subject, and the opinion of the meeting seemed to be that, as the farmers had one side of the bargain to make, they could make it to suit their views.

THE SCOTTISH CHAMBER OF AGRICULTURE.

At the general meeting in the hall of the Chamber, India Buildings, Edinburgh, Mr. J. C. Shepherd, President, in the chair.

The SECRETARY, Mr. D. Curror, submitted to the Counties' Committees—which met an hour before the Chamber to prepare the business—reports from the various affiliated county meetings: "At the *Kincardineshire* meeting a motion had been adopted condemning past and prospective legislation upon such a paltry subject as small birds as unnecessary, uncalculated, and contemptible. While Parliament could find no time to deal with the very important measure affecting the law of conveyancing introduced by the Lord Advocate, they had mis-spent their time in legislating about sparrows and pigeons.

Ayr.—That in the opinion of this meeting, the land of this country will never be cultivated in such a way as to make it produce all that it is capable of doing, until a law is passed giving fair and reasonable compensation to the tenant when he leaves his farm, for all unexhausted improvements and manures as will add to the value of the farm. And, on the other hand, when a tenant, through his negligence and bad farming, deteriorates the natural fertility of the soil, let him be compelled to pay his landlord for all such deteriorations.

Dumfries.—Calls attention of the general meeting to the mustering of the Scottish Borderers—a regiment drawn from Dumfries, Kirkcudbright, Roxburgh, and Selkirk—during the harvest months, and the consequent hardships entailed upon employers of labour; and remits to the general meeting the consideration of the advisability of the Chamber memorialising the Government on the subject, in order, if possible, to prevent in future the calling out of any Scotch regiment of militia during harvest. *Pacific*.—The meeting regrets to see that there is so large an amount of arrears, and recommends that defaulters be struck off the roll of membership, and that a corrected list of members be published for the year 1874. With regard to Mr. Dun's motion, this meeting entertains great doubts whether the principle of voting by proxy is applicable to a deliberative society like the Chamber of Agriculture, but sympathising with the object which Mr. Dun evidently has in view of ascertaining the feeling of the whole

members on special questions, they consider that that object would be better attained by the Chamber sending down such questions for the opinion of the counties' committee."

In accordance with the recommendation of the Counties' Committee, Mr. McNeel Caird, Strauraer, was elected president for the ensuing year; and Mr. A. Dickson, Hermiston, and Mr. R. M. Cunningham, Shields, Monkton, Ayr, vice-presidents. The new directors appointed were Mr. John Wilson, Cockburnspath, Chapel Hill, Berwick; Mr. McCraeken, Craigmennie, Whithorn, Wigton; Mr. D. M. Nicoll, Littleton, Kirriemuir; Mr. George Hope, of Bowlands; Mr. J. C. Shepherd, Cleghornie. Mr. D. Curror, S.S.C., was re-elected secretary.

The CHAIRMAN then delivered his retiring address. He said the question of a public road bill was daily assuming more threatening importance, and it was one in which they were all seriously interested. The meeting held at Edinburgh the other day approved unanimously of all appearance of the bill introduced last session by Sir Robert Anstruther, which laid the burden of upholding the public roads on the landward districts and parishes, and by which the towns were to have the free use of those roads without any expense whatever. They proposed generally to keep up the bit of street—each opposite his own door; and seemed to think that if they did so much they had done enough to entitle them to the free use of all country roads whatever immediately around Edinburgh and Leith. Mr. McLaren alluded to the vast population of these towns compared to the rural division, and stated how, within a short period, the town population of this county had increased 100,000. And who knew what it might soon extend to? Did it not occur to Mr. McLaren, who took the lead in pleading for this bill, that he proposed laying a very serious burden on the shoulders of the small county population, by compelling them to keep up and maintain roads for all the enlarging city hosts he spoke of? Three-fourths of the assessment for the county, they were told, was collected at the toll-bars near the city, and in all the other country districts only one-fourth. The needs of the county places for the use of the roads were comparatively a small matter—the towns

needed the roads a great deal more than the thinly-peopled landward districts. Yet, Mr. M'Laren would lay the whole expense of road repairs on those lonely localities. Edinburgh and Glasgow might grow as large as London, still no help or hope was held out for the country places. In time this tax might eat up the half of the rental by the tear and wear of such nations of people rushing forth. In short, a more insane, unjust demand was never made. They all knew and acknowledged that nothing was more strictly national property than the public roads, and the question was who ought to maintain these? The answer surely ought to be those who were benefited by them. There was not a town nor hamlet in the land where the property was not increased in value by them; where the trade was not more or less sustained by them; where the means of livelihood was not cheapened and facilitated by them. Good roads were essential not only to the comfort, but to the very life of the nation. If the towns expected to make progress with the question, they must begin equitably. Let them all say that they were willing to be assessed in common with the nation generally, and they would not need to wait long for a road bill. He left it to Mr. M'Laren to tell them whether a penny or twopence added to the income-tax would be sufficient to give us all free roads. But that their maintenance must be provided for by some such universal impost if they wanted to get altogether quit of the toll system there could be no rational doubt. The proposal to burden oppressively a particular class for the benefit of the great and wealthy majority ought to be frankly and at once abandoned. Speaking to the point who ought to have the management of the roads, he said the county in which he lived had got quit of tolls; but the roads could not be said to have been improved. There were complaints of all kinds, and particularly there was a constant squabble as to what divisions of the county stood most in need of the assessment being spent on them. He had long had the impression that instead of the power being lodged in competing local interests, there ought to be a much wider and more impartial trust. There were many reasons which might easily be adduced to prove that Government could manage the public roads with greatly more enlightened plans and at far less expense than was required by the present fragmentary mode of working. Following the example of India and some other countries, much of the necessary work might be done by convict labour, and the military might do a good deal of it. Mr. Shepherd then referred to the Game-laws, and said that the farmers had been told by certain writers that they had themselves to blame, for they had the power by union to protect themselves, and to prescribe conditions to their landlords. It was easy to reply that there ought to be no enactments conferring on landlords the power of ruining the tenant, and that not by individual acts of cruelty, but simply by a little negligence. He often wondered at landlords subjecting themselves to so ugly a suspicion as this retention of power implied. It was needless for landlords to insist that they meant nothing bad. Although they were sincere, how did they know what their successors might do? Why retain in force laws which went directly to create two opposing and inconsistent rights to the same crops—that of the tenant to grow them and save them for sale and livelihood, and that of the landlord to eat them up and devour them? It was sad to think that any person was found persistently to defend them. Wearisome nonsense was reiterated *ad nauseam* about possible trespass. Where there was no game there was no need for fearing wanton and destructive trespass. He saw no middle road to relief; that could only be secured by total repeal. He need not say that he had read with pleasure the announcement by a Minister of the Crown, that the change of these cruel laws was acknowledged to be both necessary and urgent; and he hoped that the Ministry which had already carried through so many and great reforms would also have the honour of relieving the long-voiced and burdened trade of the farmers of England and Scotland. In conclusion, he referred to the loss which agricultural literature had sustained in the death of Mr. Charles Stevenson, who had long attacked the wicked Game-laws. In those days the present editor of the *Scotsman* was one of their strongest and most influential friends. It was needless to say that they regretted his change of opinion.

Mr. M'LAREN, M.P., said he had listened to the address with great interest. In regard to the Game-laws, he would say only one sentence. He had been one of the few who had always voted with his friend Mr. Peter Taylor for the total

repeal of these laws. In regard to road reform, he thought their chairman had made some mistakes as to matters of fact and a good many in matters of argument and analogy. The opinion he had arrived at was one that would not be very generally accepted in this room or in any other room in Scotland—that Government would be the best and the most economical managers of all the roads in the United Kingdom. Every man that he (Mr. M'Laren) had heard speak of Government management—who was entitled to any attention at all, had declared it to be the most wasteful and improvident mode of management that could be devised. His impression was that if the Government were to take the roads into their own hands in place of sending down skilled men like their present inspectors whom they chose themselves, it would be a question of who had most influence with the Government to get an appointment with a big salary. And they would, perhaps, find in the county of Edinburgh an ex-colonel of Dragoons, and in another county, perhaps, a half-pay admiral, and in others men who had aristocratic influence, but who had no knowledge whatever of the subject. In fact, they would not even do the work; they would depend altogether on their assistants; they would be big men, too big men for their place, but drawing big salaries. It seemed, however, that the chairman was entitled to the compliment of great patriotism, because, as a large tenant and ratepayer in Haddington, he had been a party to the abolition of tolls in that county; and if any Edinburgh people wished to visit that county, they might do so without paying any tolls. They wanted to return the courtesy, and allow the chairman to drive over the county of Edinburgh free from tolls, but he would not have it. This might be patriotic, but it was not wise nor logical. He (the chairman) had assumed that all that was asked of the people in towns was to keep up the bit of road opposite their own doors. Now, if the whole of the roads in the city of Edinburgh Leith, Portobello, and Musselburgh were placed, as the lawyers said, hotch-potch, along with the roads in the county, Edinburgh would save money by the transaction. At present the city of Edinburgh paid 5d. per £ on the rack-rent of every house within the city, and a lower rate on shops. About £20,000 was spent last year in keeping up the streets, of which £1,500 was contributed by the county for the keeping up of twenty miles of roads within the toll-bars. The same remark applied to Leith, whose Parliamentary boundaries extended from Granton on the one hand, and to near Portobello on the other. He found from the accounts of the Road Trustees for the last two years that they were divided into two sections,—one called the ordinary repairs and maintenance, and the other extraordinary payments. If they deducted from the ordinary maintenance of the roads in the county of Mid-Lothian—first, the cost of collecting the money and keeping up the toll-houses, and second, the salaries of surveyors, and the interest of money on debt—which, however, was now practically cleared off—and then if they deducted the £1,500 paid to the city of Edinburgh for the maintenance of the twenty miles of roads within the toll-bars, the result would be that the whole ordinary expense of keeping up all the roads of the county of Mid-Lothian—which extended to about 600 miles—was £8,500. Look at the wasteful expenditure that was required to collect and pay this £8,500. Wages to toll-keepers and for repairs on toll-houses amounted to £1,960, and the expense of the surveyors and clerk was £1,660, or £3,600. He thought no one would say that that was not a most wasteful expenditure. Then by the proposed plan all the tolls levied at the entrance to the towns, such as the causeway mail of 2d. on each cart with certain kinds of goods, and the commutation duty of 1d. per cart on every kind of goods, were proposed to be abolished. Who got the benefit of these tolls just now? The Road Trustees got the causeway mail and the Town Council received the commutation duty; both amounted to something under £4,000, but the expense of collecting was £1,007. They might as well throw that £1,007 and the £1,960 of the expense of tolls into the sea. About the great question of making the 70,000 people in the county pay the rates for the roads which were used by the inhabitants of the city, he might mention that on looking over the printed valuation roll of the county he found 4d. in the £ of rental in Mid-Lothian would give £9,600; and the whole ordinary expenditure for each of the last two years was only to the extent of £8,600. He found very large sums appearing in that valuation roll that had nothing to do with landed property. One work near Mid-Caldor, for instance, was assessed

at £4,000 a-year, and there were paper-works and works of all kinds assessed for large sums of money. Then it included the towns of Dalkeith, Penicuik, Bonnyrigg, and West Calder, all of which would have to pay the 4d. per £.

The CHAIRMAN said that by the bill it was only the landward districts that were to pay.

Mr. M'LAREN said that was a mistake, and the Chairman had misread the bill. It never was proposed to do anything so unjust. The several Parliamentary burghs had by the bill to keep up the whole roads within its boundaries, and all towns that were not Parliamentary burghs would be assessed as part and parcel of the county. If they were to put on another penny for extraordinary expenditure, that would get an additional £2,000 a-year to spend. Even then they would not be paying so much as Edinburgh, in which the rate at present was 5d.; but when they abolished causeway mail they must have a substitute for it, and that would be in another penny added to the rate, which would then be 6d. for the ordinary keeping up of the streets. His friend had talked of the injustice of the county keeping up the roads for the towns; but he seemed to forget that when he came to Edinburgh in his conveyance that the toll he paid did not go to maintain the streets over which he was going to ride, but it went backwards into the county, and he could use the streets both for the conveyance of himself and his produce and never in his life pay a farthing for all the benefits he had received. He held that there never was a greater mistake than to suppose that the abolition of tolls would be a hardship to agricultural interests; and he spoke not without book that the general opinion of the agricultural interests throughout Scotland was strongly and decidedly in favour of the abolition.

Mr. GEORGE HOPE (Bordlands) said that this Chamber had petitioned again and again in favour of the principle of abolition of toll-bars. The Chairman had thrown out peculiar opinions upon it; but he did not think that they were likely to be shared in by the members of the Chamber, and he was glad Mr. M'Laren had answered him so well.

Mr. MELVIN (Bonnington) supported the views of the Chairman. He thought it was a very hard thing that the tenant-farmers of Mid-Lothian should be made to pay for the building of the city of Edinburgh, seeing that nearly all the stones were quarried in the county.

Mr. DAVID DUN (Baldinnyes) brought forward his motion that Rule XX. should be altered to the effect of permitting voting by proxy at meetings specially called for special purposes. This excited a good deal of discussion, several amendments being proposed, but ultimately, on the suggestion of Mr. Harper, Snawdon, the subject was left to the directors to consider and report.

The remit from Perth meeting as to Mr. Barclay's bill and game legislation generally was laid on the table.

Mr. WILLIAM GOODLET (Bolsban, Arbroath) said he was sorry he was obliged to differ from his friend Mr. Barclay on this question. His first impression on reading his bill was rather favourable than otherwise to it, but on further consideration he had come to the conclusion that it was not a bill that should receive their support, and he was justified in saying that even Mr. Barclay himself had not now the same confidence in its satisfying the requirements of moderate and reasonable men that he once had. The clauses in his bill against trespass in pursuit of wild animals were, in his opinion, tantamount to a new Game-law. It had been said that the late John Stuart Mill's views on the game question were substantially the same as those embodied in Mr. Barclay's bill. He thought Mr. Mill's *diction*, rightly understood, was that all wild animals really should belong to the consuming public, at whose expense, indirectly indeed, they were fed; but assuming that Mr. Mill was right when he said that practically the game belonged to the occupier of the land on which it was taken and killed, that afforded no support to Mr. Barclay's bill, the principle of which was that it ought to belong to the occupier and owner of the soil. Mr. Mill was of opinion that it was not necessary to enact a new law of trespass; the more rigid enforcement of the existing trespass laws, he said, would suffice. But Mr. Barclay's bill contained a new trespass law, and in this respect also it was at variance with Mr. Mill's views. He was satisfied that the Chamber should not commit itself by approving of it. There was very little chance of Mr. Barclay being able to carry it through Parliament in its present shape; indeed, if they might judge from what he had said at the Muir of Ord and other meetings, it

was doubtful if he would even attempt it. In short, Mr. Barclay's bill was yet to make, and he did not think the Chamber ought to give itself much trouble about it. They ought to still adhere to their resolution in favour of total repeal. Any bill, to be effective, must be brought in by the Government, and he would much prefer to wait its advent than to countenance Mr. Barclay in his present compromise. He moved that the bill be not approved of.

Mr. W. RIDDELL (Hundalee, Jedburgh) seconded the motion. It would be a stultification of the Chamber to recede from their former position; and he trusted there would not be a division on the question at all.

Mr. BETHUNE (Blebo) thought Mr. Barclay's bill was a bad one. There was a large minority in the Chamber who did not agree with the total abolition of the Game-laws, and he was one of those who believed that the total abolitionists were playing a bad game; but as they had waited for so many years, let them wait a little longer, in the hope that Government would bring in a good bill dealing with the question. Mr. Barclay's bill was just their old friend Mr. Loch's bill in a different shape, and it he strongly opposed from the first.

Mr. MELVIN thought the Game-laws were totally opposed to the requirements of the time, and that there never would be a settlement of the question until they were abolished.

Mr. T. M. NICOLL (Littleton, Kirriemuir) objected to Mr. Goodlet's motion, because it committed them before the country to a policy of "no compromise." Mr. Goodlet's views might unquestionably be sound, but at the present, and for many years to come, they would be impracticable; and their wisest course was to accept as much as they could get in the meantime, on the principle that half a loaf was better than no bread.

Mr. GEORGE MILN (Rosehill, Arbroath) said that the policy of total abolition was a most mistaken one, and he objected to it on two grounds. First, because it went too far, for it interfered not only with animals on cultivated grounds which caused mischief, but with grouse in highland districts, where the grouse moors formed valuable property. Second, because the policy of total abolition would not be an effectual protection against game, inasmuch as preservation by those who were determined to have game would necessarily take a much more irritating form than at present, and the result would be that landlords would set themselves keenly to turn off their properties even the most harmless tourists in common with poachers. The general public would not endorse such action, and most likely there would be a return to aggravated Game-law legislation. Covert preservation, if the laws were totally abolished, would also likely lead to more bloodshed than at present. Assuming, therefore, total abolition out of the question, did Mr. Barclay's bill not contain the principles of a sound measure, which they would be well advised in adopting? It gave the tenant equal power with the landlord to destroy all animals which injured the crops; and if they thus got half what they wanted, that would not prevent them from perhaps getting the whole afterwards. He moved "That, without committing ourselves to all the details of Mr. Barclay's bill, we recognise it as a measure embodying general principles on which legislation may proceed, and that we agree to petition Parliament in its favour."

Mr. WM. SMITH (Balzendie) said that the principle of Mr. Barclay's bill was simply that of the present law of England, with the practical difference that it made the right of the tenant inalienable. Mr. Barclay did not interfere with game in coverts; he said to the farmers, "You can kill game on your farm, but your laird can keep as much as he chooses next door." Mr. Barclay had been sent to Parliament as a farmer's representative, and therefore he insisted it was incumbent on the farmers to protest against his bill.

Mr. ANDREW POTTS (Lewinshope) moved that the bill lie on the table, because it was said that Mr. Barclay intended to modify it, and before pronouncing decisively upon it they should see the modified bill.

Mr. GEORGE DUN said that Mr. Miln's remarks were just a thrashing out of a large quantity of old straw with little result. He approved of total abolition.

Mr. GEORGE HOPE seconded Mr. Pott's motion.

Mr. MILN withdrew his motion in favour of Mr. Potts', and a vote was then taken as between it and Mr. Goodlet's resolution disapproving of Mr. Barclay's bill. The latter was carried by a majority of 14 to 12.

Mr. GEORGE HOPE said he quite agreed with the county

report from Kincardineshire that the recent small bird legislation was unnecessary, uncalled for, and contemptible. He had seen on a field of turnips in East Lothian from 1,100 to 1,200 lamets killed in one day without apparently diminishing the number.

The CHAIRMAN said that legislation was not only contemptible, but pernicious.

Mr. H. MORRIS ALEXANDER (Dunoon, Glamis) thought the Chamber should work unceasingly to get the repeal of the Act. If the small birds of the country were to be protected, they would suffer more real damage from them than from game. No matter what happened, he would kill all the birds and destroy all the nests which he could. He would sooner have seen the Act passed for the cultivation of rats than the Small Birds Preservation Act. He moved that the Chamber should not cease agitating till they had secured the repeal not only of the Small Birds Act, but of the Act imposing the Gun-tax.

Mr. WM. SMITH seconded the motion. Small birds were already very well protected without a special Act. The Gun-tax, the present system of game preserving, and the destruction of birds of prey all protected them. Indeed they received more protection than was given to mankind.

The motion was unanimously adopted.

The resolution from the Ayr county meeting and Mr. Howard's bill amend the Land Tenancy Laws were remitted to the directors to consider and report.

It was remitted to the directors to petition Parliament that no militia force should be called out for drill in agricultural districts during corn harvest.

It was also remitted to the directors to purge and revise the roll of membership.

The SECRETARY read the following letter, received from Mr. Macfie, M.P., which was remitted to the directors for consideration:

University Club, Edinburgh, 11th Nov., 1873.

MY DEAR SIR,—I gladly avail myself of the encouragement you have given me, and now put in writing the two

subjects I mentioned as probably deserving and claiming the attention of the Chamber.

1. THE PARTNERSHIP LAWS.—Do they not, as now constituted, offer opportunities altogether and injuriously neglected for the funding of capital by farmers, and the securing desirable tenants and terms by landlords?

2. COLONIAL LANDS.—Western Australia. That colony has an area of nearly two-fifths of the whole of the inland continent of New Holland. Unless the Government reverse the thoughtless policy of late years, that area, the merest fraction of which is now occupied, will be transferred to the actual residents, 21,000 to 25,000 only in number, without a consideration—without conditions and obligations—without reasonable prospect of its being utilised. The land is the inheritance and property of the British people at home as well as of the handful who are on the spot. It presents a noble field for the future residence and labour of our teeming population, who ought to be encouraged by a wise administration of our public lands to settle within the empire. What better for tenant-farmers and farm labourers than to have that grand reserve available (which it would not be if transferred). At present, if a farmer has sons, they must either cease to farm, or pay rents higher than their neighbours to "out" them, or emigrate. The last is the best for them and for the empire, as well as for present tenants. Far better give away such lands to ourselves, to our sons, than to the handful who occupy Western Australia. At any rate, let the lands be surveyed and reported on, that we may know what we have. There has been no survey. The accounts I get from many quarters, however, show it is a colony with noble harbours, fisheries, forests, and fertile soil. Yours faithfully,

R. A. MACFIE.

P.S.—I call attention to Western Australia for two reasons.

1. Almost all our other waste lands have already been precipitately alienated. 2. Alienation of these is on the cards. If distributed, then each colonist would get a present of about 25 or near 30 square miles of land. The sales would go to lessen the balance, or more than extinguish taxes in the colony.

TENANT FARMERS' GRIEVANCES.

At the dinner of the Inverness Farmers' club—Mr. Mundell, Gollanfield, in the chair.—Mr. Mundell read a paper on the grievances affecting tenant farmers, and the best means to be adopted for their removal. He said the form of lease would be very short and distinct. The proprietor should engage to let the tenant, his heirs and assignees, the particular lands in question with the houses and fences thereon, and the roads leading thereto, for nineteen years at a fixed sum of yearly rent payable out of the fruits at the first term after they are gathered—the condition of the land and erections to be reported on by men mutually chosen at entry, and again at issue, and the difference in their state from what they were at entry, ordinary decay excepted, to be paid by the landlord or tenant according as they are better or worse. Further, if there were any subletting I would hold the original tenant still liable, except when the landlord expressly consented to accept the substitute. He adhered to his well known opinion respecting the total abolition of the Game-laws and of the Law of Hypothec, and argued strongly in favour of tenants receiving compensation for unexhausted improvements on the principle embodied in the bill brought in last year by Mr. Howard and Mr. Read. He said the reception given to Mr. Fordyce's bill relating to farm servants' cottages was a great mistake, the bill being a step in the right direction, though it did not go far enough.

Mr. FRASER, Balloch, secretary of the Society, also read a paper deprecating political agitation by farmers as likely to provoke unnecessary ill-feeling in society. He argued that the Game-laws required modification, so as to preserve the advantage they gave to the monied classes for obtaining recreation with as little injury as possible to others. He did not think that the abolition of the Law of Hypothec, or of the Law of Etail, would improve the position of the tenant-farmer or of the country. Scotland, as a nation, may have suffered some loss from quiet subscription to political injuries, but we have gained much more by attention to our business, and we have made a comparatively poor country rich, and an

example to our richer neighbours. Let us look at Ireland, where a political grievance is never wanting, and we will see a fine rich country, comparatively a great waste, its people in poverty, and their time lost in listening to political agitators, while too many of its inhabitants are obliged to leave their country for others not half as good. The high price of land in this country resulted from fair competition. He thought landlords should employ their gamekeepers in destroying crows and other birds; and touched on the necessity for compensation being given for unexhausted improvements.

Mr. ANDERSON of Lochduin thought tenants' grievances were a good deal in tenants themselves. They took their farms at a great deal too high rents. That was their own fault. If they were proprietors themselves, they would take the highest rent they could from good men. No doubt labour was much higher now than it was ten or twelve years ago, when leases were entered upon; but as they liked their servants to make out their twelvemonths' engagements, so they ought to make out their own engagements. Farmers, he thought, should have the ground game, and as for the winged game, they had no time to take up their heads with it. As Balloch had mentioned, sport brought down many people from the south, perhaps with more money than wit—and the money came to many of them indirectly. He thought if they abolished the Law of Hypothec they would have harder lines to come against. Its abolition, perhaps, would be a very good thing for the rich tenant, but industrious, hard-working tenants would have no chance if they had to provide a fore-hand rent, and find security for nineteen years. If one could find security in present circumstances that he would stock his farm, that was all that was wanted. The proprietor looked after himself—but he did not want long security nor a fore-hand rent. As regards buildings, it was very hard that proprietors should take buildings erected by tenants without compensation. Few of the proprietors would do so. ("Oh, they all do it.") No, they all did not, but some did, and it was a perfect robbery when they did. The proprietor should pay

for them at valuation, or if they were not required for the farm the tenant should be allowed to remove them. As regards unexhausted improvements, it was a very hard thing that a tenant should make the most of the land, lime it, and manure it heavily, and at the end be turned out of it without compensation. Still he knew some proprietors who acted fairly. Not long ago a tenant on Cantray failed, a large amount of money had been laid out in improving the farm, and the proprietor said, "I am not entitled to the surplus rent. I will give it to the parties whose money went to make the improvement." (Mr. Mundell—"Give another case," and laughter.) The landlord was just entitled to get his money to the end of the lease, and the rest ought to go to the man's heir or his creditors, whoever they might be. He might, just as a little bit of fun, tell them an anecdote. He himself once went into a farm—a very poor place—and paid £180 for it. He brought it into good condition, and his friend, Mr. Mundell, said to another friend—"That's a capital farm yonder; you should go and take it; it will suit you well." He had no feeling against Mr. Mundell on the subject; but the man took the farm, paying £350 for it, and he (Lochdlu) lost part of the £2000 or £3000 he had laid out in fencing, draining, &c. He should have been remunerated in some way for that—which he was not. He advised them all to go into the contracts with their eyes open—"make your bed well before you go into it."

The CHAIRMAN said Mr. Anderson had mentioned one gentleman who gave up his privileges to the creditors, but he had failed to mention another.

Mr. MACANDREW—I can tell you another case that I settled.

The CHAIRMAN would just quote the poet in an altered form:—

Hypothec, oh for mercy spare it;
The landlord's robe, oh dinna tear it.

He had no objection to the Law of Hypothec, provided the landlord was his tenant's banker; but if any other person had given that tenant money, the thing was in the hand.

LOCHDLU mentioned Lord Cawdor and Lord Moray as having done acts similar to that of Cantray.

Mr. MACANDREW said the remarks of Mr. Fraser and Mr. Anderson appeared to him to contain what was the common sense of this question. There were two classes of grievances, those caused by legislation, and those arising out of the customs of the country. It was quite right that the Legislature should be asked to remove grievances which its own measures had caused; but they would require to make out a very strong case before asking the Legislature to interfere in reference to customs and matters in which the remedy lay in their own hands. Nothing had hitherto been brought forward in relation to game, so far as it had to do with agreements or customs in letting land, which Parliament could be asked to remedy without something amounting to a revolution. He pointed out that the Game-laws, so far as enforced in this country, were trespass laws. They dealt with trespass in pursuit of game; and if they were abolished, some trespass law would require to be enacted, and what law? People would not submit to a penalty for simply walking over a field or moor. The practical question was really this—how shall we arrange so as to protect both the game and the agricultural tenant? Mr. Mundell admitted that there were different kinds of property in land—minerals, woods, and such like—which the landlord had a right to reserve; things that were not a matter of agriculture, and to which the agricultural tenant had no claim. Mr. Fraser had mentioned another kind of property—sporting property—which brought in £50,000 a year in this county. By the law of the country the property belonged to the landlord. It had been bought and sold, hundreds of thousands of pounds paid for it, and purely for the value of the game. Nobody could seriously propose to destroy that property without compensation; no Legislature, unless carried away by revolutionary fanaticism, would think of such a thing. Were the tenant farmers prepared to compensate the landlords? He did not think they were. The question then resolved itself into a very small matter. There were two kinds of property in game and agriculture, and the tenant took the land with his eyes open. The law was perfectly just. If game increased during the currency of a lease, the tenant was entitled to compensation for damages. But the difficulty lay in proving the increase. He had tried his hand at proving it,

and found it difficult from experience. (A Voice—"A field of turnips would soon prove what damage game can do.")

Mr. FRASER, Faillie—Mr. Macandrew is a young farmer yet—he will feel the difference next year.

Mr. MACANDREW said he had taken more trouble to prove damage by game than perhaps any man in the room, and therefore knew the difficulty. He did not mean that farmers had no grievance; they certainly had a grievance, and what they wanted was a practical remedy. In a great degree the matter was in their own hands. If they made bad bargains, he did not think they were entitled to call on the Legislature to help them; but he did think the law could give a speedy remedy in the absence of express stipulation. Say that the lease contained only the ordinary reservation of game, without any express stipulations; then the law should hold the tenant entitled to compensation for any excess of damage, say beyond 5 per cent. on the rental. That would give them a fixed point from which to start in trying to ascertain damage; and though the valuation might be difficult, practice in such investigations would soon overcome it. He agreed with Mr. Mundell that deer forests should be fenced. This was an exceptional use of property; and he thought there could be no objection to imposing a special tax upon forests. There was as much justice in that as in taxing a man for a carriage or a pony, or keeping a dog. As to the succession in leases, the law there simply was that the farm went to the eldest son, like other heritable property; but it was a common stipulation, and quite in the power of the tenant, to provide that this lease should fall to any other member of the family. As to unexhausted improvements, that was a matter for which he thought tenants should stipulate; and in the absence of such stipulation, it might be quite reasonable that the landlord should pay compensation. He mentioned a case that came under his notice in Nottinghamshire where the tenants were small, none having over 150 acres, or perhaps not so much; and by the leases the tenant was entitled to receive on outgoing the first year after applying manure four-fifths, the second year three-fifths, and so on. With regard to artificial feeding supplied to cattle, the tenant received one-half of that for the year preceding the removal. That was a custom which he thought would satisfy Mr. Mundell. (Mr. Mundell—"Quite so.") Those farmers were not nearly equal in intelligence and wealth to those whom he saw around him there; yet it did not require a law to bring this about—it was a matter of adjustment between landlord and tenant. As to buildings, it was most unjust that anything should be taken from the tenant without payment. But the erection of buildings was also a matter of contract; only, he would say, if the tenant erected buildings for which the landlord would not pay, then he should be allowed to remove them. But the far better plan would be to refuse to take a farm unless all the buildings, and fences, and ditches were provided for. He agreed with Lochdlu that tenants had no special ground for complaint against the law of hypothec: if they got longer credit from the landlord they personally had no reason to consider the claims of the manure merchant. The question was a public question, and it came to this—Did the law conduce to the successful cultivation of the land, and the advancement of people skilled in that, who might want capital? He thought it desirable that there should be an opening for men of skill rising to be tenant-farmers. Many persons had risen in that way, and, to a considerable extent, this was due to the existence of the Law of Hypothec. In this aspect, farmers were interested in maintaining the law. It was a great matter that there should be a ladder lying between the tenant-farmer and the labourer, by which the lower class might rise. It tended to diminish those broad distinctions between class and class, of which there were too many already, and which were doing much more injury to tenant farms than the Law of Hypothec, or even game. If they could increase the possibility of these men rising, they would be doing more good than by abolishing Hypothec, perhaps lowering the rent of land a little, shutting those people out from competition, and enabling the man of capital to get the land on his own terms.

Mr. FRASER (Faillie) said the last speaker had given, as he always gave, a very able speech, but it was the speech of a special pleader. It was quite evident to him, and must have been to everyone acquainted with the laws affecting the tenancy of land, that Mr. Macandrew really knew very little upon the subject ("Oh," and laughter).

Mr. MACANDREW : That is polite at all events.

Mr. FRASER said Balloch had also given them a very able disquisition, but he really could not find out what he would be at, and Lochdhu seemed to him to be looking both ways. There were without doubt grievances affecting the tenancy of land, and the principal one, to his mind, was the Law of Hypothec. He had heard some curious arguments in its defence; and he was surprised to find so acute a man as Mr. Macandrew arguing that the law enabled landlords who were inclined to be generous to aid their weaker and smaller tenants.

Mr. MACANDREW : I did not say anything of the kind.

Mr. FRASER : That was my view of it.

Mr. MACANDREW : Yes; but it was not what I said.

Mr. FRASER : Will Mr. Macandrew allow me? We listened to him patiently.

Mr. MACANDREW : Well, leave me personally, and deal with the subject.

Mr. FRASER said that generally when people wanted to befriend poor and weak men they did it at their own expense. The landlords gave all the risk to the other creditors, and were themselves perfectly safe. He believed hypothec was very hurtful to farmers. It had no Parliamentary sanction until very lately, and it arose when rents were paid in kind—when landlords and tenants were in a sense co-partners, and properly enough, neither could dispose of the subject until his partner's share was delivered. In course of time rents came to be paid in money, and the right of landlords to interfere with the produce ought to have ceased. Now it must be plain to every one who studied the operation of the law, that it operated much more severely against the smaller and weaker tenants than against the larger and wealthier. There was, he believed, more competition for small farms, and the smaller tenants paid in proportion bigger rents, mainly owing to the law of hypothec. They were generally hard-working and industrious men, and commencing poor and back-rented, they went on from hand-to-mouth, barely able to keep soul and body together, to the end of the chapter. Occasionally perhaps, from favourable circumstances, a poor industrious tenant did become comparatively wealthy, and then, of course, the law of hypothec must get the credit of it. As to forehand rents, he had no objection if landlords preferred them. A good many adopted them at present; he had been paying forehand rents for the last twenty years. But as to security, it humbly appeared to him that, apart from hypothec, the law afforded landlords ample protection, for it enabled them, if a tenant ran into arrear for a year's rent, to compel him to find security not only for the arrears, but for the rent of five future years, or else to remove. That security, though objectionable on several grounds, he would leave them; only he thought security for the past year and for a year to come should be sufficient. Next, considering the way that farms were let to the highest bidder, the power of landlords to turn out tenants who fell into arrear, or compelling them to give security, it was hard to see why leases should not be assignable like other property. The result of their not being so, in cases of death and bankruptcy, was often painful and unjust. Some proprietors, to their honour, refused to take the advantage the law allowed them, but the change was required for others who acted with less justice. The law of entail had always been a dead weight upon the nation. It had been brought in nearly 200 years ago by Lord Stair, a man whom it was the fashion to laud as the greatest of Scottish lawyers; but in this he had done more injury to Scotchmen and more to retard progress in Scotland than any Scotchman that ever lived. His labours were now being abrogated, and perhaps by 1855 they would entirely disappear. He was not in favour of the total abolition of the Game-laws—but he would have some very serious changes. The red deer of the Highlands were noble animals, but they were never intended to be of much use to the people as food. The afforesting of large portions of the country, which were well fitted for producing good blackfaced sheep and black cattle, was more a national than a farmer's grievance; and if proprietors of the soil wished to dispose of their land in that way, and it was the will of the nation that a few of the wealthy should have sport rather than that the people's food should be increased, so be it. Farmers as such would have little ground to complain, providing always their crops and stock were protected from destruction and damage. Hares and rabbits when not effectually enclosed should be treated as vermin. Winged game was also in some places a grievance. When they took to eating

corn it was extraordinary the damage they did in a short time. Some wise people told them corn was easily protected, and that a little boy with a tin rattle was all that was required. [The CHAIRMAN : "He was a rattle-skull who proposed it."] The birds in his part of the country were a good deal wiser than that. He tried a boy with a tin rattle, and they simply flew to one part of the field and flew back again as he approached them. Nothing would effectually drive them off but the smell of powder, and that tenants were not entitled to give them. In connection with the game grievance, he might mention the dog and gun taxes, which were fit to be put on a par with the great lucifer match tax; and if not intended to be, they certainly were very effective aids to the Game-law system which culminated in the notorious Poaching Prevention Act of 1864.

Mr. INKSON took the same view as Mr. Macandrew, Balloch and Lochdhu.

Mr. MACPHEIL (Culaird) had not intended saying anything, but he could not help making a few remarks. Mr. Fraser, of Balloch, told them that they heard of nothing but decay, and saw nothing but growth, and Lochdhu spoke of the scarcity of farm labour. Now, he would just put it to the secretary whether there was not a decay of labour? Were not the cottages getting demolished on the hill-sides, and the people driven away, thus causing a scarcity? That was certainly a sign of national decay—men getting scarce—even if wealth did accumulate. He had heard an extraordinary remark from Mr. Macandrew—with whom he was certainly not going to measure swords—that they could not tell when game increased.

Mr. MACANDREW : I said it was very difficult to prove the increase.

Mr. MACPHEIL said when they saw twice the amount of damage done to their turpins this year over last [A VOICE : "Four times"], it was surely clear that game was increasing. The Law of Hypothec was constantly brought forward as in the interest of the skilled labourer or poor farmer. But if a labourer had nothing but his skill—if he had no money—what was he going to do with a farm? How was he to get a horse to pull his plough, or a cow to give milk, or seed to sow his land, or manure to help him? He obtained them at the expense of other people to make the landlord's interest secure. Was that fair? Did that show any generosity in landlords at all? There should be no law for the protection of landlords that was not applicable to others.

The CHAIRMAN said there were too many lawyers against him, but he wanted a word about the Law of Hypothec. Under that law a man with £100 could enter into a farm of £500. He meant not £500 of rent, but a farm it would take £500 to stock, and a man had usually some friends to assist him. These friends signed a bill for £100 or £200. He had to pay 5 per cent. on that to the bank, and went on renewing it till he was obliged to succumb. The bank had its security, the landlord took the rent, the poor man might have nothing to pay the manures, and he walked out without a penny. It was stated that there were 4,000 tenants in Invernesshire under £50 rent. Did the landlords care for hypothec on their account? No, it was on account of big tenants; and these big tenants did more to support poor tenants than the proprietors. He was not sure but they were as independent as a heap of the proprietors who were so big and bragging. He did not see how he was going to sum up this when they were so much divided.

THE CONTAGIOUS DISEASES (ANIMALS) ACT.—

At a meeting of the Leicestershire Chamber of Agriculture of Saturday the report of the Select Committee of the House on Commons on the Contagious Diseases (Animals) Act was generally approved, but the meeting strongly recommended the adoption of the two rejected resolutions by Mr. C. S. Read, M.P., first, "That should stringent measures be taken in the United Kingdom for stamping out pleuro-pneumonia, foreign cattle coming from all countries in which that fatal disease exists shall also be slaughtered at the port of landing, as the meeting is satisfied that no inspection can guard against the introduction of a disease which has so long and uncertain a period of incubation; secondly, that all Irish cattle be rested six hours and fed and watered before they are sent inland by rail." A committee was also appointed to fill up returns as to the late custom of tenant-right in Leicestershire, the present custom of tenant-right being in a transition state through the formation of a tenant-right association, who were determined to alter the injustice which prevails.

CHESHIRE CHAMBER OF AGRICULTURE.

THE COMEDY OF AGRICULTURE.

At the annual general meeting at Crewe, SIR HARRY MAISWARING referred to the 6th clause of the scheme for compensation to tenants by landlords, passed in April last, concerning the eradicating of old hedges. The tenants were to have full power to eradicate old hedges and cut down trees, and the landlords were to have the privilege of paying the costs. He remembered a farm in Gloucestershire where the hedges were all new, and there were no trees. In one field there was a lot of large Shorthorn bullocks looking thin and ill, all suffering more or less from ophthalmia, caused by the absence of shade and exposure to the dust. Some of them were quite blind, several had lost one eye, and the eyes of all were streaming down with water. Having cut down the trees the owner was putting up sheds, that the cattle might creep into them out of the heat of the sun. He mentioned this to a friend, who suggested a very valuable contrivance, that each cow should carry a parasol, and if the parasols were of different colours the effect would be very pretty. As his friend, Mr. Fair, had destroyed a larger number of beautiful trees and hedges than any other man, and had consequently exposed his cows to the heat of the sun, he (Sir Harry) ventured to present him with a model for the parasols for his cows. (Amid much laughter Sir Harry carefully unfolded a parasol of a light drab colour, together with a piece of wood about a foot long, in the middle of which the parasol was to be stuck, and there was a hole at each end for the tips of the animal's horns.) He hoped, when he next saw Mr. Fair's farm, to see all the animals carrying parasols. They might think that silly, but it was not half so silly as pulling up hedges and cutting down trees. He therefore hoped that clause 6 would be eradicated, and if all the clauses were eradicated there would be no great cause for lamentation. He had read letters on draining, and the very men who had so successfully drained farms were now recommending the building of rain-water tanks at every farm house. The old Cheshire farmers had been laughed at and ridiculed, but those men who had taken large farms into their own hands, and farmed according to their own theories, had given up farming. He had read speeches by eminent theoretical agriculturists of the modern school, who would recommend that the old Cheshire pastures should be ploughed up—that parks like Windsor Park, Tatton Park, Doddington Park, and Cholmondeley Park should be broken up, so that more food might be produced for the people. Others recommended the extermination of hares and rabbits in order, as he supposed, that meat might be raised from 1s. to 2s. per pound. He had read speeches and pamphlets by those furious men who said that a man's land was not his own property—and that had been said in that room—and he had read the evidence of those men who sought to lead or mislead the House of Commons—the Government who intended to legislate for them. These speeches, reports, and evidence to which he referred, were to be the groundwork of compulsory legislation, to effect what was called agricultural improvements; and all were to be bound by one compulsory lease, whether they held ten acres or ten thousand acres—whether the land was dry and chalky, or wet and clayey—whether they grew corn or milked cows. He remembered a valuer from Surrey coming to value a farm of strong undrained land, and his report was to the effect that the tillage land was excellent, but as to the grass land he never saw such bad land in his life. At that time forty cows were kept on the farm, and each cow was producing milk making upwards of five cwt. of cheese, said to be the best in Cheshire. Since then the farm had been drained, and the milk of each cow now made only two cwt. of cheese. These were the valuers, who were to draw up leases to teach them to farm. Modern agriculturists were like the projectors described by Dean Swift in *Gulliver's Travels*, one of whom had a scheme in hand for extracting sunbeams out of cucumbers, another for converting sewage into food, another for dispensing with ploughing on a very ingenious plan, viz., planting acorus and chesnuts six or

eight inches deep, and then letting loose a drove of pigs into the field where they were planted, to root them up. In short, there was not a town in the country visited by Gulliver where there was not a chamber of agriculture, with professors, who were contriving new methods of agriculture, very much like our times, when there were new implements being continually invented so as to enable one man to do the work of ten, the only inconvenience being that none of them were brought to perfection. He regretted his friend Mr. Latham was not present, and recommended him, and other gentlemen like those to whom he had referred, to take a lesson from Gulliver and plough with pigs instead of horses. If they were wise, however, they would not be taken in by clever Scotelmen, who were anxious to persuade weak Englishmen that they could sow the Grampian hills with wheat, nor would they be deceived by sewage farmers who fed their cows on sewage-grown grass, and sent the poisonous milk to Manchester and other towns. As to agreements between tenant-farmers and their landlords in Cheshire, he thought that where a tenant-farmer took a large farm of 400 acres, and was prepared with a capital of £10 per acre, he might ask for a long lease; but that in cases where the farm was small and the tenant had not above £5 per acre, he was entitled only to an agreement from year to year. Leases were very numerous and very various, and he did not know that he ever saw two alike. It was very desirable, however, if practicable, that a form should be drawn up which would be suitable to the whole of the county. In all he had seen there were generally two omissions: Power should be given to the incoming tenant to enter upon the land on the 2nd of February, and to the landlord to enter the house and building on the 1st of May. To remedy this three suggestions had been made: First, that Parliament should legislate; second, that that chamber, having already arbitrated between landlord and tenant, so far as regarded compensation for unexhausted improvements, should arbitrate on this matter; and, thirdly, that the landlord should require of the tenant two bondsmen, who should be answerable for the fulfilment of the agreement in every particular. As to legislation by Parliament, he objected to it; but upon the other points he would like to hear discussion, as he wished to know whether the chamber were willing, if they had the power, to arbitrate; because if they were, and would draw up a lease or agreement that would work well between the parties, they would deserve the thanks of the whole of the county. The present system in the Bucklow Hundred was this. A man took a farm of 200 acres, and brought forty cows and seven horses; ploughed 107 acres, and sold all the saleable hay and straw, and mixed the rubbish with turnip pulp for his cattle. The manure from that was poor, and so it had to be supplemented by bone dust and guano, which the landlord was asked to pay for if the tenant had to leave. Surely the money obtained for the hay and straw ought to go against that! Surely the rules required amendment on that point! Sir Henry Holland, in 1808, published a valuable work entitled, "A general view of the Agriculture of Cheshire," which he (Sir Harry) strongly recommended them to read.

THE FAMINE IN BENGAL.—CALCUTTA, Dec. 7.—The Press, especially the native papers, warmly thanks *The Times* for its articles upon the subject of the famine. The Viceroy urges husbanding fodder. Advances are offered for preserving cattle. Sir G. Campbell is encouraging vegetable cultivation, and offers advances for the construction of wells and storehouse buildings. Steamers are to ply with emigrants to, and rice from, Rangoon. The Tirhoot peasants are storing their grain. Prices in the interior are higher than in 1865. In Calcutta they are equal to those rates. Insects are attacking the spring crops. There are 1,000 labourers employed on the relief works; but few peasants will offer themselves while harvesting proceeds. The Viceroy leaves for Oude to-morrow, to visit the relief works.

MORAYSHIRE FARMERS' CLUB.

LEASES *VERSUS* TENANT-RIGHT.

At the Quarterly Meeting, Mr. Walker, Alyre, in the chair, Mr. MACDONALD, secretary, read the following letter:

Gordon Castle, Fochabers, Nov. 6, 1873.

My Dear Sir,—I had hoped to have attended the meeting of the Morayshire Farmers' Club to-morrow, but regret I am unable to do so, as I find it is proposed to discuss a question intimately connected with the relations between landlord and tenant, and upon which great difference of opinion may prevail. The subject of Tenant-Right, as it is called, is one which to my mind cannot be discussed at a social meeting such as the dinners of the Morayshire Farmers' Club used to be. I am aware that a resolution was come to in the early part of the year, allowing members of the Club to discuss matters of political interest at their meetings. I regret extremely that such a step should have been taken, as I consider it to be wholly at variance with the objects of the Club, and the principles upon which it has hitherto been conducted. I should be quite prepared, on a fitting occasion, to state my views upon unexhausted improvements, labourers' cottages, forms of lease, and other matters of this kind, but I venture to think that the dinner of the Morayshire Farmers' Club is not a convenient time to enter upon such discussions. May I ask you to read this letter to the members of the Club at their meeting to-morrow?—Yours faithfully, RICHMOND.

The CHAIRMAN said that, on hearing of the letter from the Duke of Richmond, he called upon the Secretaries for the resolution of the Club, and found that his Grace was under a slight misapprehension as to the terms of the minute referred to. A draft minute had been prepared ament the subject as follows: "The meeting instruct the Secretaries to engross his Grace's letter in to-day's minutes, and to acknowledge receipt of the letter, thanking his Grace for his courtesy in so candidly stating his views to the Club. At the same time, they think it proper and necessary that an extract from the report of the Committee adopted at the anniversary meeting of members in February last, should be sent to his Grace, from which it will be seen that it was simply subjects bearing on agricultural questions of the day which this Club had in view for discussion—questions of purely party politics being altogether excluded."

The draft minute was approved.

The subject announced for discussion was: "What is the opinion of members as to compensation to be given by proprietors for unexhausted improvements in agricultural subjects, especially as regards building, draining, and enclosing?"

The CHAIRMAN opened the discussion, and said: I regret that I cannot congratulate the Committee of Management of this Club on their selection of a subject of discussion to-night. The subject, if not identical, is, in its principal features, a repetition of the question which was under consideration, and in which the members of this Club gave a deliverance at their meeting in May last. Although I think it of the utmost importance that at our meetings questions affecting the interests of agriculturists should be discussed in a straightforward, independent manner, I consider it equally prejudicial to our interests when we persist in the reproduction of a subject—more particularly when it was the very last question discussed by this Club—hinting at a tendency to overreach on the part of our landlords, and at the inaptitude of tenants when adjusting their leases or contracts. Such insinuations, in so far as the majority of landlords and tenants are concerned, appear to me to be the phantoms of fertile imaginations. The subject for discussion points especially to buildings, draining, and enclosing. These I shall deal with separately and in order. The question of buildings was so fully and fairly discussed at our May meeting, that I will not trespass on your time respecting the arguments then brought forward, but hold that point as settled by the deliverance of the Club thereon. Then as to draining. The arguments that, during the currency of a lease, circumstances may crop up which, for the proper development of the resources of a farm, would render a change on the agreed-on system of management necessary, which could not be foreseen when the lease was being negotiated, cannot be brought to bear on this case, as the merest tyro in

agricultural matters can surely estimate when looking over a farm, with a view to rent the same, what portion thereof is dry land, and what is wet, and requiring drainage. This, therefore, I hold, can be made without difficulty or doubt a matter of contract under the lease. In regard to fencing, it also can without difficulty be foreseen and agreed on by the contracting parties. But, presuming that a tenant, during the currency of a lease, irrespective of the landlord, should fence a farm at his own expense, in many cases it would be unfair to compel a landlord to pay for such fences at the termination of a lease. It may happen that the latter, when reletting, would find it for his own interest to straighten marches with or add the farm to an adjoining one. The fields fenced off for the smaller holding would be totally unsuited for the proper cultivation of the larger, and the proprietor would be thus forced to pay for what was of little value to him. Now that wire fencing is so largely used, a tenant, if not compensated, can remove and sell it. The question is therefore reduced to very narrow limits, viz., the compensation to be given by proprietors for unexhausted improvements in agricultural subjects. This is such a vague and indefinite subject that I may safely predict that whoever endeavours to frame a legislative measure which will provide satisfactorily for all the claims that can be raised by an out-going tenant, and that in the face of a written lease, will be himself exhausted most thoroughly before the matter is brought to a successful issue. In cases where leases are not granted, I admit that an improving and generous tenant should be protected against summary eviction, and compensated for unexhausted improvements; but where leases exist, I hold that any attempt at legislation which would override existing contracts would render confusion worse confounded. As middleman, occasionally acting between outgoing tenants and the landlord or incoming tenants, I have found it the most difficult and disagreeable part of my business to adjust equitably claims which were not provided for in the lease, and to keep clear of litigation. Indeed, the negotiating parties' interests are so diametrically opposite that, if legislation were attempted where a lease existed, in the majority of cases the outgoing tenant would find himself the possessor of one shell, the landlord or incoming tenant of the other shell, and our friends the lawyers the possessors of the oyster. In theory it is often argued that, in the absence of compensation for unexhausted manures, the outgoing tenant of a farm has inducements to exhaust his land, and the community suffer along with him from diminution of produce; but in practice, the result should lead to a very different conclusion, for the most profitable course an outgoing tenant can follow is to endeavour to raise the heaviest way-going crop possible, and thus reap increased proceeds, not only from extra quantity and quality, but from the increased rate which his neighbours—willing to assist him—would be induced to give for a full crop of straw or grain, as compared with a meagre one. At the same time, the outgoing tenant can now-a-days attain this end by the use of manufactured fertilizers, which will raise the crop, but will leave little in the land to benefit the next crop. Viewing, therefore, the negotiation for the lease of a farm as a purely commercial transaction, I cannot see how legislation can be brought to bear to overrule written contracts; and I see little necessity for such in so far as this county is concerned, of which my knowledge and experience are pretty extensive. I feel satisfied that, if tenants, when adjusting their leases, would state in a straightforward and fair manner their requirements, stipulating for the deletion of objectionable clauses, they will be and have been readily met by their landlords; and thus little doubt need arise at the issue of a lease on such subjects as are embraced in the question for discussion to-night.

Major CULBERD: This subject was partly taken up at last meeting, when we had under consideration Mr. Fordyce's Bill ament Labourers' Cottages. That having been a political question, I took the liberty of expressing an opinion upon it. As the subject is brought before us to-night, it is more of an agricultural question, and I have not that experience which would enable me to give an opinion. But I think that any

legislation which interferes with contracts must be erroneous. At the same time, we have heard many farmers complain; but they had no right to erect any buildings which they could not get compensation for.

Mr. HUNTER (Dipple): I quite agree with the Chairman's remarks on the question.

Mr. MACBEY, land surveyor: I shall be very glad to give you my experience as a tenant farmer during the last nineteen years. When I entered Woodside nineteen years ago, the steading of houses on the farm were in a rather dilapidated state, and it was arranged that, within a very short time after I entered, the proprietor was to put them in a proper state of repair. When they came to be dealt with, however, the factor, then Mr. Walker, considered the houses so far gone that it would be far more profitable, both for landlord and tenant, to put up an entirely new steading. It was agreed that this should be done, I paying 5 per cent. interest on the amount expended, and doing all the cartages gratis. During the lease, entirely at my own expense, I fenced the whole farm with wire thorough drained about one-fourth of the farm, and trenched some land then under wood. My lease has now expired, and the proprietor, wishing to have a resident tenant, I did not get a renewal of lease. In that case, I applied to the proprietor, through the factor, Mr. Lawson, for some compensation for the improvements I had done upon the farm, having expended between five and six years' rent upon these permanent improvements. The matter having been considered, it was intimated to me that all I requested was to be granted—namely, the wire fences should be taken off my hands at valuation, and that I should get payment to the extent of one-half of my outlays in draining and trenching, but the whole amount for these not to exceed a year's rent. I consider that I was in that way liberally dealt with, seeing that I was not entitled to any compensation for the permanent improvements, except at the proprietor's pleasure. I think if tenants would have the same confidence in the proprietors as I had, and go on with their improvements in a proper way, they would be treated as well as I have been. My own opinion is, however, that it is not a good thing to tie up a tenant's capital in these permanent improvements during nineteen years, when it can be spent more profitably on the farm otherwise, and seeing that proprietors can get money either upon entailed or unentailed properties to advance to the tenants with which to carry out improvements, I happen to act as one of Her Majesty's Inspectors under the Drainage Act, the Improvement of Land Act, and also as one of the Inspectors of the Lands Improvement Company, the Scottish Drainage Company, and the Lands Loan Entranchisement Company. These all advance money to proprietors at 6½ per cent. on loan for 25 years: that is the proprietor pays 4 per cent. of interest, and 2½ per cent. to wipe off the loan during that period. At present I have inspections in Aberdeen, Banff, Moray, Nairn, Inverness, Argyll, Ross, and Caithness-shires, and I think in connection with these I have acquired a pretty good idea of how the matter of permanent improvements can be dealt with as between landlord and tenant. These Companies advance money for building, trenching, draining, enclosing, road-making, and in fact for all sorts of permanent improvements. In some cases the tenants pay 4, 5, 6, or 7 per cent., but as a general rule I find that 5 per cent. is a sum most willingly paid by tenants, who also undertake to do the necessary cartages free, which may be stated to be generally worth from one to two per cent. on the amount expended. It is far better, I consider, to carry on improvements in that way, when they are not specially stipulated for in the leases, than to tie up the tenant's capital, even though he would be entitled to remuneration at the end of the lease. While it is a good enough bargain for the tenant, it is also profitable enough for the proprietor, seeing he gets the money he lends at 4 per cent.

The CHAIRMAN: You would make it a matter of contract?

Mr. MACBEY: Yes; you can make it a matter of contract when the necessity for the improvements is seen on entering upon a lease; but they are often found to be necessary during the currency of a lease, such, for instance, as in the case of a tenant starting with half worn houses, which during the lease fall into decay and require to be renewed. The tenant then must either expend his money in patching up the houses or have them rebuilt, and it is better in all interests that the proprietor, if he has not the capital to expend, should get it advanced, and that the tenant should pay a reasonable interest.

Where, however, the tenant does spend money, he should be repaid for what he leaves at the end of the lease, that is to say if the improvements upon which the money has been expended have been sanctioned by the proprietor. I certainly would not have tenants to spend money simply to suit themselves, and then make a claim, but if the proprietor agrees that the improvements are desirable, then there should be compensation given to the extent of from one to five years' rents, according to the circumstances.

Mr. BROWN (Westertown): I quite agree with the remarks made by Mr. Walker, on the subject. Compensation entirely depends upon the matter of contract.

Mr. GEDDES (Orbliston) said he was rather at a loss to understand the question, being, like others to whom he had spoken, of opinion that their leases afforded the best security for the return of money laid out on the land. There ought to be a good feeling and understanding between landlord and tenant before the expiry of a lease, but, in any circumstances, he thought any tenant would be a fool and unfit for his business who could not protect himself by preparing for the end of his lease. He thought their leases were their guide, and by their leases they should march, more particularly in that county where they found a class of men as their landlords, who were ever ready to meet them with very good feeling, and who were ever inclined to give full advantage to the tenant. He was of opinion that, in cases of insolvency, leases should be available to the creditors to get what benefit they could under them; and that in the case of the decease of a tenant, his family should be entitled to compensation for any unexhausted improvements which may have been made. They were aware that had not been the presumption hitherto. So far as regards the claims of creditors, he had had little to do with them; but, so far as regards families of deceased tenants, he had known a great many cases where they had been treated with the utmost liberality by the landlords.

Mr. HARRIS (Earlhill) said some of the remarks that had been made hinted a great deal at legislation, but in the question before them there was no mention of legislation. They might as well say they were to legislate upon the growing of turnips, because they discussed the question of how best to grow turnips. He looked upon the question as a means of eliciting opinion as to the best terms for a contract between a landlord and tenant. He never could believe that they would legislate about paying people for unexhausted manures. He pointed to England, where leases were not the rule, and where Tenant-Right was almost universal. There custom had made it law, and it was quite understood; and he did not see why that should not be the case in Scotland. He thought it very unjust, at the termination of a lease, that a man should go out of a farm and leave any considerable portion of unexhausted improvements in it. He thought it still worse that a man's creditors should lose the money they had put into the farm; and equally unjust that the children of a deceased tenant should not get his means out of the farm. But as to legislating upon the subject, he did not understand that there was any necessity for that.

Mr. MUNRO (Covesen) thought that question was not at all suitable for discussion. Every man had to make his bed, and he could just lie upon it.

Mr. BRUCE (Newton of Struthers) quite agreed with the chairman that a lease—and they all sat under leases as farmers in that county—was sufficient as a guarantee or obligation during a nineteen years' tenancy. To speak of unexhausted improvements in these circumstances was to speak of a myth. A man had to make a contract on entering a farm. If there was to be a contract, it must be stuck to; for if it was departed from, it was no longer a contract. During the currency of the contract certain exigencies might arise. A tenant might come to think he should have a certain amount or description of accommodation for his stock, or upon his farm, and might build according to his ideas. But at the end of his lease a great many people might not see that he ever needed the accommodation he had provided. Where was the compensation in such a case to begin and end? How could they make any arrangement at all in such a case? If they were to go in for becoming tenants at will, then it might be right and proper to make some provision to meet circumstances which would inevitably arise; but so long as they had leases, and made conditions for nineteen years' occupancy, it was improper to speak of such a thing as compensation for unexhausted improvements.

Mr. RUXTON (Inchbroom) said the question had not altoge-

ther been properly looked at. Without any reference to legislation, he thought the opinion of the members of the Club were asked as to improvements which might be necessary to have in leases. He quite agreed with some of the speakers. Mr. Macey had painted a very fair picture, a picture which spoke very well for the landlords of that county. But there was sometimes an opposite view. He had known cases where tenants had spent large sums of money, and had gone away without receiving one penny in return. He thought the present presumption was wrong, and that if changes came about that were required, farmers generally could keep larger stocks of cattle. It was rather an extraordinary thing that a tenant should be obliged, for his own convenience, and for the good of the farm, to build accommodation for his stock, and in the event of there being no arrangement, he should get no compensation at the end of the lease. He thought the presumption should be that the subject belonged to the tenant. Farming was rather different now from what it was some years ago. It was quite understood that a tenant had a very much larger capital to expend than formerly. Before a person could stock and manage a farm efficiently and well, the capital required was double what it would have been some years ago; and he thought the tenant had some right to be heard on these subjects. He was sure the proprietors of that county would be very willing to hear their opinions; and he was only sorry that the question had been misapprehended.

Mr. YOOL (Conlard Bank): The subject set down for discussion is one which has been much under notice at the various farmers' clubs throughout the country, and in my humble opinion is one, the proper solution of which is of no little importance to the future of agriculture. The Land Tenancy Laws, more especially those by which all improvements made by the occupier of land become the property of the landlord at the termination of the lease, are in my views injurious to good husbandry, as well as very much against the interest of both landlords and tenants and the welfare of the public. Everything that tends to stop the flow of capital into farming pursuits, and to check the enterprise of tenants, necessarily militates against the general prosperity. That the present state of the law with reference to unexhausted improvements has that effect requires, I think, very little demonstration. Before a man really embarks his capital, he must have some certainty that what he sows that shall he also reap. Capital is a coy, shy maiden, and only to be moved through the medium of good security. How stands the case with a tenant-farmer who embarks his capital in improving another man's land by building, improving, &c.? Has he any certainty that he will get his capital back at the end of the lease? The very reverse. Under the present law, the whole of the improvements he has made become the property of the landlord, and that without compensation. This, on the face of it, is unfair. The legal presumption should be that the buildings and other permanent improvements should belong to the man whose capital has created them, and at the end of his occupation he should be entitled to fair value for all improvements created by his capital, which is calculated to add to the value of the subject he is about to quit. At the very least, as regards buildings and fences, he should be entitled to remove them in the event of the proprietor or incoming tenant being unwilling to take them at valuation. That is one side of the question. On the other side I would say that if the tenant is to have a legal claim for unexhausted improvements, the landlord should also have a claim against the tenant where deterioration has taken place through his neglect or bad management. Compensation for unexhausted manures is another branch of the subject which is daily becoming of more importance, and at this we need not be surprised, when we take into consideration the enormous increase in the use of artificial manures and feeding stuffs which have taken place of late years. The amount spent on manures and feeding stuffs exceeds in many cases the annual rent of the land, and to maintain production they cannot be dispensed with. If they are dispensed with, it is only at the expense of the food supply, and a diminution in that supply cannot, I think, be contemplated with satisfaction by any one, considering the fact that, of our teeming millions, nearly one-half are supported on foreign corn, and that yearly the numbers so supported are rapidly increasing. Under the present arrangement the tenant, when he approaches the termination of his lease, attempts to save himself to a certain extent, by withholding the supplies of manures and feeding stuffs, and endeavours to extract as much as he can of the capital which

he had previously put into the soil. This is a miserable, wasteful system, opposed to the interest of the tenant in the event of a renewal, injurious also to the interests of the landlord, and by causing a diminished production of food for several years before, and for several years after the termination of the lease, injurious to the public welfare. All this can be obviated by giving outgoing tenants compensation for unexhausted manures. They would thus be encouraged to keep up the fertility of their farms to the last, much to the benefit of all concerned. Who, let me ask, would be the loser? Would the landlord lose by having the productiveness of his land increased? If its productiveness is increased, the tenant will be able and willing to pay more rent. The increase of produce will benefit the country at large. And when were the tenants and the country prosperous that landlords did not amply share in that prosperity? The great question of the future seems to me to be the providing of food for our rapidly increasing population. That the soil of this country does not produce anything like the amount of food that it is capable of doing must be patent to all who know anything of the subject. It must also be patent to everyone that the more we have to depend on foreign countries for our food supply, the greater the danger of this country in the event of any national disaster. Therefore, I think it behoves everybody concerned to do what in them lies to remove the impediments which stand in the way of an increased supply of home-grown food. It seems to me that the more effectual way to do so is to endeavour to attract capital to the cultivation of the soil, by offering it security through a reasonable measure of compensation for unexhausted improvements. Some may say that it would be difficult to estimate the value of these improvements. There never was any change proposed to which difficulties could not be started, but if they are fairly faced I have no doubt they will be overcome, as they have been overcome in many other cases. Where work has to be done, you may depend upon it you will find men capable of doing it, and I see no more difficulty in estimating the value of unexhausted improvements than in estimating the other matters between outgoing and incoming tenants, which are at present generally settled by arbitration. If there is the will to do it, I have no fear but that the way will be found.

Mr. MACKESSACK (Ardgye) said that what was for the good of the tenant was for the good of the proprietor. There was a very great difference between taking a lease now and nineteen years ago, because he must be able to keep a much larger stock of cattle, and consequently must have good houses and fences. It was a very hard thing for a tenant to provide these necessary works, and at the end of the lease not to reap a penny for them. He said it was for the benefit of the proprietor as well as of the tenant that the latter should be paid for such improvements. As to unexhausted manures, that was a very difficult question. One man might put in ammonia and soda, and another man bones and dissolved bones, and how could they distinguish so as to compensate the person who put in the right and durable stuff.

The Hon. T. C. BRUCE said: I must excuse myself for not having answered when my name was first called upon, but the fact was that I had come to this meeting with the view of being instructed, not with the view of instructing others, and I was much more anxious to hear what you, gentlemen, had to say on this subject than to trouble you with any observations I had to make myself. I may also say that you are perfectly aware that my presence in this assembly is not owing to any personal interest I have in the agriculture of Morayshire, but to the fact that I represent a noble lord who is one of the largest proprietors in this county. I wish myself specially to say that any remarks I may make, however valueless they are, are entirely my own, and do not in the least degree involve the responsibility of any other gentleman with whom I may happen to be connected. The question which has been raised to-night has been raised in a form that appears to me rather objectionable. It enters on a branch of a very large question, and confines it to only one feature of it, so that we are not able in the form in which the discussion is raised perhaps to go so fully into it as we might have done in other circumstances. The question as to the right of the tenant to improvements and to unexhausted manures is one which touches the whole question of the relations between landlord and tenant, which is very much larger than that which is put down in this paper, and it is a little difficult to treat the one without at all encroaching on the other. Now, my

own feeling—I speak merely my own personal opinion, and of what I have heard from those gentlemen who have spoken here—my own feeling is that the objections to these conditions, the compensation for permanent improvements, and the compensation for things which the tenants have to do on their farms—the really strong objection is that I do not think these are things that the tenant ought to do at all. I think that, as between landlord and tenant, permanent improvement, and those things which are to increase permanently the value of the estate, ought properly to be done by the landlord and not by the tenant. I think that legislation tending to give the tenants rights of compensation, or to encourage the practice of their laying out their capital upon permanent improvements of that description, is in itself objectionable, because I think it is against the theory of the principle of the position in which tenants ought to stand towards the owners of land. The fact is, if I may use a simile which is perhaps more familiar to me than it may be to some others here, I think the landlord and the tenant stand in the same relation which in our railway language we would call the capital account to revenue. That is to say, those works which are adding permanently to the value of the estate ought to be carried out by the person who has the permanent ultimate ownership of the estate; and that the tenant's capital is the trading capital, is the capital which ought to be turned over every year, or nearly every year, and ought to be available for the stocking of the farm, for the working of it, and that these are the leading purposes for which he is to use it. I think, therefore, that so far from it being desirable to encourage the tenants in laying out money on permanent improvements, I think their laying out money in that way is a mistake and loss to them, and ought not to be done; and that those improvements which are necessary should come from the landlords, and not from them. Of course, all these general principles are subject to modification in individual contracts, in dealing with individual cases. It is impossible to lay down general rules which will be applicable to all cases; but I think the tendency of these claims, or whatever you choose to call them—these arguments in favour of the tenants having a right or power to lay out money are in themselves a mistake, because it is encouraging tenants to do that which should not be done by them at all, but done by the landlords. Then, with reference to the question of unexhausted manures, really I am not competent to give an opinion, and I must leave it to the resolution of this meeting, in which we have one or two agriculturists of experience who say that you cannot estimate unexhausted manures, and we have one or two others who say that you can. I am not at all in a position to say which is right, or which is wrong. I think in any case the tenants who are obliged to give up their leases during their currency—I think it is only fair to them, and so far as my own experience goes, it is the practice in this part of the country—that when a man gives up a lease for any reason which is not his own cause, he should assign the lease, or get such compensation as will recoup him for what money he has spent, and of which he has not got the advantage. That I think is but fair. As to the question of the tenants getting compensation at the end of the lease, that appears to me to be as much a matter for the tenant as for the landlord, because we all know that the tenant who has a nineteen years' lease can recoup himself for his manures at the end of the lease; and if he knows his business, he will take care not to spend money which he cannot get payment for. But it is a question if, in the event of farms falling out of lease, having to be renewed, the tenant who is leaving should be placed in such a position as to make it his interest to run his farm out, and make it of less value. The form of this discussion does not tend to any legislative interference in the relations of landlords and tenants, and I am glad to hear from those gentlemen of knowledge and experience on the subject that such interference would be undesirable. I think the proper management of the land, both on the part of the tenants and on the part of the proprietors, is a thing that is constantly changing. We all think we can manage land very well now, but I have no doubt that in a few years we shall think we could not manage at all now, and wonder how we got on at all. Therefore, I do not think we should tie ourselves down to rigid rules of any kind, but it is very desirable that we should understand each other; that I, as representing one of the proprietors, and you, representing the tenants, should understand each other, and say what we wish, and see what we can do for our mutual advantage. It is your advantage

that the land should be brought to the highest state of cultivation. So is it ours. Our object should be the same, even although we differ now and again as to the way in which we are to carry it out. I think it extremely satisfactory that we should now and again have discussions, and that we should hear each other's opinions as to what we can do, and what would be for the common good. I think the tendency of the age is to show that in order that the land of this country shall be brought into a proper state of cultivation, there would require to be a considerably larger capital laid out upon it. I think that the capital in all cases of permanent improvement, should come rather from the landlord than from the tenant, and if from circumstances the landlords are not able or not willing to do the part which is assigned to them, they should make arrangements with their tenants which would be satisfactory to both parties in carrying out the cultivation of their farms to the highest possible pitch. That is the way, I think, in which the question stands, and I think the discussion of this question, and the ventilation of it in meetings and by the press, and by other means, is very beneficial in bringing both parties to an understanding of what is desired, and what it is necessary for them to do. I do not think our position will be in the least improved by any legislation, but I think it will be very much improved by an understanding between ourselves as to what both of us wish to do. If that understanding is come to we can carry it out.

The CHAIRMAN very much feared he would fail at arriving at a proper finding as to the result of their discussion, but he would submit what seemed to him to be the general opinion of the meeting, namely, that the question ought to form a matter of contract, but where by unforeseen circumstances the lease may lapse, the representatives or creditors ought to be put in possession to recoup themselves for the outlays of the tenant.

Mr. HARRIS (Eardhill) begged to move an addition to the effect that it would be beneficial to the agriculture of the country if these contracts ensured remuneration to the tenant for permanent or unexhausted improvements upon the expiry of his lease.

Mr. WALKER said he did not think that was the general opinion.

The SECRETARY then read the following, which was accepted as the finding of the meeting—"That any legislation in this matter would be unadvisable; that the question ought to be matter of agreement between landlord and tenant; that in any contract or lease provision should be made to ensure the tenants payment for unexhausted improvements."

WASTE LANDS IN IRELAND.—The *Sanders', Freeman Belfast Newsletter*, and other Irish temporaries, liberal and conservative, advocate the improvement of the waste lands of Ireland by the Government purchasing, draining, road-making, and then selling or leasing in lots. They say that out of four and a half millions of acres of waste lands—bogs, moors, swamps, and heather, at least two millions would be improveable, and that the average annual value of these would be one shilling per acre, or if purchased by the State the cost would be about thirty shillings. The reasons they give for State interference and purchase are that the estates are very large; that since 1815 Government have offered loans, repayable in twenty-two years, principal and interest, at 6½ per cent., and in thirty-five years at 5 per cent., to induce the proprietors to improve, which they have not done; that when Acts of Parliaments enable railways to acquire land when wanted for the public interest, so should they with waste lands when the owners are unwilling to do their duty. We still think many would be willing to sell to the State. The surplus church funds would be sufficient for these and other Irish reproductive works. If our Government requires an example, the Netherlands has set it in the drainage, reclamation, and improvement of Haarlem Meer, which they afterwards sold in estates of 40 up to 600 acres.

THE TENANT - RIGHT BILL.

At a meeting of the Gloucestershire Chamber of Agriculture, at Gloucester, Mr. D. LONG, president, in the chair, said they had deputed Mr. Clement Cadle to represent the Chamber on the Tenant-Right question, and a report was to have been sent them to-day from the Central Chamber as to the result of their investigation in connection with compensation for unexhausted improvements, but the Secretary had written to say that the report had not as yet been drawn up.

Mr. CADLE said he attended a meeting of the Central Chamber in the early part of October, but there was a small attendance, and only a few reports had been sent in from the district chambers, to whom a set of questions had been sent to be filled up, with answers. The explanation was that the papers had been sent out just before harvest, and therefore there had not been time to fill them up. He believed, however, that a large number of reports had since been sent in, and that the committee of the Central Council would make a short report on Tuesday, and ask to be allowed to send in their formal report at a future time. It certainly would have been ridiculous to have attempted to have drawn up a report from the forms sent in, for the simple reason that they did not represent one-tenth of the different chambers.

The PRESIDENT was rather surprised that the business committee should have put the subject on the agenda for discussion, because he hardly saw how they were to discuss a report which did not exist. However, every one must admit that the question of compensation for unexhausted improvements, or security for tenants' capital, required legislating upon, and as there was ample room for discussion he proposed that they proceed.

Mr. J. R. YORKE, M.P.: It certainly is to be deplored that we should be called upon to discuss a report which has not yet been issued, because the discussion will have to be conducted without being directed to any specific point; and no doubt the question as to what are the customs of the different counties is a very important item in the whole matter, and without having the report we are not in a position to do much good. I had an opportunity the other day, when many gentlemen here were present, of stating some of my views on the question of compensation for unexhausted improvements. It is obviously unfair—and this is the broad principle upon which we are all agreed—that any tenant who has invested capital in his landlord's land should be exposed—whether he leave his farm for reasons of his own, or because he is turned out by his landlord—to the liability of losing the value of the improvements he has made, whether they be temporary, durable, or permanent, according to the classification of the bill introduced last session. The question is, how far can we provide by legislation against occasional hardships of this kind—for occasional only I believe them to be—without, on the other hand, going too far in the way of interfering between landlord and tenant in the arrangements they may choose to make as independent men on both sides? No doubt there is a danger in the present day—a danger which many of us in the House of Commons have had occasion to observe very frequently—of attempting to do too much by legislation. If we are to be always calling in the law to interfere between labourers and their masters, between landlords and tenants, and between man and man, in every relation of life, we are in danger of making the position intolerable; and the only people who will benefit from such a system in the long run will be the lawyers, because we shall be continually introducing litigation into all the daily affairs of life, which when conducted between sensible men are very much better treated without the interference of the law. In the present day, too, when we hear so much about the difficulties between labourers and their employers, we ought to be particularly careful how we introduce principles of this kind, because it is quite possible if we are to prescribe by law to landlords and tenants the exact terms on which they are to conduct the business in which they, and they only, are concerned, hereafter we shall have attempts made to introduce a similar state of things between the tenant-farmers and the labourers. And I suppose every one will agree that it would be very disagreeable if it were proposed to dictate, by legislation, to the tenant-farmer as to what amount and kind of

labour he should employ on his farm, as to what machines he should be allowed to introduce, as to what shall be the rotation of his cropping, or what shall be the character of the accommodation he shall provide for his labourers, desirable as it is in many counties that that accommodation should be ample and sufficient. All these things are very much better managed, as far as possible, between man and man, without bringing in the Legislature at every step to dictate the exact terms and the particular manner in which their arrangements shall be carried out. I have been very much convinced since I have been returned to the House of Commons as a member for this county that we are in danger of going too far in that direction, and I observe that that impression is not only very prevalent on the side of the House on which I sit, but that many other members independent of party organisation, such as Mr. Vernon Harcourt, and other men of distinguished abilities, have made strong remarks in the same sense. Therefore, I think we should be careful—and I repeat it because I feel very strongly on the matter—not to push legislation too far. At the same time there is no doubt that under the present state of things occasional hardships are suffered; and even where hardships are not suffered, it is, I think, an unsound state of things that gentlemen who have invested their money in the improvement of the land they hire should be indebted only to the forbearance of their landlords that they are not unfairly dealt with. It is all very well, of course, to say that in the great majority of instances men of sense and intelligence and men of liberal minds, such as most of the landlords of this country I hope are, would shrink from pushing their rights to an extreme, but a state of dependence and the goodwill of others is not a proper business position for the tenants of this country to be in. It is much better that a definite principle should be laid down, and that a distinct rule should be established; then the relationship between landlord and tenant would be put on a sound business footing, and there would be no danger when there is a change of landlord, whether owing to the land descending from father to son or to a collateral heir, or from its being put into the market and sold, of the tenant suddenly finding himself in a very different position from what he had hoped to be. For instance, a man may take a farm under a liberal and intelligent landlord, but the person who succeeds him may be of a different character, and then the tenant does not know the position in which he may find himself, so long as the law continues as it is at present. Therefore I think that in all cases, as has been laid down by the Central Chamber, where there is no written lease or agreement, and where the custom of the country is not sufficiently defined as to give the tenant such protection as he is entitled to, the law should step in and say, "The tenant shall have a definite claim for the value of the improvements he has made in the land." Then the question arises with reference to Messrs. Howard and Read's Bill—How far does that carry out the intention of the resolution passed by the Central Chamber? And how far does it carry out the intention of the promoters of the bill, who always professed to have drawn it up with the view of carrying out the resolution of the Chamber, without overstepping its limit. Well, we had not the opportunity in the House of Commons last session of hearing that bill discussed on the second reading, and thus we have lost a whole year in the consideration of the question. I had hoped we should have had that opportunity of discussing it, and that the bill would then have been referred to a Select Committee, who would, before the end of the session, have considered the whole question in that thorough manner in which committees of the House of Commons are in the habit of sifting such questions. Unfortunately, however, we are now hardly more advanced than we were this time last year. So far as I know the only discussion of importance which has taken place on the subject, with the exception of those at the local chambers who have gone into it in some degree, was that which took place at the Central Chamber last year, when many excellent speeches were delivered; and in the end, although a difference of opinion prevailed, a resolution was adopted with some degree of unanimity. A day or two ago I was looking over those speeches, and it appeared to me that it was considered that the custom which now prevailed in

Lincolnshire was on the whole the best to be adopted. I do not, however, pledge myself to that opinion, because until we have the materials for comparing the different customs in the different counties we are not in a position to form an exact judgment; but there seems to be a good deal of evidence in favour of the Lincolnshire custom, and everyone who farms under it appears to be satisfied with its operation. I observe, too, that it is mentioned in Messrs. Howard and Read's bill as the typical mode, if I may so call it, of adjusting such matters between landlord and tenant; and another of the conditions of that bill is that any landlord who lets a farm under the Lincolnshire custom shall be exempted from the operation of the 12th clause, as shall also the landlord who lets his farm for twenty years. That clause was a great bone of contention, for it is provided that, with the two exceptions I have mentioned, everyone else when he lets a farm shall come under the operation of the bill. That excited a good deal of discussion, and it was considered by the promoters of the bill that the 12th clause was somewhat harshly worded, and they said they were ready to re-consider the phraseology which they had adopted. Until we have the draft of the new bill as it is to be presented next year, I do not know that we can go any further into the matter, because by that time the promoters will have collected the opinions of those best qualified to judge of the subject, and then the bill will appear in a fresh shape, with probably some of the crucial clauses withdrawn or amended so as to meet the objections urged against them. I would suggest that as soon as the draft report of the new bill appears in its amended shape we should have a discussion on the subject in this Chamber; but, until that is the case, we cannot well do more than what I have attempted to do on the present occasion—discuss the general bearings of the question, leaving for discussion the specific remedies to be adopted when we have before us the suggestions the new bill may contain. I will only reiterate the hope that we shall err, if we are to err at all, on the side of leaving details to be settled between the contracting parties rather than on the side of prescribing too minutely the conditions which shall be binding on those contracting parties, because I think we ought, so far as in us lies, to endeavour to keep up the present system, which, in the large majority of cases, has worked so well, and that we should not introduce into it more alterations than are absolutely necessary to protect the tenant against what we are all agreed is the liability to undeserved mischief.

The CHAIRMAN then drew the attention of the Chamber to the fact that they had already passed the two following resolutions on this subject: "That this Chamber considers it necessary for the proper security of tenants' capital engaged in husbandry (as well as for the encouragement of the production of the greatest amount of home-grown food) that the outgoing tenant should be entitled by legislative enactment to compensation from the landlord or incoming tenant for the value of his unexhausted improvements, such value to be ascertained by valuation in the usual way." And: "That the above resolution, and any legislation that may take place thereon, shall be subject to previous consent of the owner in the case of buildings, drainage, reclamation, and other improvements of a permanent character, and that at the same time the landlord should be paid by such outgoing tenant for dilapidation and deteriorations, the amount respectively due to be determined by valuation."

Sir GEORGE JENKINSON, M.P., said: It is always edifying and agreeable to me to see a county member going through his facings before his constituents, especially when I can sit by as a listener. The subject we are called upon to discuss is one in which we are all learners, and from so able a representative as you have present we may all learn a great deal. Speaking generally, I agree with him that at the present moment it is not advantageous that we should go into details, because they must depend in a great measure on any bill which may be brought before the House of Commons next session. I cannot conceive that any man of sense or honesty can doubt the justice of the broad principle that whatever capital a man puts into the soil of another person he is entitled to reap the full benefit of; and that if from any accident, design, or intention on the part of either of the contracting parties the tenant is turned out of his farm, he, or his representative, is entitled to the full benefit of any capital he may have invested in it. But I have always felt very strongly that it will be quite impossible to pass one measure which will apply to the varying conditions of every county, so different are the

circumstances and conditions which prevail in each county throughout this large kingdom. To attempt to make one measure to meet every case could only end in failure and discontent, because that which would suit Lincolnshire, Norfolk, and Suffolk, vast plough counties, would not suit a great dairy county like Gloucester. The capital required for a farm of a thousand acres in Norfolk, Suffolk, or Lincolnshire, would not be required for the small dairy farms of this county. Here a man is not called upon to lay out so much capital: he merely has his grass land on which he keeps his dairy cows, and when he goes out of his farm he takes his dairy cows with him, and there is an end of the matter. I am now putting an extreme case, and do not mean to say that it is so with all the farms in this county. I merely mention it to show that one measure cannot be made to apply to every individual case in each county. I myself have heard of such a case of hardship as this: A man occupied a farm several years, and then when the owner died it was sold for a great deal more money than when the tenant took possession. The consequence was that he had to turn out, and the executors of the late landlord reaped the benefit of the tenant's improvements. No one can doubt that was wrong, and that such cases of injustice ought to be remedied by legislation; but that might be done, and still leave the parties freedom of contract. If Messrs. Howard and Read's bill could be qualified by such words as those introduced into the resolution of the Central Chamber providing for the security of the tenant's capital, no one could then object to its being made as stringent as possible; but when an agreement, or the custom of the country, does make the tenant secure, I think it is of vital importance, in the interests of agriculture as well as for the good of both tenant and landlord, that you should leave the field open to them to make a fair contract between themselves. We know that such things occur as landlords not being flush of cash, and that when that is the case they let their farms upon what is called an improving lease. For instance, a landlord will say to a tenant, "You shall have such and such a farm for so many years, and you shall make such and such outlay upon it," and at the end of that term the benefit which has accrued to the tenant is supposed, as in Scotland, to indemnify him for the outlay. You see if you prevent the possibility of any fair agreement being made between the two parties for the outlay of capital by each of them on certain stated and stipulated terms, you shut the door to a great many improvements which might otherwise be made, and you weaken the hands of men who may have capital and wish to lay it out with the view of recouping themselves by the long possession of a farm upon what is called an improving lease. I think practical men will see the truth and justice of what I have said. But in making any alteration in the law, I only hope, as your worthy member has said, that in so doing we shall not overstep the mark, and, by stringent legislation, prevent the outflow of capital in those cases to which I have alluded. When the measure which, no doubt, will be presented to Parliament comes to be debated by the House, the party with which your member and myself are connected will be quite as anxious as any member on the opposite side of the House to treat it in the most fair and liberal spirit; and I am perfectly sure, from what I heard last year when we expected the measure was to be discussed, that no spirit of captiousness or unfairness will come from our side of the House; and I sincerely hope the question may be treated entirely apart from any party feeling or party spirit, and that all those interested in agriculture will wish to see a measure passed which shall bona fide be for the benefit alike of the tenant-farmer and the landlord, because you cannot do anything which would be liberal to the one and unfair to the other without its rebounding and doing injury instead of good. What you want is that the tenant should be recouped for the capital he puts into the land, and that the landlord should be recouped if a bad tenant leaves his farm in a bad state, either from the want of proper cultivation or from preventable dilapidations. I believe both those points were kept in view by the bill of last session; and if you allow any two men to make agreements for their mutual advantage, giving to each of them that protection you think they are entitled to, such a measure will be for the good of agriculture and for the good of landlord and tenant. I hope to see such a measure passed next year; and, if there is nothing before the meeting, you cannot do better than confirm the resolutions already passed by the Chamber.

Mr. LAWRENCE was of opinion that if they had a new bill

without the 12th clause in Messrs. Howard and Read's bill they had better have none at all.

Mr. WOODWARD said it seemed strange that in these days landlords and tenants could not be trusted to make their own bargains. There was already in existence a law which made the landlord the first creditor, and that, in his opinion, produced an unnatural competition for farms, by bringing men with small capital into the market, and who had not much to lose, while, if all went well, they had everything to gain. He did not know if it would be better to go back to the natural state of things and make their own bargains for the future. That would involve the abolition of the law which made the landlord the first creditor, and he was not prepared to say that that would produce a desirable state of things; but it was quite certain that something must be done to secure to the tenant the value of his outlay.

Mr. LAWRENCE read the 12th clause of Messrs. Howard and Read's bill, as follows: "Any contract made by a tenant after the passing of this Act, by virtue of which he is deprived of his right to make any claim which he would otherwise be entitled to make under this Act, shall, so far as relates to such claim, be void both at law and in equity."

Sir GEORGE JENKINSON: I should like to ask Mr. Lawrence this question—Would he prevent by law any tenant taking a farm for twenty years on what is called an improving rent if the landlord said to him, "My dear friend, I have no money; I consider the land is worth 40s. an acre, but as it is out of condition, wants draining, and other improvements, you shall have it at 20s. an acre, instead of £2, its real value. You may do what you like with it, and recoup yourself?" I want to know if you would prevent two respectable and sensible men making such a bargain as that?

Mr. LAWRENCE pointed out that under Messrs. Howard and Read's bill the tenant would be bound to give up his holding before he had actually received the compensation to which he was entitled, and might thus be compelled to undergo an expensive process of law to recover. With regard to the 12th clause, he said that without it the bill would be absolutely useless, because it would be easy for either landlord or tenant to contract himself out of it, and the great thing to be secured was that no one should have power to do that. In reply to the question put by Sir George Jenkinson, as to the man with an improving lease recouping himself, the bill did not require that that should not be done.

Sir GEORGE JENKINSON: But under the 12th clause a man could not enter into such a contract.

Mr. CHANCE submitted that the 16th clause answered Sir George Jenkinson's question.

Sir GEORGE JENKINSON, however, maintained that the 12th clause was absolute, and overrode all the other clauses of the bill, and pointed out that it would entitle attorneys to bring any number of very pretty actions; indeed, the lawyers were the class of people who would be chiefly benefited by it.

Mr. LAWRENCE was still of opinion that if they had a bill which gave landlords or tenants power to contract themselves out of it they had better be without it. The law should be made quite as severe against bad landlords as against bad tenants. They all knew that what was wanted was exactly what Messrs. Howard and Read's bill prescribed; and why should they be afraid to do it?

Mr. YORKE: We are afraid of tying our own hands beyond what is absolutely necessary, and thereby preventing the free circulation of capital for agricultural purposes.

Mr. CURTIS HAYWARD remarked that where an agreement was made between two parties who knew one another they were not likely to quarrel, nor would any great difficulty arise; but the evil they had to meet was this: when a tenant hired a farm of a good landlord he was not very particular about an agreement because he knew his man, and so a sort of personal contract was entered into, which, between two honourable men, were perfectly binding; but when the good landlord died and the farm was sold, perhaps a person of a very different character would succeed him. The proposed bill would meet such cases, but he did not see why the landlord and tenant should be put in the difficulty of having to move in the exact groove prescribed for them by the law, and thus be prevented making such agreements as would be most advantageous to

both. With regard to the presumed hardship of the landlord having a prior claim for the payment of his rent, that arose from the lien which all people had over their property, while being used by other persons. For instance, if a man turned out his beasts to feed on another man's land, the owner of the land had a lien on the beasts, and could prevent the person to whom they belonged taking them away until he had paid the cost of their keep. The same thing happened if a man sent a cart to be mended; if the owner did not pay the tradesman need not let the cart be taken away; that was to say, he had a lien on it until the money was paid. Every tradesman had the same remedy as the landowner; but there should be a limit to the time over which the landowner had a prior claim for rent, or injustice might be done to those tradesmen who had trusted the tenant not knowing that the landlord had a prior claim for a large sum. Twelve months was quite long enough, and he was not sure that six months would not be better; but without violating a vital principle of law they could not reduce the landlord's prior right to claim rent for a less period than six months.

Mr. S. FRIDAY said that at present the landlord's prior claim was limited to twelve months' rent.

The PRESIDENT thought Mr. Hayward had misapprehended the purport of Mr. Woodward's remarks. He did not speak against landlords as creditors, but against the competition for land. Supposing a man sought to take a farm requiring £2,000, and had only got £1,000, that would increase the competition for land.

Sir GEORGE JENKINSON: Then how would you provide security for the landlords?

Mr. WOODWARD: I should provide that the landlord take his chance with other creditors, and then the competition for farms would be so much reduced that we should be able to make our own bargains.

Mr. CURTIS HAYWARD: I am afraid that if you took away the landlords' right as first creditors, you would find they would bind you down very tightly.

Sir GEORGE JENKINSON: If Mr. Woodward's proposition were carried out it would operate most unfairly towards a very deserving class of men, who, although not able to compete with very large capitalists, can take small farms and work them to advantage, both for themselves and the landlord. Such men would be entirely driven out of the market.

Mr. WOODWARD said that might be so, but it should be borne in mind that if large capitalists worked the land better results were likely to be produced.

Sir GEORGE JENKINSON pointed out that according to the present law a man could take off the whole of his crops at the end of the harvest half-year, and if he were dishonest he could go off with the proceeds, leaving the landlord to whistle for his money; but the tradesman in selling his goods had the option of saying "You shall not have them unless you pay." On the other hand, the landowner's tenant was entitled to have six months' occupation and benefit before the landlord could demand his rent; and then, just before the time came for doing so, what he had described might happen. Therefore the landlord and the tradesman could not be put on the same footing.

After several resolutions and counter resolutions had been proposed and withdrawn, it was decided, on the motion of Mr. YORKE, seconded by Mr. LAWRENCE, that the debate be adjourned until after the presentation of the report by the committee of the Central Chamber.

Captain DE WINTON reiterated his strong conviction that the tenant should be compensated for the unexhausted improvements he had made. The other alternative was nothing more nor less than a simple robbery.

Mr. BUTT said that Mr. Howard had told him, when talking about the land producing enough to support the population of the country, that he had made inquiries of several farmers as to the customs in various counties, and one of them said that the custom in his county was to crop the land as hard as they could and leave it as foul as they could.

Sir GEORGE JENKINSON: In what county was that?

Mr. BUTT: I think it was Buckinghamshire.

Sir GEORGE JENKINSON: I should call that a system of plundering and blundering.

THE PRESENT CONDITION OF AGRICULTURE.

At an adjourned quarterly meeting of the Notts Chamber of Agriculture held at Nottingham, the Duke of ST. ALBANS, President of the Chamber, in the chair, said :

The business before the Chamber to-day is the adjourned debate on a paper read at Retford some weeks ago by Mr. Hemsley, on the present position and prospects of the tenant-farmer. I telegraphed on that occasion a request that the discussion might be adjourned, and I believe that suggestion was generally agreed upon, in order that this part of the county should have an opportunity of expressing their opinion on this important subject. I feel sure, although I had not the pleasure of hearing Mr. Hemsley's paper, but I have since read a report of it, that all members of the Chamber will agree with the vote of thanks passed to him for the interesting and practical paper he read on that occasion. I feel certain that any criticisms that may be passed on the statements or suggestions he made for the improvement of the condition of the tenant-farmer will not be received as antagonistic on our part to his paper, but that in so doing Mr. Hemsley will feel that we are carrying out his own view, which is to ventilate the subject. I have always thought that the farmer, in reviewing his position, should remember that though he may not expect those great profits which may attach to the more risky speculations belonging to commerce, yet his occupation is a healthy and agreeable one, and he must not expect from such a healthy and agreeable occupation those larger profits which attach to those who engage in a less healthy and more risky trade. I need not say that it must be so. It was indicated, I think, that there must be a fall in rents, but I scarcely think that the rents on our Nottinghamshire farms can fairly be expected to be lowered. I will take a farm of from 250 acres of light land, at £300 a year, and will recall to your mind its original state, and suggest to you the outlay it required first to build farm-houses and buildings, which can be scarcely less than £2,000. Putting that at seven per cent, you have £140 a year, and taking the fencing and roads at two shillings per yard, and taking the year that the land must have been unproductive, I ask you fairly to consider whether there is a large margin left after those considerations for the original surface of the land. In alluding to rent of farms in England, I may mention that although in bad years English farmers may consider that rents in this country press heavily upon them, yet in Scotland the rents are much greater. If you will compare Scotch land with English you will find it rented at least double if not quadruple. I think Mr. Hemsley is also wrong when he lays down the broad fact that farms are at a discount. I was told the other day by a friend of mine who has 50,000 acres to let in the year, that there was a perfect scramble for it when any question of letting it took place. In passing I may say, however, that I think English farmers are not behind their Scotch neighbours, and in proof of the statement that England is pre-eminent in agriculture, I may remind you that the foreigner comes to us to buy his stock, whether in horses, cattle, or sheep. Still, I think the farmers of England will do wrong if they pride themselves on having got to the pinnacle of the tree. I was referred to the quotation the other day from an ancient author, which I commend to the attention of those who think that we have got to the pinnacle of the tree, or that farming has reached an excess of excellence in these days that it never came to before. I was most surprised to find, and I have no doubt most of you will be surprised when I read to you this quotation, which was brought under my notice the other day, from an old Roman author. I find that Pliny, in his "Natural History," written in the year of the Christian era, says : "As touching the manner of cutting down and reaping corn, there are diverse and sundry devices. In France, where the fields are large, they use a jade into the tail of a mighty wheelbarrow or cart, made after the van, and the same set with knives and trenchant teeth sticking out on both sides (otherwise stakes or palisades on wheels). Now, is the same driven forward before the said beast upon two wheels into the standing ripe corn, contrary to the manner of other carts that are drawn after them. The said teeth and sharp knives fastened to the side of the wheelbarrow or cart catch hold of the corn ears and cut them off, yet so as they fall presently into the body of the wheelbarrow." I must express my regret,

continued the noble duke, that the farmers of this country have not a more permanent interest in the pursuit in which they are engaged. I think they should search by their industry and intelligence how they may advance their interests. I need not, perhaps, again draw your attention to those breeds of cattle which, by the intelligence of some agriculturists, have been so very considerably improved, and lately have made such enormous prices. I would, however, draw the attention of farmers to the care which they ought to bestow on all kinds of seeds, and on improved methods of cultivation. On this point I will read you an extract from Professor Owen, who says : "Experience and analogy justify the hope and expectation that grasses may have their nutritive qualities increased by methods of cultivation, and feeding in a degree analogous to the acquisition of the potato from the poisonous *Solanum tuberosum*, or of the yams from the wild 'dioscorea.'" I shall leave it to others to point out how improvements in practical farming may be carried out, I have not sufficient practical knowledge to touch upon that subject. I will now express my great pleasure at the high compliment Mr. Hemsley paid to the agricultural labourers of this country. I agree that it is the interest of the landlords to attach this class to their occupation by building them good houses. It is, however, ruinous work building them, nor do I see why a farmer should be expected to house his men well, whilst no such moral claim is made on the manufacturer. We have the "friends of the clergy" and the "sons of the clergy," both rich corporations, but which had very small beginnings. Now I should be glad to see those energies which are directed to alienate and emigrate our agricultural labourers form themselves into societies, to enable them to settle permanently here. I should like to see them organise "The Friend of the Agricultural Labourers' Society," so as to enable the labourer to benefit himself and better the future of his children. There is no reason why a moderate assistance should not enable a thrifty labourer to erect himself a cottage on a good building lease, and if landowners, from a love of exclusiveness, are so blind to their own interests and so deaf to public opinion, why some means must be found to force it from them. I think if anything is wanting to prove that the agricultural population of this country wish to improve their condition it must be the mission of Mr. Arch to Canada, and the reception he has met with at the hands of the distinguished nobleman who represents sovereignty in that dominion as well as his government. Let the agricultural labourer consider that, whilst trusting Mr. Arch, that Mr. Arch may have looked at the State which has welcomed him through the *couleur de rose* glasses the Canadians expect him to use. It has occurred to me that the labourer may be unwisely induced to undertake an uncleared piece of land of 200 acres, but let him consider how he is to live the first year, how he is to buy seed and implements, and how he is to exist generally till that seed and implements have produced their fruits. I shall now pass through the measures which Mr. Hemsley has suggested as likely to benefit the tenant-farmer. I understand him to recommend a Minister of Agriculture, more Government attention, the abolition of the Malt-tax, and an exercise of the influence of Chambers of Agriculture. I am sorry to say I cannot agree with him on the first point. I have never heard it said what good a Minister of Agriculture will do. Is he to dictate to you the crops you are to grow, or what manure you are to use in growing them? It is true that some continental countries have such a department, but I do not think those countries are better or even so well cultivated as our own. I do not suppose that political leaders would object to this extra patronage. There are occasions when an extra place is found not so very inconvenient. For my part, however, I hope these chambers of agriculture will hesitate before they take up the appointment of a minister of agriculture. I think it is scarcely necessary to have a direct representation of land in the Government. If you look at the composition of any government, or cabinet, or parliament, there is every reason to suppose from the men who compose them that the landed interests are very well looked after. We must not disguise from ourselves why successive governments seem to favour commercial interests. It is that they represent greater wealth, a larger population, a more perfect com-

bination, and perhaps a quicker intelligence to push their own interest. I believe there is another reason which ought not to be overlooked, and that is the general feeling that land and not agricultural interests are represented in Parliament. What would you think if the commercial interest of this country were entirely represented in the House of Commons by bankers with one exception in England, and another in Scotland? Do you think Parliament and public opinion would look at them as representing that interest? Yet it is so in agriculture. There are only two tenant-farmers in the House, Mr. Read, representing England, and Mr. McCombie from Scotland. I should be very sorry to see the landlord interest not largely represented. That would be equally imperfect, but there is plenty of room for that, and yet to have more tenant-farmers as representatives. I am opposed to Mr. Read in politics, and can, therefore, without bringing politics into question, point to his case as to the usefulness of what I urge. I think no one can deny the weight he carries on agricultural subjects, both with the Government and every section of the House of Commons. Well, if the farmers are thus directly represented in Parliament, I think they cannot object that agricultural labourers should be represented in the franchise. But here I will stop, because I fear I shall be treading on dangerous ground. As to the Malt-tax, I am very strongly opposed to its repeal. I have heard the opinion expressed by one of the largest and most successful agriculturists in this county that it is a sentimental rather than a real grievance. The answer to the cry for its repeal is that we cannot afford to lose twenty millions of revenue, and that if you untax beer in England you must untax whisky in Scotland, while the abolition of import duties would leave farmers no better off. Now I am informed that the Malt-tax comes to about twopence a gallon on beer. How much is that of a glass, and who is likely to gain by that being taken off? I do not think that the consumer will get his glass cheaper, and I doubt whether the farmer will get more for his barley.

Mr. GODBER (Balderton) said his apology for rising at that early stage of the discussion must be the fact of his having moved its adjournment on the occasion of its introduction by Mr. Hemsley, at Retford. Concurring as he did in the views expressed by that gentleman on the occasion referred to, he was not about to criticise in an adverse manner his excellent paper, but rather to offer a few remarks by way of expressing his own views on that very important subject. They were all aware that there was a time in the history of their country, and that at no very remote date, when the treatment of the soil and the development of its productive powers excited but little interest amongst the community at large, but since the discovery and extraordinary development of our vast mineral resources, together with the gigantic growth of our manufactures, the question of producing food for the people had become one of the great questions of the day. The gold fields of California and Australia had done much to enrich the nations, but it was their coal and their iron that had revolutionised the world, contributing much to the advancement of civilisation and the development of science. They had now interests of such magnitude, mining, manufacturing, mercantile, railway, and others, that their agricultural one, although the most ancient, and they might say everlasting, had become dwarfed in the eyes of the people, and during the conflict that had been raging of late between labour and capital, some things had been said and heavy blows had been aimed at the very basis of their food-producing system. Men had not hesitated to declare, and that even through the public press, that the annihilation of the tenant-farmer would be a boon to the nation, but it sometimes happened that men, with whose opinions in general they did not all agree, uttered sentiments worthy of their highest admiration. It was thus with Mr. Bright when that motley clique of Republicans sought his aid and influence. Mr. Bright's answer was, "Before you destroy one system it will be well to know that you have a better to put in its place." Those words would apply with force to those gentlemen who hold absurd and ridiculous notions such as those to which he referred. He remembered, about twelve months ago, having a conversation with a German corn-merchant. In replying to his inquiries as to their system of farming, he said in Germany they were all small holdings, except a few estates owned by counts, who also farmed them; but, said he, the land in Germany does not produce anything like the quantity produced by the land in England, the land in England being so much better farmed.

But, notwithstanding the wild theories and absurd crotchets, of which we have heard so much of late, he (the speaker) would venture to predict that the day was distant when the principle and basis of English farming, that of letting out the land, would be superseded by a system better adapted to meet the wants and necessities of the consuming population of this country. That system combines within itself a considerable amount of outlay and oversight on the part of the owner, together with a large amount of capital, skill, energy, industry, and frugality on the part of the occupier. But there was one fact of a most singular character, which was to him a great puzzle; it was this, that notwithstanding the great prosperity and increased wealth of the country, land was year by year being called upon to bear some new burden. Solomon said there were three things that were ever crying "Give, give," but he should think Solomon was never a farmer, or he would have added a fourth, for such was the constant cry of the land. So numerous had become the takers away that to give back to the land what was absolutely necessary to ensure its productiveness in the shape of labour, manure, &c., after this increasing number and enlarged character of the demands made upon it had been duly discharged, was a problem which that, or any other chamber, would find most difficult of solution. He quite concurred in the remarks made by Mr. Hemsley, in his excellent paper, that although deprecating discussing that question in a grumbling spirit, and that notwithstanding the high prices which had prevailed of late, yet from some cause or other tenant-farmers were not in a position to congratulate themselves at the present time. Farming had of late been passing through a trying ordeal. The cost of labour, manure, machinery, coals, &c., had greatly increased, seasons had been most unpropitious, extreme wet or extreme dry, much disease amongst cattle, &c. Although it was to be regretted that such was his position at the present time, regretted not only on his own account, but as a disadvantage to the consuming public, inasmuch that his ability to develop the capabilities of the soil was thereby crippled, yet he felt bound to say that this state of things had arisen in part from causes beyond human control. But at the same time there were causes of a widely different nature, which affected in no small degree the position of the tenant-farmer. First, the bearing of the Legislature towards the land had not been of a character to encourage and facilitate the most perfect development of the soil; both the positive and negative action of the Legislature had been of such a character as to discourage and retard such development—charged with the maintenance of the highways, the relief of the poor, police expenses, the administration of justice, building of goals, police stations, workhouses, lunatic asylums, bridges, education, and sanitary expenses—all these under the head of local taxation. Coming to imperial, they had land-tax, income-tax, house-tax, man, horse, cart, gun, and dog-tax—taxes local and imperial in every conceivable fashion and shape. That not being enough, the Legislature, as the guardians of the great interests of the State, must perpetuate a tax of a prohibitory character upon one of the farmer's most important crops, so that he might not manufacture and give to his household, his labourer, or his cattle, an article of his own production until he had paid more than one half of its value in tax. On this question he was sorry to find that his opinion and that of the noble Duke were not in harmony; but as the farmer was both a producer and a large consumer of malt, or beer, he thought that were that obnoxious tax repealed it would be a great boon to the farmer. He had now a word or two to say upon the negative action of the Legislature, and here again he was sorry to find that, upon one point, his opinions were at variance with those of the noble Duke. They had in this country no Minister of Agriculture, whose special prerogative it was to watch over so important an interest. Had they had such a minister, would the cattle plague have been permitted to sweep the country, as in 1866, of so many thousand head of cattle? What had the supineness and inaction of the Government on that occasion cost the people of this country the last few years in dear meat, butter, and cheese? Was it not also remarkable, that whilst agriculture was left out in the cold, large sums were given for the encouragement of horse-racing, for the support of museums, picture galleries, parks, ornamental waters, and exploring expeditions from the wilds of Africa to the ice-bound regions of the north? But not a solitary thousand was offered to induce men of scientific research to solve the grand problem of rescuing from waste

and mischief millions of tons of highly fertilising matter that was annually filling up and polluting our rivers and streams. Was it not possible for that vast mine of wealth which, up to the present time was doing positive mischief, to be utilised and turned to the highest and best account, that of enriching their lands and increasing the food supply of the country? Much more might be said upon that point of the subject, but he must pass on to notice the position of the tenant-farmer with regard to his landlord, and upon this point he was bound to say that although rents had risen considerably during the last fifteen or twenty years, the majority of landlords had not taken undue advantage of that severe competition for land which had been the natural result of an increasing agricultural population upon a very limited area; and from the fact of land being so poor an investment, not on the average paying more than about 3 per cent., and with so large a population upon so limited an area, there was little to expect in the shape of reduced rents. Upon that point he thought they would concur in the remarks made by Mr. Hensley, at Retford, but there were ways in which the landlord might assist and benefit his tenant; first by giving greater security of tenure, with a guarantee that he should be compensated for unexhausted improvements. Second, by supplying him with a proper amount of cottage accommodation, and with suitable farm buildings. Third, by relaxing some of those old restrictions as to the rotation of crops, chemical science having done much to render such relaxations both necessary and advantageous. Fourth, by the removal of all old and useless fences, trees, and banks upon arable land, the relics of crude and bygone notions. Much as they heard about waste and destruction by game, it was nothing to the loss occasioned by these old lumber ground fences. A short time ago he saw in the papers a letter by Mr. Mechi, in which he said he had had some conversation with a Devonshire land improver, who told him he had been throwing six fields into one; in reply to the question as to the size of the field when thus enlarged he said it was six acres. And, said Mr. Mechi, the gent was quite offended because he laughed, saying there was a small parish near him which had 170 miles of hedges. There is no labour so unremunerative as the keeping in decent repair those old and useless fences. They had lately been favoured through the press with some remarkable and ridiculous letters, recommending the grassing down of arable lands. It was possible those spasmodic recommendations might influence a certain class of landowners of a non-practical character, but all men of practical experience knew full well that all weak and ordinary land that was not too tenacious in its working, would produce much more food by corn, seed, and root crops, than it ever would in its natural state. They therefore could not fall in with those recommendations. Having touched upon the position of the State and of the owner, in relation to the land, he could not leave the subject without saying a few words upon the labour question. And here he would have it understood that he was not an advocate for a low rate of wages as being advantageous to the farmer, but he believed that during the recent agitation they in this district had been called to account for the sins of other districts, where the rate of wages had for a long time been much too low. The recent agitation had done little in their district to advance wages, but it had done much to estrange and dissipate the mind of the labourer. Upon the farmer, the landlord, the parson, the Legislature, and even the Sovereign, these reckless agitators had heaped mountains of abuse, whilst they and the favoured publican fattened on the spoil. It would ultimately be found that those men had done incalculable mischief to the labouring class by teaching them to annoy and make themselves obnoxious to their employers. The fruit of such conduct was already appearing. Having an eye to the future, the farmer had gone in for a large amount of machinery, so as to economise labour. That had entailed upon him a heavy cost for the present, which he would certainly take back, in the shape of a reduced labour account. There was also another feature of the case bearing in the same direction. Many men of large capital and independent means had ceased the occupation in consequence of these perpetual annoyances. Their places would be filled by men of smaller means and with less ability to employ labour and produce food for the million; but he hoped and thought there were signs of a better state of things. The labouring class were many of them waking up to the delusion; but, taken as a whole, the increased cost of labour through higher wages and less amount

of work performed, forcing the farmer as a protection for the future to expend considerable sums in additional machinery, had forced upon him a crisis which it was desirable should not often be repeated. They were threatened with a wholesale system of emigration. He was not opposed to emigration; it was a natural, a necessary, and a healthy outlet to every densely populated country. It was a natural safety-valve—a channel through which that effervescing element which ever and anon disturbs the surface of society might pass off. Mr. Arch, with all his enthusiasm, had not been favourably impressed with the appearance of those long-faced, long-honoured Canadian farmers in their miserable shanties. They appear by his description to be men of the old league type—what their agitating friends in this country would call blood-suckers. They were told by some that they were their best men who emigrated. That was not his opinion. Many were led away with the idea of finding a country where they would not have to work, than which there could be no greater mistake. Looking, then, both at the present and the future, the necessity for the tenant-farmer to rely upon his own exertions was as great as ever, and he would do well to practice, in this age of extravagance, that frugality, industry, and steady perseverance for which he had long been proverbial. True, modern science had strewn many advantages in his path. The steam thrashing, and corn and grass cutting machines had been a great boon; the steam cultivator bids fair to do good service, but was yet too costly for the small holder either to purchase or hire, in the latter case amounting to a second rent. Landlords would do good service to their tenants by purchasing and letting them out at a more moderate rate. But the great need of the tenant-farmer was more capital and, amongst other things, a better knowledge of chemical science, so as to temper the soil according to the particular requirements of the crop; and further, a speedy relief from those unjust burdens which press so injuriously upon his occupation.

Mr. GEO. STORER said when the subject was first put down for discussion it seemed to a great many as though it would be concerning all things, and a few more besides. They must all be aware, however, that Mr. Hensley had treated the subject in the best possible manner. He had opened up many things for discussion, and he had made some sensible and pertinent remarks, which they all felt they could more or less agree with. There might be a diversity of opinion on some minor points of detail, but the opinions expressed were, generally speaking, such as would meet with the approbation of most tenant-farmers. The position of the tenant-farmer might be looked at from several points of view. In addressing them on the subject he would consider first the advantages which they possessed, and there could be no doubt they had several important advantages in the present day. They had increased education, and the advantage of greater science applied to farming than was the case in former days. They had the benefit, also, of excellent machinery, although they had heard from the noble Duke that the machinery was not new. Solomon told them there was nothing new under the sun, and it certainly seemed that the reaping machine was in use in the time of the Romans. He rather doubted, however, whether their reaping machine was quite equal to one of Hornsby's, or whether their agriculture was quite as well performed as that of the present tenant-farmer. Virgil in his Georgics gave them some excellent hints as to the way of dealing with land, and they must always allow that the farming of the present day was a lineal descendant of that which was practised by the Romans in this country. They were indebted to Cato and to other noble Romans for some useful maxims on agriculture, and the one which some farmers applied very much, was where he said the first thing in farming was to sell everything and buy nothing. He would not go further into the advantage of the present position of the tenant-farmer, but he might say that generally speaking they had had liberal and enlightened landlords, and perhaps a great amount of capital which had been accumulating in their families. Whenever any gentleman had accumulated a great deal of capital in any commercial pursuit, what did he do? If he made razors he wanted to farm; if he made a fortune anywhere in the town he wanted to try if he could not make a little more by farming. He did not think such people generally succeeded—but at all events it kept bringing capital into the science and practice of agriculture. These were some of the advantages under which tenant-

farmers flourished in this country; but there were also disadvantages, and it would be a most singular occupation if such was not the case. He thought they should have had greater competition for farms than they had now if there had not been many disadvantages, but still they seemed to him to be only such as might, generally speaking, be overcome by frugality and care. One of the disadvantages was said to be the Game-laws. They knew very well what were the current complaints and grievances which farmers were told they suffered under. There could be no doubt in certain localities the Game-laws were a great disadvantage, and where the wretched battue system was carried on to such an extent that the crops were sacrificed to the game it was a great injury to the tenant-farmer. On the other hand, people should not blind their eyes to the fact that a gentleman who is going to take a farm must be aware whether it is likely to be overrun with game or not, and if he did take it under these conditions it was entirely his own fault. Farming was doubtless a healthy occupation, but it had never been considered very profitable; and now-a-days foreign competition had reached such a pitch, that an occupation which was once supposed to yield 15 or 20 per cent., now barely yielded on an average more than from 5 to 10 per cent. Of late years they had lost protection, and they did not ask for it back again. They only asked for even-handed justice. Another great disadvantage that had arisen within the last year, and which had been already alluded to by Mr. Godber, was the increased price of labour, and the unfortunate agitation which had encouraged a war of capital against labour. He thought, taking into consideration everything the farmer had to pay, few would oppose him when he stated that he believed this was one of the most serious considerations of modern times which a farmer had to take into his calculation. They all hoped that the false, the specious, and the foolish hopes and estimates held out by the agitators to the labourers of this country would be proved to be so utterly ridiculous that the labourers would in time grow weary of contemplating them, and would retire from the position which some of them had taken up. At the present time the agitation was confined in a great measure to labourers of the worst class, and perhaps of the worst position; but unfortunately the words said at the meetings, the reasonable and seditious language used by some of the agitators, was apt, starting at the beginning with the worst, to contaminate even the best, and to make a great deal of ill feeling between master and servant. He certainly could not see that Mr. Arch's exploration in Canada would lead to any great or gratifying result. He had doubtless received a great ovation, but he (the speaker) was not so hopeful as the noble Duke appeared to be.

The Duke of ST. ALBANS: My remarks were by way of warning to the agricultural labourer not to look too much to the *couleur de rose* statements which Mr. Arch might offer them.

Mr. STORER quite agreed with such an observation, and he thought everyone who read the papers written in Canada by the correspondent of the *Daily News*, who had accompanied Mr. Arch, must be aware that unless some very great advantages were held out to him more than one could naturally expect he would not be benefited, or at all better his position by going across the water. They were told the other day that of all the farmers in the world the most wretched and haggard looking men were the farmers of Canada, who worked from sunrise to sunset without any intermission, and expected their labourers to do the same. Most people who studied the subject at all must be aware that unless very enormous sums of money were subscribed to aid this system of emigration, which Mr. Arch proposed, the labourers could not do at all. It was generally supposed that a man in order to emigrate to Canada must possess at least £100 before he started, in order to make himself comfortable and to pay his expenses there until he could recoup himself. He knew a gentleman who had been in Canada, and he told him that there was little work during the winter months, and the unfortunate Irish and other people who had gone in search of employment were huddled together in the large towns, and many actually died of starvation. Unless something could remedy this the labourers would find they were leaning on a broken reed, if they thought they were going to better their condition by going to Canada. With regard to other topics, that for instance of the position of the farmer with respect to the probable increase or decrease of rent, he was not sufficiently endowed with a prophetic spirit to say what might be the future of this country, but he thought these

things would always find their own level. He had very great faith that if farming was found to be a much more expensive and difficult science than it was now, if it was found that the remuneration was less and the expenses were larger the rents of course must naturally fall, and the landlord would be a loser as well as the tenant. He did not know whether this was going to be the case, but they certainly were aware that in some seasons, like those they had lately had, the production of corn left very little profit. The attention of the farmer had consequently to be directed to the production of meat and wool. As to laying down land for grass, he agreed with Mr. Godber that it took a great many years to make a good grass field, and few farmers would be so ridiculous as to endeavour to lay down any great portion of their farms. If it did happen that owing to emigration or to combination labour was to become very scarce or very dear, and they were to suffer also from bad seasons and the low price of corn, land would have to be cultivated—as he was afraid it was even now in certain districts—in a worse manner than it had been for some years previously, and a good deal of it would then come rapidly into the hands of the landlords. These were, however, purely commercial considerations, so long as there were young men rising up and seeking to be farmers it was not likely the land would be let below its real value, and the whole question therefore might be left to the great law of supply and demand, which must always rule the subject. Something had been said about a Minister of Agriculture, and he agreed with Mr. Hensley that a Board of Agriculture would be of immense advantage to the farmers and to the landed interest generally. If trade required special representation in the ministry of this country, why not agriculture? He would remind the noble Duke that there was a Board of Agriculture in this country in the time of Arthur Young, and if there was one now they should not see such ridiculous conduct pursued by the Privy Council with regard to bringing foreign disease into this country. As it had been well said, great sums of money were lavished on other things to which the rate-payers had to contribute, but little indeed had been done by the Government for many years past to advance agriculture in any way or shape. The schools of design which had been instituted were entirely for the advantage of trade and for the improvement of manufactures. Many thousands a year were annually voted for these purposes, and yet not one single penny was given towards any prize or any other matter that would tend to foster or to benefit agriculture. He did not know whether the noble Duke advocated the representation of agriculture in Parliament by tenant-farmers, but he might mention the names of Mr. Pell, Mr. Read, and Mr. Howard, who were authorised champions of agriculture. Matters in this respect were very different now to what they were a few years ago. At one time the landed interest had nearly the whole of the powers in Parliament, and they were often reproached with the stigma that the laws of the country were made by the landlords on behalf of the landed interests. This, however, could not be said at the present time, because there was in the House of Lords every interest represented. The banking interest, the monied interest, and the coal interest were fully represented, but until lately there was very little representation of agriculture in the House specially. He did not think it could be said now that agriculture had too much representation, and it would be for its benefit generally if some of those who went to the House had a little more special knowledge on the subject. They could not consider the elder sons of noblemen who went into the House as a nice lounge, and as an agreeable club, and who always voted as they were told, could have much special knowledge on any agricultural question that might come before them. He was rather sorry to have heard some adverse remarks regarding the Malt-tax. He had always taken a good deal of interest in that subject, and he did believe that if that tax was repealed it would be immensely to the benefit—not only of the tenant-farmers, but of the great body of consumers in this country. He did not consider this was the time and place to debate the subject, but generally speaking the more they could encourage home brewing of pure beer the better. It was a beverage that had been drunk by Englishmen from the earliest times, and the noble Duke would recollect in the "Saxon Chronicle" where the boy was asked what was his usual drink, he replied, "Beer when I can get it, and water when I can't." Unless they were virulent teetotallers none of them would deny the labourer

what he very seldom got, namely, his quart per day of honest home-brewed beer. To abolish the Malt-tax would be a great step towards that end. It might be very well to say, as the noble Duke had done, that it would be only 2d. a gallon cheaper, but he begged to mention that the beer which he brewed at home at present cost him 9d. a gallon, whilst if the Malt-tax was abolished he believed he could brew it for about 5d.; not only that, he could afford to give his labourers malt to brew for themselves, for this reason that a great deal of barley which at present was hardly saleable for the production of fine Burton ales would make excellent malt at which no agricultural labourer would turn his nose up. He allowed his men five bushels of malt in a year, and he had always told them that when the tax was done away with they should have eight. A farmer was a large consumer of malt, and also a forced consumer, because as tea, coffee, and cold water had not come into general use in the harvest-field, the men would drink beer. They could not grow corn without using so much malt, and they must either give beer or money. Farmers, therefore, in order to produce their crops, had to pay the Malt-tax, which amounted on a fair computation to something like an Income-tax of 6d. in the £. This they had to pay in order to produce their corn, that corn at the same time coming into competition with corn grown on the Continent, the produce of which had no Malt-tax to pay. Those who advocated the repeal of the Malt-tax thought it would be to the interest of the labouring classes, and so did not think the arguments as regarded spirits was a good one, believing that a great deal of the misery existing in this country arose from a too free use of ardent spirits. They owed a deep debt to Mr. HEMSLEY for the masterly way in which he had introduced the subject, and they were also indebted to his grace for having brought out other points for discussion.

Mr. H. F. WALTER, referring to the proposal to have a Minister of Agriculture, thought they had ministers enough already, who cost us a great deal of money, and he did not think they ought to add to their number. He considered the Board of Trade amply sufficient for agriculture, which was a branch of that department, inasmuch as they made their return to it. He did not see what good a Minister of Agriculture would do, because he would not be able to give any further information than at present, unless they furnished him with the quantities they grew on their farms, to which he believed they objected. As to the Malt-tax, Mr. Storer had said that the farmer was a forced consumer, but so was a manufacturer of the articles he manufactured. With regard to the importance of beer as a drink for the labourer he thought it was one of the worst things he could work on in summer. He was speaking of such beer as the labourers got, but if landlords and farmers would provide really good sound beer instead of the stuff poor people got in the country it would be different.

Mr. STORER: We want to find them malt.

Mr. WALTER asked what a labourer knew about turning malt into beer? He mentioned a case of a farmer near Mansfield who allowed his men tea and coffee, and went on to say that his honest opinion was that this cry of the abolition of the Malt-tax was a piece of rubbish. If barley fetched a higher price the landlords would raise their rents. At present the Malt-tax was paid by the whole of the people of this country. If they were in Nottingham that night they would find the poor people paying the Malt-tax with the greatest readiness, and spending the only money which many of them paid to the national revenue of the country. If they gave up the Malt-tax they gave up the only tax the drunkard paid to the police and other rates. He recommended the tenant-farmers of this county to go in for a representative of their own class. Mr. Read represented him in Norfolk, and although he was opposed to Mr. Read in politics he should vote for him, because he believed he represented the interests of agriculture in every way. He advised them to urge on their landlords a better system of compensation for unexhausted improvements, the destruction of hedges, and the bringing of game within reasonable quantities, but not to such an extent as to deprive those living in the country of amusement, as was the case in France. He was both a manufacturer as well as a tenant-farmer, and he could therefore speak from both points of view. He told them a year or two ago that the labourers would have to be paid better wages in all parts of the country, and this had proved to be the case, though he was glad to say the wages in this county had always been better than in some

parts. He did not see how they could stop these men going about until there was a better rate of wages paid generally.

Mr. STORER said the Malt-tax was equal to an Income-tax of 6d. in the pound. With respect to the farmer who gave men tea and coffee he understood that he had since given up farming, and he (Mr. Storer) was not surprised to hear of it. They had the authority of Mr. W. Sanday and other eminent breeders for stating that malt might be used to a great extent in the feeding of cattle, and that therefore the use of it would tend to the production of more meat. As to the labourers not knowing how to brew, all his labourers did, or at least their wives did. Again, the fact of men not being able to get good beer at home made them go elsewhere for the horrible and poisonous kind of drink which intoxicated them and added to the police sheet. Mr. Walter had said the people who went out and drank at night paid this tax. Now he considered that an objectionable way of paying a tax, but he might add that drunkards did contribute by the fines they paid. He reminded Mr. HEMSLEY that Tenant-Right and compensation for unexhausted improvements were things they went in for in this district.

Mr. GODNER said, one great reason why they required a Minister of Agriculture was because they objected to a divided responsibility, as was the case now in regard to the Board of Trade and the Vice-president of the Education Department. If there had been a responsible minister the cattle plague would not have reached the dimensions it had done.

Mr. HEMSLEY then replied. With reference to what the Duke of St. Albans had said on farming being an agreeable and healthy occupation as compared with other avocations, he would remark that a little too much stress had been laid on that point. He saw near to every manufacturing town delightful suburban villas, and he did not consider, under all the circumstances, that farming was more healthy and agreeable than the life of a merchant and others having the same amount of capital. [Mr. WALTER: The Duke said it was a life of amusement.] Well, he (Mr. HEMSLEY) had not found it so lately. Farmers had had enough to do to keep their banking account square. If the farmer's was a healthy occupation, then the labourer's must be so—a point which some seemed to overlook. He thought it would be a very important point to find out what was the difference between the wear-and-tear of an agricultural labourer's life and that of a worker in a mill. He had heard it stated that the wear-and-tear of twelve hours on the part of an agricultural labourer was only equal to eight hours in a mill, where a man was in a confined atmosphere. He repeated that these things got overlooked, but what was sauce for the goose was sauce for the gander. As to rents, he stated in his paper that they could not expect a large amount of reduction as relief, but he put it forward as a matter for consideration whether they were not in many cases relatively too high. His grace had said there was a small amount of land unlet, but he had heard only that week that in the West of England there were whole parishes to let. He also knew that in this part of the country there was a great deal of land to let, and it was because it had been let relatively too high. With regard to the Malt-tax, they expected under free trade to grow their corn on free trade principles, but this tax was one of 50 per cent. on one of the farmer's chief products. A large amount was spent in condiments, owing to diseases in stock, which had not been known in former times; and it was this malt (made from inferior barley), freed from this prohibitory duty, that he wanted as food to a very large extent for cattle food and condiment, and which would save the lives of many thousand lambs at this season of the year. He said they were entitled to free trade, and it was the business of the Legislature to provide how the revenue should be raised. He maintained that it was most unfair to the farmer to make an exception of him in this matter, and to tax one of his chief products. With reference to the appointment of a minister of agriculture, there were innumerable subjects connected with agriculture entirely overlooked by the Board of Trade. There were fifty subjects which they could put forward had they the chance suggested. [Mr. WALTER: You are represented in Parliament.] But it was the executive to whom they ought to look. He wished them to refer to a statement made by the chairman at the last meeting (Mr. Poljambé) to the effect that the same thing operated with a house and shop in the matter of local taxation as operated with the land. Now he contended that if a tradesman of that description wanted to put £1 000 into his busi-

ness, he did so without paying a farthing more to the local rate, but if a farmer put the same additional amount of capital into his farm he was charged to the poor-rate to the whole amount, because he could not extend his business upon a given area. The same things might occur in towns. As he came through Nottingham he saw a large raft-yard. Now, the man who made, say £200 a-year out of that yard, paid much more largely to local taxation than the man who made £2,000 a-year out of a bank. It was such matters as these, great glaring anomalies, that they wished to bring before a minister of agriculture. The noble duke, however, seemed to ignore that the farmers were in any difficulties at all, and that they were not of that nature they, as farmers, found them to be. He reminded the noble duke that capital was going out of agricultural pursuits, and it was simply because they were unremunerative. If a farmer had surplus capital beyond what was required for carrying on his business in an ordinary way, he would not put it to the land, but would invest it in the funds. The 10 per cent. to which he had alluded will, upon closer examination, be found to be nearer 12. And the reason he would not put the additional capital into his land was because he had not sufficient security on the one hand, and was too heavily rated on the other. He wished to say, in conclusion that he commenced writing his paper with every feeling of his inadequacy to grapple with the subject in a satisfactory manner. The difficulties were undoubtedly great at this moment which arrested the progress of English agriculture, surrounded and threatened with great uncertainty. From a variety of circumstances, he had had opportunities of knowing more about the difficulties of farming than many. These difficulties, and the condition of agriculture generally, were important to a high degree to probably two or three thousand men in this county, most of whom, by their individual exertions, are depending for their livelihood and that of their families upon the cultivation of land—important to every owner and occupier of land in this once contented and merry England; important to those who love, and who do not wish to be driven from, the quiet homesteads of their forefathers; important to the teeming thousands of our populous districts; important to manufacturers and traders in products which have to compete with other nations' products in almost every corner of the world, and who are greatly interested in cheap food. These interested parties, and a powerful press, are continually reminding us of increasing responsibilities with in-

creasing populations. But, gentlemen, I ask you, do not these sentiments fall sadly upon our ears? And are we not tempted to treat all such as mere twaddle, so long as ours continues an unremunerating business? And are we not tempted to echo that cry of "Cultivation, increase of cultivation," by "Remuneration increased?"

Mr. PATE thought the noble duke did not sympathise with farmers so much as he ought to do. Now, they as farmers did sympathise with the labourers, and the same feeling ought to be shown by landlords to farmers. Look at the losses farmers had sustained of late years, and especially by the foot-and-mouth disease, a friend of his having lost 1,000 of his flock last year. Landlords ought to sympathise with them, and that was all they required.

Mr. HALL (Sibthorpe) said although they could breed farmers they could not breed farms. The fact that farmers' sons were anxious to adopt the pursuit of their forefathers accounted for the great competition there was for the land, whether worth the money or not.

Mr. TILLOTSON said that the first duty and responsibility of any good government, no matter of what politics, was to provide necessary food for the people; and if they could by any means increase our productive power, it was the duty of the government of a country like this to do so.

Mr. HEMSLEY then moved a vote of thanks to the Duke of St. Albans for his services in the chair, and referred to the unbiassed view he took on the questions raised.

Mr. GODBER seconded the motion, and thought the Duke had sympathy with the tenant-farmers.

The motion was adopted unanimously.

The following resolution was passed at this meeting: "That the Council of the Nottingham Chamber of Agriculture desires to express its deep regret at the melancholy and untimely demise of one of its most useful and active members, Mr. Michael Colton, of South Searle Hall, a gentleman whose excellent personal qualities, affability of manners, and business habits, made him a very valuable member of this association. The meeting further desires to acknowledge the services rendered to the Chamber since its establishment by Mr. Colton, both as a member of the Council and as a vice-chairman of that body, a position he held at the time of his death, and the members of this Council hereby record their sympathy with the widow and relatives of the deceased in their affliction."

THE SMITHFIELD CLUB CATTLE SHOW.

THE OPENING MORNING.

The entries this season exceed those of last year by sixty, the show being numerically the largest held for many years. It is, moreover, one of the best, there being a really beautiful exhibition of Devons, which, for some reason or other, are always better represented in London than elsewhere; while the Shorthorns are also in much force both for numbers and merits, there being close upon twenty more beasts of this breed than were sent in 1872. The Sussex, again, are in most respects good, it being probably the largest show of the sort ever seen at Islington; and the four prize Crosses standing all in a row are all admirable; as the Extra Stock is headed by two already-famous animals, both "firsts" here in 1872. The Herefords, save here and there, are not so remarkable, nor is there any great difference in the entry over that of last year, when whitefaces ran up to the shortest show known for some time. The most marked falling-off, however, is in the Scotch classes, which, including Highlanders and Polls, only reach in all, to sixteen. The sheep show looks to be about an average for numbers; but amongst the pigs the competition is very limited, with the first class of white pigs generally commended, and Mr. McNiven's champion pen of Dorsets wonderfully good; but otherwise there is not much merit, and two or three entries were "referred" on a question of age.

The Devons were almost too good for the Judges, or at

any rate there was a deal of discussion over some of the awards. Thus, in the first, a generally commended class, while every one went for her Majesty's clever first, it was difficult to understand how Mr. Taylor's broader and apparently altogether better beast was put below the animals preferred as second best by the Judges—the more especially as they are precisely of the same age. The winner in the next class, also from the Royal farms, does credit to the judgment of Lord Bridport, who bought him here at the last show, when also first in the younger class; while he has gone on capitably in the interim, and, as we said last year, had always the makings of a good one about him. In the class of Devon oxen, Mr. Senior won with a capital beast, as, no question, he was at all points the best of his breed, and some soon talked of him as "the Champion," but he was only second at Birmingham in 1872. With the Devon heifers many maintained that Mr. Senior should also have been first, but it was something of a question between beef and breed, Mr. Buller's home-bred one being the more blood-like. Mr. Kent's best cow is a very sweet one, but for the butcher Mr. Farthing looked to have a better cow than the one bred in North Devon and fed in Sussex; while the famous Flitton Lavender was for once nowhere in her class.

The Herefords, as we have intimated, do not make up a great show; but Mr. Senior, who is trying his hand

all round, sent a very admirable ox into the old class, which was far away the best for fashion, quality, and true characteristics of the breed. He was really grand to meet and good all through; while Mr. Heath's second is a useful beast, but rather patchy, and the short, flat-sided third never near the other two. In fact, the competition amongst the Herefords was but indifferent, although Lord Daruley won in another class, with a nice highly-bred steer. The best cow is the renowned Ivington Rose, thrice first at the Royal Society's meetings, and here, as it is to be hoped, terminating a glorious career at over nine years old; Mr. James' best heifer, too, has been known about as possessing much merit, but with one calf to her credit, it would seem her fate is sealed.

There were sixty-five Shorthorns entered beyond those sent into the extra classes, and from the time he first came out many good judges outside went for Mr. Bult's really grand ox as the best in the Yard, uniting as he does size and weight with a frame very levelly covered, and presenting altogether a very handsome appearance. His weight is something over 24 cwt., and his breed gives a cross from a bull of Mr. Rich's with a bit of Knightley. Mr. Heath Harris's second, bad in his rib and mean in his character, was a moderate second; and the prize Shorthorn of last year sent away without notice. We intimated his fate some months back, but his story is worth telling over again, if only as a caution against the continuance of a practice now becoming but too common. There was, then, dropped at Riddington, some five or six years since, a Shorthorn bull-calf, which its owner, Mr. Edward Wortley, thought to possess the promise of a prize ox. Accordingly he was put up, and in the winter of 1871 took a prize at Oakham, and another in the Tenant Farmers' class at Birmingham. The steer, however, was pronounced good enough to "go on with," and instead of being sold to the butcher was sent back to Lppingham for another year's high feeding. In 1872 he had a very successful career about the country, again winding up at Birmingham, where he was the first of his class and the best of the Shorthorns, when we thus wrote of him: "This well-known ox has not gone on in the way of making up, and we fancied him less than we saw him at Lynn in the summer." In fact, he looked to have had enough of it. His hour, however, was not yet come, for at four years and seven months old The Count was purchased for it is said 100 gs. by Mr. Senior, a Buckinghamshire grazier, still to go on with; and exhibited once more at Kettering last week, where he was merely commended, that is to say, as many as three other beasts were placed above the 100 gs. ox. According to one of our best judges, "he strikes you as being *tired of rich living*, and has lost that nice blooming appearance he once had. He has grown patchy, and not put on his flesh at all level, particularly on his back and shoulders." Can anything tell a plainer story than this? At five years and a-half old the Shorthorn is not by any means so good as he was at four off, as he has been declining for the last year and a-half, sick and surfeited with over-feeding. Of course, the only reason for his being kept on further was with a view to some of the champion premiums of the year; and at the Smithfield Club show he will probably be exhibited—age 5 years and 7 months—a very marvel certainly of *early maturity and cheap meat, of profitable and not excessive feeding.*

The two best beasts among the extra stock had also been kept over, but they have done well in the interim, and now went specially for the Champion plate as they were alike at the head of their respective classes in 1872. These are Sir William De Capelle Brooke's ox, beaten at Kettering in the autumn by the

Birmingham Champion of last week, and Mr. Kennard's white Oxford heifer, which was the next best cow or heifer in 1872, since when she has been purchased by Mr. Ipson, and the pair were again early in the day declared superior to all their competitors. There were two well-filled classes of Shorthorn steers; and Mr. Walter's first heifer would be quite a picture, but for her big knee, and altogether gouty looks; while the best cow, and a sweet cow she is, also from the same herd. There was no challenging the places of either, but some demurred to Mr. Torr's white being put out for second place. When the Judges had got so far, the pretty general opinion was that the Shorthorns would, at least produce one of the champion beasts. The Sussex looked to be a good "sorny" lot, but we did not see them out; while Mr. McCombie's black polled ox, the champion beast at Birmingham in 1872, has not ripened into anything extraordinary, as it was early apparent that the marked successes of last season were not to be repeated. The entries of Scotch, Irish, and Welsh were everywhere very short; and the Scotch really made their mark with the three admirable crosses of the Shorthorn with the Aberdeen cow, which stood, as we have said, together, and stood first, second, and third, with a son of the Norfolk Devon, Old Wellington, fourth.

The sheep were not equal in merit to the cattle, but Lord Walsingham has recovered his lead with the Southdowns with a beautiful pen, good alike for heads, necks, backs, and character; as these, moreover, beat one of the best pens ever sent up from Goodwood, and of which the duke thought great things. Lord Soudes' winning pen of light weights were stylish, as well as cleverly sorted, and Mr. Rigden's next "all" Southdown in their looks and style. The Duke of Marlborough again furnished the best Oxfords in the face of very strong competition; and Lord Chesham's good Shropshires were still the best of the class, but the entry against them was weak; neither were the Leicesters, Cotswolds, nor Lincoln in much force. In a word, the show is a good one for the leading breeds of cattle, but not so remarkable for sheep, as decidedly inferior for pigs.

DURING THE WEEK.

"Few monarchs ever ascended the throne under more apparent advantages, and none ever encountered more real difficulties"—so writes the historian of Charles the First, and so may we write of the Smithfield Club, a very king of shows in its way. As already stated for legitimate attractions, as tested by numbers and merits, it was alike one of the best gatherings ever got together, while the very Hall itself has been so "lightened" and improved that the direction naturally enough counted upon a higher dividend from the week's results than had ever yet been attained. We may prove from our own tables that this was by no means an unreasonable expectation. Thus, for the last half-dozen years the entries have stood thus:

	1868	1869	1870	1871	1872	1873
Devons	46	41	33	46	33	46
Herefords	34	24	43	36	28	33
Shorthorns	66	50	45	41	43	65
Sussex	25	23	26	28	21	33
Scots	19	23	28	26	24	16
Total entry of cattle ...	251	219	237	236	201	249
Sheep	183	172	182	149	167	188
Pigs	43	55	55	60	56	49
Total entry	477	446	474	444	426	486

[The other entries of cattle not enumerated were made up of other breeds, crosses and extra stock.]

When we have said again how there is a really beautiful exhibition of Devons; how the Sussex is not only the largest show ever seen at Islington, but also in most respects good; how the prize crosses are all admirable; how there were sixty-five Shorthorns, again one of the largest entries ever known, and that from the first it was seen that at least one of the champion beasts must come from this section—and when we have supplemented such points by the fact which our tables demonstrate, that it was the largest, though not the best sheep show of the Club's experience, we have said all that can be said for the meeting. Some years since the members of the Club, who otherwise get as little for their money as the subscribers to even a charitable Institution, were after much pressure and with manifest reluctance admitted to an early or private view of their own show. Had this "concession," as we suppose it must be called, not been in force on Monday, we shall be bold enough to say that they never could have seen the show at all. From Monday night up to the morning of the closing day London, and more especially that part of London in which the show was held, was in a state of miserable obscurity, as suffering from the effects of a fog, which, for endurance and intensity, is declared to be the worst ever known since the year 1814. We ourselves have known it to be as black for an hour or so, but we remember none so severe of anything like so long duration. On Tuesday it was almost impossible to reach the Agricultural Hall, for the further you went only the deeper did you drive into the fog, as our cabman declined to go on; while the chairman-elect of The Farmers' Club made two ineffectual efforts from Salisbury-square between ten o'clock and noon. Nevertheless, other people did find or grope their way to Islington, and the receipts for the day were but some £150 below the Tuesday of 1872. On Wednesday, however, despite the capital ventilation of the Hall, and the healthy condition in which Professor Browne found the stock generally on their admission, the atmospheric influences of fog and gas quickly told their tale, and before night over ninety beasts had been removed, killed, or died, as the list of victims was headed by the Champion Cup heifer and the best ox, both Shorthorns. Indeed, so soon as Professor Simonds arrived he unhesitatingly declared that the Shorthorns would suffer more than any other beasts; and unquestionably they have, as the gaps through their lines were far more frequent than elsewhere, a better proof than any mere enumeration of numbers, the entry of this breed being so much larger than of any other. Still, a theory was started that animals like the Devons, which faced the door-way through which the condemned cattle passed, and so had the benefit of a strong current of air, bore up better than any other sort; while it is said that sixteen London cow-houses, which are stocked chiefly with Shorthorn or Yorkshire cows, were suffering, if not so severely as the Hall itself. On Thursday the fog was not so dense, nor the attendance so large, and a few beasts which had been ordered out were brought back again, but animals were still falling, and by the close of the doors, above one hundred had left; the loss in receipts to the Hall Company, so far as compared with last year's "take," being put at near upon £2,000. Noticeably enough, although badly placed under the galleries, but one sheep was invalidated, and not a single pig quitted his pen. Some of the visitors, however, suffered, although Mr. Jacob Wilson, a stock steward, never deserted his post during the most trying time, but remained in the Hall throughout the whole of Wednesday night.

With the beasts mostly down, and not caring to be put up, and with an atmosphere trying alike to the eyes and energies, we are not disposed to

elaborate our last report, which gives the main points and character of the show. Writing, as we then did, under the exigencies of the press and the post, before the Cups and Champion Plate were awarded, we see no reason to alter a word of all we then said. We went, certainly, "for Mr. Bult's really grand ox as the best in the yard, uniting as he does size and weight, with a frame very levelly covered, and presenting altogether a very handsome appearance. His weight is something over 24 cwt.—the table since published puts him 2lbs. over—and his breed gives a cross from a bull of Mr. Rich's, with a bit of Knightley." And subsequently the nine judges declared this to be the best ox or steer in the show, as he was the best of all at Plymouth last Christmas, although they would not go quite so far at Islington, "the glorious nine" determining by vote that the Champion was Mr. Walter's Shorthorn heifer, "quite a picture," as we wrote of her last week, "but for her big knee and altogether gouty looks." Still the Shorthorn judges backed our opinion, for the three went for the ox, but had to give way on a poll being demanded. A particularly promising Shorthorn, to which we did not give a word in our last number, is Mr. Sowerby's two-year-old steer, the youngest and best beast in his class, and one who may do better should he live to furnish and ripen.

"The Devons" we reported as "too good for the judges," and the more some of the awards over the steers, cows, and heifers were looked into the less were they liked; but the Devon ox was "a very admirable one at all points the best of his breed, and some soon talked of him as the champion," the more especially his owner, both before and, with questionable taste, after the award for the Plate was made. But the Devon, only a second best at Birmingham in 1872, good beef as he is all over, rather lacks style, while he pulls down but a little more than half the weight of the Shorthorn preferred to him as the best ox, and as his owner, unwittingly but very truly said, stood about as much chance of winning the plate "as a black bottle." Indeed, for weight as well as appearance, Mr. Bult's ox beat Mr. Wortley's "Brumagen" champion, which has just been beaten at Leeds by Mr. Reid's polled heifer, herself by no means a perfect animal, the award coming as a fine commentary upon all the fastidious *Times*' reporter has been saying when writing up his own writings in another place. In fact, as we wrote of the Birmingham decision "any other set of Judges would very possibly put the awards about again," and many have gone for the Hereford. And this discomfiture of the Ridlington beast reminds us that when giving the history of Mr. Wortley's other ox, two or three months since, we said: "Let us assume that his breeder resolved to get the steer up for show when he was somewhere about two years, or two years and a half old, and he will so have been more than three years in the stalls. Let us assume, further, that his keep and attendance during that time have cost somewhere about a sovereign a week. It might not be quite so much at first, but it would be more towards the last; and there is not only the food to be considered but the constant attention demanded; and it requires the services of a really smart man to ripen a show beast. And so by the time The Count comes to Islington he will, what with his early rearing, have cost the country some £200, and be exhibited, as very possibly complimented, by a Society whose declared object is the supply of the cheapest and best meat. There can be no doubt but that a grave question arises here, and one which will ask the careful consideration of the Smithfield Club." And now, that is during the past week, *The Times* reporter dilutes an attack on this abuse after the following fashion: "What advantage is there in holding over for a second annual Show an animal already ripe enough to

stand well on the prize list? It may be interesting to know to what pitch an ox may be fattened if you give him time and spare no expense; but should the slow feeding in the latter stages be encouraged, and might not judges well pay more attention to youthful attainments than is commonly assigned to them when balancing comparative merits in the ring? And then he goes on to qualify all this by saying, "of course there is no pretence that the long fattening pays for the process, and, indeed, the whole business is experimental and not commercial." Was there ever such nonsense? as if everybody did not know that "the long fattening process" was continued with a view only to winning the Champion Plates and Cups at any cost! Does anyone suppose that Mr. Senior gave 100 gs. for his magnificent failure when five years old with the idea of trying any other "experiment" than finishing first with him at the Smithfield Club?

There were one or two nice Hereford steers, but no glut in this way; just half a dozen Norfolk Polls, and just as many entries of Irish and Welsh beasts, backed by a few "prime Scots," such as Mr. M'Combie's blacks and Sir W. Trevelyn's Highland heifer.

The sheep show was mostly but moderate, although we have already spoken to the merits of the Southdowns, which very generally betrayed less "alloy" than we sometimes see; and no question Lord Walsingham's pen, bred from rams reserved at the Merton sale, were rightly enough the Champion lot. The Oxfords were again strongly represented; but only here and there, in the other breeds, as with Lord Chesham's Shropshires and some of the Lincolns, was the sample really superior. Leicester-Lincolns or Lincoln-Leicesters, as we saw a few years back, are occasionally taken from the same flock; while, prized as they are by the butcher, the old joke declares that the Romney Marsh sheep have never been improved on since they came out of the Ark; but they certainly never showed better than during last week. The small entry of pigs was still further thinned down by certain queries, which we believe led on to disqualification, but surely the names of offenders should be published, both by the Smithfield Club and the Royal Agricultural Society, or the punishment is so purely nominal that exhibitors come to try the trick on again.

LIST OF JUDGES. CATTLE.

DEVONS, HEREFORDS, AND SUSSEX.

L. Groves, Bingham's, Melcome, Dorchester.
S. P. Newbery, Plympton St. Mary.
R. Woodman, Kingston, Lewes.

SHORTHORNS, IRISH, AND CROSS.

J. Thompson, Badminton, Chippenham.
H. Lowe, Camberford, Tamworth.
E. Paddison, Ingleby, Lincoln.

NORFOLK AND SUFFOLK, SCOTCH, WELSH.

T. Gibbons, Burnfoot, Carlisle.
C. Randell, Chadbury, Evesham.
T. Brown, Marham, Downham, Norfolk.

SHEEP.

LEICESTERS, COTSWOLDS, LINCOLNS, KENTISH, CROSS-BRED LONG-WOOLS.

H. Aylmer, West Dereham, Norfolk.
T. Marris, The Chase, Uxehy.
R. J. Newton, Campsfield, Woodstock.

SOUTHDOWN, HAMPSHIRE, RYELAND, MOUNTAIN.

T. Cooper, Norton, Bishopstone, Lewes.
H. Ford, Gussage, Craibourne, Dorset.
E. Little, Lanhill, Chippenham.

SHEPHERD, OXFORDSHIRE, CROSSBRED LONG AND SHORT-WOOL.

C. R. Keeling, Congreve, Penkridge.
C. Hobbs, Maisey Hampton, Cricklade.
J. Evans, Ullington, Shrewsbury.

PIGS.

H. Garland, Wargate, Wareham, Dorset.
J. S. Turner, Chington, Seaford, Sussex.
J. Smith, Henley-in-Arden, Warwick.

CATTLE.

DEVONS.

Steers, not exceeding 2 years and 6 months old.
First prize of £20 to Her Majesty the Queen, Prince Consort's Norfolk Farm, Windsor.
Second of £15 to J. Ford, Rushton, Blandford.
Third of £10 to W. Taylor, Glyndleigh, Eastbourne.
Reserved.—C. MacNiven, Perryfield, Oxted.
The class generally commended.

Steers, not exceeding 3 years and 3 months old.
First prize of £30 to Her Majesty the Queen.
Second of £20 to T. L. Senior, Broughton, Aylesbury.
Third of £10 to W. Taylor.
Reserved and highly commended.—J. Jackman, Hexworthy, Launceston.
The class generally commended.

Steers or Oxen, above 3 years and 3 months old.
First prize of £30 to T. L. Senior.
Second of £20 to W. Coate, Hammoon, Blandford.
Third of £10 to T. Bond, Huntworth, Bridgwater.
Reserved and highly commended.—J. H. Buller, Crediton.
Commended.—S. R. Jeffreys, Bath; J. Overman, Buriham, Sutton.

Heifers, not exceeding 4 years old.
First prize of £25 to J. H. Buller.
Second of £15 to T. L. Senior.
Third of £10 to J. A. Smith, Bradford Peverell, Dorchester.
Reserved and commended.—W. M. Gibbs, Bishop's Lydeard, Taunton.

Cows, above 4 years old.
First prize of £25 to J. Kent, Whyke, Chichester.
Second of £15 to W. Taylor.
Third of £10 to W. Farthing, Stowey Court, Bridgwater.
Reserved and highly commended.—W. M. Gibbs.
Commended.—T. B. Powlesland, Stockley, Crediton.

HEREFORDS.

Steers, not exceeding 2 years and 6 months old.
First prize of £20 to W. Heath, Norwich.
Second of £15 to J. Ford, Rushton, Blandford.
Third of £10 to Her Majesty the Queen, Prince Consort's Flemish Farm, Windsor.

Steers, not exceeding 3 years and 3 months old.
First prize of £30 to Earl of Darnley, Cobham.
Second of £20 to Her Majesty the Queen.
Third of £10 to J. Ford.
Reserved and highly commended.—J. Price, Penbridge.
Commended.—A. Pike, Mitton, Tewkesbury.

Steers or Oxen, above 3 years and 3 months old.
First prize of £30 to T. L. Senior.
Second of £20 to W. Heath.
Third of £10 to R. Wortley, Sulfield, Aylsham.
Reserved and highly commended.—W. T. and T. Franklin, Asect.
The class generally commended.

Heifers, not exceeding 4 years old.

First prize of £25 to J. W. James, Dorset.

Second of £15 to W. Heath, Norwich.

Third of £10 to T. Jones, Shrewsbury.

Reserved and commended.—G. Yeld, Twyford, Pembroke.

Cows, above 4 years old.

First prize of £25 to W. B. Percen, South Petherton.

Second of £15 to S. Robinson, Lynhales, Kington.

Third of £10 to T. Rogers, Coxall, Salop.

Reserved and commended.—J. D. Allen, Tisbury, Wilts.

SHORTHORNS.

Steers, not exceeding 2 years and 6 months old.

First prize of £20 to G. Sowerby, Luton, Beds.

Second of £15 to Rev. R. B. Kennard, Marnhull, Blandford.

Third of £10 to T. Latham, Little Wittenham, Abingdon.

Reserved and commended.—J. Walter, M.P., Bearwood, Wokingham.

Steers, not exceeding 3 years and 3 months old.

First prize of £30 to Earl of Zetland, Aske, Richmond, Yorkshire.

Second of £20 to J. Stratton, Alton Priors, Marlborough.

Third of £10 to J. C. Branley, Stixwold Abbey, Horncastle.

Commended.—R. Bruce, Forres; Sir R. C. Musgrave, Bart., Penrith.

Reserved.—R. Bruce.

Steers or Oxen, above 3 years and 3 months old.

First prize of £30 to J. S. But, Kingston, Taunton.

Second of £20 to R. H. Harris, Forres.

Third of £10 to Viscount Emlyn, Carmarthen.

Reserved and highly commended.—J. Stratton, Marlborough.

Commended.—R. Wright, Ilabertoft; Earl Spencer, Northampton.

Heifers, not exceeding 4 years old.

First prize of £25 to J. Walter.

Second of £15 to J. Bruce, Burnside, Fochabers.

Third of £10 to Lord Tredegar, Newport.

Reserved and highly commended.—J. Stratton.

Commended.—The Prince of Wales; O. Vivcash, Strensham, Tewkesbury.

Cows, above 4 years old.

First prize of £25 to J. Walter.

Second of £15 to T. Philpott, Linton.

Third of £10 to W. Torr, Aylesby, Lincoln.

Reserved and commended.—O. Vivcash.

SUSSEX.

Steers, not exceeding 2 years and 6 months old.

First prize of £20 to G. C. Coote, Tortington, Arundel.

Second of £10 to E. and A. Stamford, Ashurst, Sussex.

Reserved and Commended.—J. and A. Heasman, Angmering.

Steers, not exceeding 3 years and 3 months old.

First prize of £20 to J. Shoesmith, Berwick, Sussex.

Second of £10 to G. C. C. Gibson, Sandgate, Pulborough.

Third of £5 to E. and A. Stanford.

Reserved and highly commended.—J. Napper, Horsham.

The class generally commended.

Steers or Oxen, above 3 years and 3 months old.

First prize of £25 to L. Steere, Dorking.

Second of £15 to C. Selmes, Cadborough, Sussex.

Third of £10 to J. S. Oxley, Turner's Hill, Sussex.
Reserved and highly commended.—L. Huth, Waldron.
The class generally commended.

Heifers, not exceeding 4 years old.

First prize of £20 to Col. Barttelot, M.P., Pulborough.

Second of £15 to J. Turvill, Alton.

Third of £5 to L. Huth.

Reserved and highly commended.—L. Steere.

Cows, above 4 years old.

First prize of £20 to Mrs. Mary Coote, Climping, Littlehampton.

Second of £15 to G. C. Coote, Tortington, Arundel.

Third of £5 to J. Sharpe, Buxted, Sussex.

NORFOLK OR SUFFOLK POLLED.

Steers or Oxen, of any age.

First prize of £15 to E. Cooke, Stalham, Norfolk.

Second of £10 to W. Sewell, North Pickenham, Swaffham.

Reserved and commended.—J. Sewell, North Pickenham, Swaffham.

Heifers or Cows, of any age.

First prize of £15 to the Prince of Wales, Sandringham (Duchess).

Second of £10 to J. S. Postle, Smallburgh, Norfolk.

SCOTCH HIGHLANDERS.

Steers or Oxen, of any age.

First prize of £30 to Sir W. G. G. Cumming, Bart., Forres.

Second of £15 to C. Morrison, Pangbourne.

Reserved and commended.—Duke of Roxburgh, Kelso.

Heifers or Cows, of any age.

First prize of £15 to W. B. Dewhurst, Brungerley, Clitheroe.

Second of £10 to Sir W. C. Trevelyan, Bart., Walington.

OTHER SCOTCH-HORNS.

Steers or Oxen, of any age.

The prize of £10 to G. and J. G. Smith, Ballindalloch, Banff.

Reserved and commended.—J. and W. Martin, Aberdeen.

Heifers or Cows, of any age.

[No entry.]

SCOTCH-POLLED.

Steers or Oxen, of any age.

First prize of £30 to W. McCombie, M.P., Tillyfour.

Second of £15 to A. Longmore, Rettie, Banff.

Heifers not exceeding 4 years old.

First prize of £15 to Sir W. C. Trevelyan, Bart.

Cows, above 4 years old.

The prize of £15 to W. McCombie.

Reserved and commended.—Duke of Grafton, Thetford.

IRISH.

Steers or Oxen, of any age.

First prize of £15 to J. S. Postle.

Second of £10 to T. B. Cowell, Somerleyton, Lowestoft.

Reserved and commended.—W. Dayns, Dilham, Norfolk.

WELSH.

Steers or Oxen (Runts), of any age.

First prize of £20 to J. Stanford, Edenbridge.

Second of £10 to Rev. H. Williams, Abercoteley, Carmarthen.

Reserved and commended.—B. E. Bennett, Market Harborough.

Heifers or Cows, of any age.

[No merit.]

CROSS OR MIXED-BRED.

Steers, not exceeding 3 years old.

First prize of £25 to J. and W. Martin, Aberdeen.
Second of £15 to J. D. Allen, Tisbury, Salisbury.

Steers or Oxen, above 3 years old.

First prize of £25 to W. Brown, Linkwood, Elgin.
Second of £15 to J. Bruce, Longside, Aberdeen.
Third of £10 to G. Shand, Boyndie, Banff.
Fourth of £5 to J. Overman, Burnham.
Reserved and highly commended.—W. Scott, Glendronach, Aberdeen.
Commended.—G. Napper, Orford, Horsham.

Heifers, not exceeding 4 years old.

First prize of £20 to J. Reid, Greystone, Alford, N.B.
Second of £10 to W. Brown.
Reserved and highly commended.—Earl Cadwor.

S H E E P .

LEICESTERS.

Wethers, 1 year old (under 23 months)

First prize of £20 to C. J. Bradshaw, Oakham.
Second of £15 to W. Brown, Holme or Spalding Moor.
Third of £5 to L. Willmore, Leicester.
Reserved and commended.—W. Robinson, Haynes, Bedford.

Ewes, above 3 years old.

First prize of £10 to F. J. S. Foljambe, Osberton Hall, Worksop.
Second of £5 to C. J. Bradshaw.

COTSWOLDS.

Wethers, 1 year old (under 23 months).

First prize of £20 to Z. W. Stilgoe, Adderbury.
Second of £15 to T. Mace, Northleach.
Third of £5 to J. Baldwin, Luddington.

Ewes, above 3 years old.

First prize of £10 to T. and S. G. Gillett, Farrington.
Second of £5 to T. Mace.
Reserved and Commended.—Mrs. M. Godwin, Somerton, Deddington.

LINCOLNS.

Wethers, 1 year old (under 23 months).

First prize of £20 to W. Swallow, Barton-on-Humber.
Second of £15 to J. Pears, Mere Branston.
Third of £5 to C. Lister, Lincoln.
Reserved and Commended.—T. Gunnell, Milton Cambs.

Ewes, above 3 years old.

First prize of £10 to J. Byron, Sleaford.
Second of £5 to Messrs. H. Dudding, Wragby.
Reserved and commended.—J. J. Clark, Welton-le-Wold, Louth.

KENTISH OR ROMNEY-MARSH.

Wethers, 1 year old (under 23 months).

First prize of £20 to H. Page, Waimar.
Second of £15 to B. W. Fassell, Hode, Canterbury.
Third of £5 to W. de Chair Baker, Canterbury.
Reserved and commended.—W. Burch, Selling, Faversham.

Ewes, above 3 years old.

First prize of £10 to W. de Chair Baker.
Second of £5 to H. Rigden, Lyminge, Kent.
Reserved and commended.—F. Murton, Smeeth.

CROSS-BRED LONG-WOOLS.

Wethers, 1 year old (under 23 months).

First prize of £15 to T. W. D. Harris, Wooton.
Second of £10 to W. Robinson, Haynes, Bedford.
Reserved and commended.—J. Newman, Harrowden.

SOUTH-DOWNS.

Wethers, 1 year old (under 23 months).

First prize of £20 to Lord Walsingham, Thetford.

Second of £10 to Duke of Richmond, Goodwood.

Third of £5 to J. Colman, Norwich.

Reserved and commended.—W. Rigden, Brighton.
Commended.—F. J. S. Foljambe, Worksop.

Wethers, 1 year old (under 23 months), each sheep not to exceed 200lbs. live weight.

First prize of £15 to Lord Sondes, Elmham.
Second of £10 to W. Rigden.
Third of £5 to F. J. S. Foljambe.
Reserved and highly commended.—Lord Walsingham.
Commended.—Duke of Richmond; J. Overman, Burnham.

Wethers, 2 years old (above 23 and under 35 months).

First prize of £15 to Lord Londres, Elmham.
Second of £10 to Duke of Richmond, Goodwood.
Reserved and highly commended.—J. Overman, Burnham, Norfolk.
Commended.—The Prince of Wales, Sandringham.

Ewes, above 3 years old.

First prize of £10 to Duke of Richmond.
Second of £5 to Executors of the late H. D. Barclay, Leatherhead.
Reserved and commended.—The Prince of Wales.

HAMPSHIRE OR WILTSHIRE-DOWNS.

Wethers, 1 year old (under 23 months).

First prize of £20 to A. Morrison, Tisbury, Wilts.
Second of £15 to T. Dodd, Wallingford.
Third of £5 to R. and J. Russell, Horton Kirby, Dartford.
Reserved and Commended.—G. Read, Charford, Salisbury.

Ewes, above 3 years old.

First prize of £10 to J. E. Rawlence, Uxford, Wilton.
Second of £5 to J. Rawlence, Bulbridge, Wilton.
Reserved and commended.—J. A. and T. Palmer, Cliddesden, Hants.

SHROPSHIRE.

Wethers, 1 year old (under 23 months).

First prize of £20 to Lord Chesham, Latimer, Chesham.
Second of £10 to G. Cooke, Linton, Cambs.
Third of £5 to J. E. Farmer, Ludlow.
Reserved and commended.—T. Nock, Shifnal.
Wethers, 2 years old (above 23 and under 35 months).
First prize of £15 to Mrs. Sarah Beach, Brewood, Penkridge.
Second of £5 to Lord Chesham.
Ewes, above 3 years old.
First prize of £10 to J. Coxon, Lichfield.
Second of £5 to T. Nock.

OXFORDSHIRES.

Wethers, 1 year old (under 23 months).

First prize of £20 to Duke of Marlborough, Woodstock.
Second of £15 to S. Druce, Eynsham.
Third of £5 to J. and F. Howard, Bedford.
Reserved and commended.—Z. W. Stilgoe, Adderbury.
Ewes, above 3 years old.
First prize of £10 to Duke of Marlborough.
Second of £5 to C. Howard, Biddenham.
Reserved and commended.—S. Druce.

RYELANDS, CHEVIOTS AND DORSETS.

Wethers of any other pure breed, not specified in any of the foregoing divisions, of any age.

First prize of £20 to H. Farthing, Nether Stowey, Bridgwater.
Second of £10 to J. Smith, Hasketon.
Third of £5 to J. McGill, Ratchell, Dumfries.

MOUNTAINS (NOT BEING CHEVIOTS).

Wethers, White-faced, of any age.

First prize of £15 to W. A. H. Smith, Whimple.

Second of £10 to W. Smith.

Reserved and commended.—J. Tapp, South Molton.

Wethers, Black-faced or Speckled-faced, of any age.

First prize of £15 to J. M'Gill.

Second of £10 to Duke of Roxburgh.

Reserved.—J. and W. Martin.

CROSS-BRED LONG AND SHORT-WOOLS.

Wethers, 1 year old (under 23 months).

First prize of £20 to C. Crawshay, Hingham, Attleborough.

Second of £15 to J. Overman.

Third of £10 to S. F. Buxton, Ware.

Fourth of £5 to H. S. Waller, Farmington, North-leach.

Highly commended.—G. Hine, jun., Oakley, Bedford; F. Street, Harrowden.

Commended.—Sir W. G. G. Cumming, Bart.

Reserved.—F. Street.

P I G S .

Any White breed, not exceeding 9 months old.

First prize of £10 to W. H. Dunn, Standen Manor, Hungerford.

Second of £5 to E. C. Tisdall, West Farm, Epsom, Surrey.

Highly commended.—The Duchess of Marlborough.

The class commended.

Any White breed, above 9 and not exceeding 12 months old.

Prize of £10 to H.R.H. the Prince of Wales, Sandringham, King's Lynn, Norfolk.

Any White breed, above 12 and not exceeding 18 months old.

First prize of £10 to R. E. Duckering, Northrop, Kirton Lindsey, Lincoln.

Second of £5 to Her Majesty the Queen, the Prince Consort's Shaw Farm, Windsor.

Any Black breed, not exceeding 9 months old.

First prize of £10 to E. Wilson, Hayes Place Farm, Beckenham, Kent.

Second of £5 to H. Denis de Vitre, Charlton House, Wantage, Berks.

Any Black breed, above 9 and not exceeding 12 months old.

First prize of £10 to A. Benjafield, The Poplars, Stalbridge, Blandford, Dorset.

Second of £5 to J. Coate, Hammoon, Blandford, Dorset.

Any Black breed, above 12 and not exceeding 18 months old.

First prize of £10 to C. McNiven, Perrysfield, Oxford, Godstone, Surrey.

Second of £5 to J. Coate, Hammoon, Blandford, Dorset.

Any other breed, not exceeding 9 months old.

First prize of £10 to J. Biggs, Cublington, Leighton Buzzard, Beds.

Second of £5 to Marquis of Ailesbury, Home Farm, Savernake Forest, Marlborough, Wilts.

Any other breed, above 9 and not exceeding 12 months old.

First prize of £10 to Marquis of Ailesbury, Home Farm, Savernake Forest, Marlborough, Wilts.

Second of £5 to J. Biggs, Cublington, Leighton Buzzard, Beds.

Any other breed, above 12 and not exceeding 18 months old.

First prize of £10 to H. A. Brassey, M.P., Preston Hall, Aylesford, Kent.

Second of £5 to Marquis of Ailesbury.

Silver Cup, value £5, for best Single Pig, to C. McNiven, Perrysfield, Godstone.

EXTRA STOCK .

Steer or Ox.—£20 and Silver Medal to Sir W. de Capell Brooke, Bart., Kettering.

Highly commended.—W. Heath, Norfolk; D. Walker, Norwich; J. Overman, Burnham.

Commended.—J. Tingey, Attleborough.

Reserved.—W. Heath.

Heifer or Cow.—£20 and Silver Medal to J. Upson, Rivenhall, Essex.

Highly commended.—E. S. Hardinge, Chiddingstone, Kent.

Wether Sheep of the Leicester, Cotswold, Lincoln, Kentish, or other long-woolled breed.—Silver Cup, value £5, to J. Byron, Kirkby Green, Sleaford.

Reserved and commended.—J. Newman, Harrowden.

Wether Sheep of the Shropshire, Oxfordshire, Cross-bred, or any other breed of Sheep not specified.—Silver Cup, value £5, to C. Crawshay, Hingham, Attleborough.

Reserved and highly commended.—S. Druce, Eynsham.

Highly commended.—H. Farthing, Nether Stowey, Bridgwater; J. Overman, Burnham.

Commended.—G. W. Homer, Dorchester.

C U P S .

For the best Steer or Ox in any of the classes.—Silver Cup, value £40, to J. S. Bull, Kingston, Taunton.

For the best Heifer or Cow in any of the classes.—Silver Cup, value £40, to J. Walter, M.P., Bearwood, Wokingham.

For the best pen of Leicesters, Cotswolds, Lincoln, Kentish, or other long-woolled breed, in any of the classes.—Silver Cup, value £20, to J. Byron, Kirkby Green, Sleaford. Reserved: F. J. S. Foljambe.

For the best pen of one year old Southdowns, Hampshire, or Wiltshire-downs.—Silver Cup, value £20, to Lord Walsingham, Thetford. Reserved: Duke of Richmond.

For the best pen of one year old Shropshire, Oxfordshire, Cross-bred, or any other breed of sheep (not specified in the prize list) in any of the classes.—Silver Cup, value £20, to Duke of Marlborough, Woodstock. Reserved: Lord Chesham, Latimer.

For the best pen of Pigs, in any of the classes.—Silver Cup, value £20, to C. McNiven, Perrysfield, Godstone, Surrey.

CHAMPION PLATE, value £100, for the best Beast in show, to John Walter, M.P., Bearwood, Wokingham, Berks (Lady Flora).

Reserved: J. S. Bull, Kingston, Taunton.

CHAMPION PLATE, value £50, for the best pen of Sheep in the show, to Lord Walsingham, Merton Hall, Thetford, Norfolk.

Reserved: Duke of Marlborough, Woodstock.

LIVE WEIGHTS OF CATTLE AND SHEEP.

[The numbers omitted are those of entries not sent. The numbers marked thus * are winners of first prizes. The best beast in the yard is the Shorthorn Heifer, 125; the best Ox or Steer the Shorthorn Ox, 115; and the best pen of Sheep the Southdowns, 309.]

CATTLE.

DEVONS.			<i>(Herefords continued.)</i>		
YOUNG STEERS.			OXEN.		
No.	WEIGHT.		No.	WEIGHT.	
	cwt.	qrs. lbs.		cwt.	qrs. lbs.
1	12	0 9	58	16	2 12
2	10	2 2	59	20	2 22
3	12	1 23	60	17	0 6
4	13	1 8	61	18	0 22
5	11	1 20	62	19	1 12
6	11	3 2	63	20	0 3
*7	11	2 8	64	18	1 17
8	10	0 8	65	19	0 11
9	10	1 25	66	22	2 18
10	12	3 22	67	20	1 27
	STEERS.		68	17	3 8
11	13	1 32	69	18	1 0
*12	13	3 9	70	18	2 24
13	14	0 16	71	21	2 5
14	13	0 11		HEIFERS.	
15	13	1 7	*72	14	1 25
16	11	2 18	73	17	3 10
17	14	2 8	74	18	1 11
18	13	2 16	75	15	2 12
19	14	3 16		Cows.	
20	12	3 23	76	17	2 16
21	12	1 14	77	15	1 9
22	13	1 2	*78	16	0 12
	OXEN.		79	15	2 8
24	15	3 22	80	15	0 1
25	20	0 15		SHORTHORNS.	
26	15	2 27		YOUNG STEERS.	
*27	14	2 0	81	15	0 8
28	14	3 16	82	14	3 22
29	14	1 24	83	15	3 8
30	14	0 2	84	14	1 24
31	15	2 24	85	14	3 20
32	16	2 18	86	16	2 16
	HEIFERS.		*87	16	3 11
33	13	3 8	89	16	3 9
*34	14	0 6	89A	13	3 7
35	12	2 27		STEERS.	
36	10	2 14	90	19	2 20
37	11	2 12	91	20	1 26
	Cows.		92	19	0 26
38	14	2 24	93	16	3 23
39	11	3 14	95	15	3 0
40	14	0 25	96	16	3 24
*41	12	2 25	*97	18	2 7
42	13	3 22	98	15	3 21
43	11	3 12	99	17	1 8
44	15	1 0		OXEN.	
45	17	0 12	101	18	2 16
46	13	0 12	102	18	2 6
	HEREFORDS.		103	19	2 24
	YOUNG STEERS.		104	19	3 6
47	11	2 24	105	21	1 8
*48	15	3 11	106	20	0 16
49	17	0 2	107	21	3 1
	STEERS.		108	21	0 25
50	19	1 22	110	18	1 0
51	16	3 18	111	17	1 1
*52	18	3 10	112	19	3 9
53	15	3 15	113	21	2 26
55	16	2 14	114	20	0 12
56	15	1 0	*115	21	0 2

(Shorthorns continued.)

OXEN.		
No.	WEIGHT.	
	cwt.	qrs. lbs.
116	20	2 15
117	21	0 2
118	18	3 14
119	19	1 23
120	21	0 23
121	22	0 21
122	17	3 22
	HEIFERS.	
124	17	3 26
*125	18	0 0
126	16	3 1
127	16	3 26
128	17	2 0
129	20	1 6
130	16	0 26
131	16	3 24
132	14	1 2
133	17	2 6
134	16	0 25
135	15	1 3
	Cows.	
136	16	1 21
137	16	2 18
*138	16	1 24
139	15	1 24
140	19	1 3
141	19	1 15
142	17	1 17
143	17	0 27
144	17	1 26
145	17	2 5
	SUSSEX.	
	YOUNG STEERS.	
*116	12	3 20
148	11	3 22
149	12	3 14
	STEERS.	
150	15	2 24
*151	17	0 20
152	15	1 20
153	18	1 11
154	15	2 8
155	15	1 0
156	18	1 14
158	16	2 12
	OXEN.	
159	21	2 4
160	20	3 20
161	17	2 22
162	20	1 7
163	18	3 12
164	18	1 21
165	20	0 5
166	17	0 23
167	18	3 25
168	18	3 16
*169	22	1 24
	HEIFERS.	
170	17	1 19
*171	13	2 20
172	14	0 5
173	16	2 26
174	14	1 11
175	15	3 0
	Cows.	
176	14	2 14
177	16	1 4
178	18	1 17

NORFOLK or SUFFOLK POLLED.

No.	WEIGHT.	
	cwt.	qrs. lbs.
179	17	0 14
180	15	2 26
*181	14	2 15
182	20	0 7
	HEIFERS OF COWS.	
*183	15	0 0
184	19	1 24
	SCOTCH HIGHLAND.	
	STEERS or OXEN.	
186	18	1 22
*187	17	2 5
189	20	3 26
	HEIFERS OF COWS.	
190	12	1 10
*191	14	1 3
192	15	1 19
193	18	0 0
194	17	2 21
	SCOTCH POLLS.	
	STEERS or OXEN.	
*195	22	1 22
197	20	2 6
	HEIFERS.	
*199	18	0 27
	Cows.	
200	16	0 8
*201	15	0 18
	IRISH.	
	STEERS or OXEN.	
*202	17	1 8
203	16	2 27
204	17	3 0
205	22	2 10
	HEIFERS OF COWS.	
*206	12	1 20
207	15	2 20
	WELSH.	
208	19	2 10
209	15	1 26
210	16	3 23
*211	21	2 8
212	18	2 4
	HEIFERS or Cows.	
213	11	3 20
	CROSS or MIXED-BRED.	
	STEERS.	
214	15	0 3
*215	17	3 12
	OXEN.	
216	17	0 21
217	22	3 10
218	23	0 18
219	22	3 26
220	17	2 10
221	18	0 0
222	21	1 25
223	21	1 21
*224	23	1 5
225	22	2 20
226	24	1 22
227	24	3 11
	HEIFERS.	
228	16	2 14
229	18	2 12
230	15	2 27
231	17	0 19
232	13	2 1

EXTRA STOCK.

No.	WEIGHT.
	cwt. qrs. lbs.
233	18 1 24
234	18 2 22
235	16 3 20
236	22 0 27
237	19 2 20
238	18 1 9
239	16 3 18
240	20 0 17
241	22 0 0

S H E E P.

LEICESTERS.

WETHERS.

No.	WEIGHT.
	cwt. qrs. lbs.
250	5 1 17
251	5 0 0
252	7 1 5
*253	5 3 20
EWES.	
255	6 1 23
256	5 1 25
*258	6 0 20

COTSWOLDS.

WETHERS.

No.	WEIGHT.
	cwt. qrs. lbs.
259	6 2 13
260	7 2 25
*261	8 0 14
COTSWOLD EWES.	
*262	7 3 4
263	6 2 24
264	7 2 14
265	7 3 20

LINCOLNS.

WETHERS.

No.	WEIGHT.
	cwt. qrs. lbs.
266	7 2 26
267	8 1 7
*268	7 3 0
269	8 0 21
EWES.	
271	9 2 9
272	7 2 22
273	7 3 11
*275	9 1 14

KENTISH OR ROMNEY

MARSH.

WETHERS.

No.	WEIGHT.
	cwt. qrs. lbs.
276	6 0 0
278	7 0 15
279	6 2 9
280	6 3 5
281	6 2 9
282	6 1 13
*283	7 2 9
EWES.	
284	6 2 14
285	5 3 12
*286	7 0 5

CROSSBRED LONG-

WOOLS.

No.	WEIGHT.
	cwt. qrs. lbs.
287	7 0 12
*288	7 1 2
289	6 2 16
290	7 3 6
291	5 3 15

EXTRA STOCK.

(1st Division.)

No.	WEIGHT.
	cwt. qrs. lbs.
292	1 2 27
293	2 0 4
294	2 1 1

(Extra Stock continued.)

No.	WEIGHT.
	cwt. qrs. lbs.
242	18 0 24
243	19 3 5
244	24 2 14
245	21 2 8

HEIFERS OR COWS.

246	17 1 3
*247	19 3 14
249	14 3 22

(Extra Stock continued.)

(1st Division.)

No.	WEIGHT.
	cwt. qrs. lbs.
295	2 1 10
296	2 0 8
297	2 2 3
298	1 3 25
300	2 1 6
301	1 2 24
303	2 2 8
*304	3 2 20

SOUTH-DOWNS.

One year old.

No.	WEIGHT.
	cwt. qrs. lbs.
305	5 2 14
306	5 1 3
307	5 3 6
308	6 1 15
*309	5 3 0
310	6 1 0
311	5 3 9
312	5 3 4
313	5 2 16
315	6 0 19
316	5 2 2
317	5 3 14
318	5 0 21
319	5 2 17

Light Weights.

320	4 2 23
321	4 2 23
322	5 0 3
323	4 3 26
324	5 0 21
325	4 2 9
*326	5 0 2
327	4 3 10
328	5 0 1
329	5 0 27
330	4 3 21

Two years old.

331	6 0 20
332	6 1 16
333	6 3 12
334	5 2 11
335	6 2 2
336	6 0 24
*337	6 1 16

Three years old.

338	5 2 6
*339	6 0 16
340	4 3 17
341	5 1 3
342	4 1 16

HAMPSHIRE OR WILT-

SHIRES.

One year old.

*343	7 1 8
344	7 1 25

(Hampshires or Wiltshires continued.)

One year old.

No.	WEIGHT.
	cwt. qrs. lbs.
345	7 0 9
346	7 1 18
347	7 1 7
348	6 2 18
349	6 2 8
Three years old.	
350	6 2 4
351	6 1 16
352	7 2 18
353	6 2 2
*354	6 3 7
355	5 3 9

EXTRA STOCK.

(2nd Division.)

356	1 2 6
358	2 0 0
359	2 0 15
360	1 3 3
*361	1 3 8
362	2 0 17
363	2 0 25
364	2 1 17
365	1 3 15
367	1 3 5
368	2 0 0
369	2 0 16
370	1 3 14
371	2 0 12
372	1 3 2

SHROPSHIRE.

One year old.

*373	7 0 10
374	6 2 15
375	5 3 8
376	6 0 4
377	5 2 6
378	5 3 1

Two years old.

379	7 2 8
*381	8 0 13

EWES.

*382	7 2 0
383	6 3 10

OXFORDSHIRES.

WETHERS.

384	7 3 3
385	6 3 5
387	7 3 2
*388	8 1 0
389	7 2 12
390	7 1 14

(Oxfordshires continued.)

EWES.

No.	WEIGHT.
	cwt. qrs. lbs.
391	6 3 2
392	8 3 18
393	7 1 18
*394	8 0 4
395	7 0 19

RYELAND, CHEVIOT,

DORSET, &c.

396	5 3 16
*397	6 1 8
398	7 2 24

MOUNTAIN SHEEP.

WHITE-FACED.

399	4 2 0
*400	4 3 20
401	5 3 4

BLACK-FACED.

*402	4 2 14
403	5 2 0
404	5 2 14

CROSSBRED.

LONG AND SHORT WOOLS.

*405	7 3 12
406	7 2 10
407	7 0 5
408	7 0 20
409	8 1 2
410	6 3 1
411	7 0 10
412	7 1 20
413	7 0 12
414	7 1 2

EXTRA STOCK.

(3rd Division.)

416	1 2 2
*417	2 3 8
418	2 2 2
419	1 3 0
420	2 0 14
421	2 0 16
422	2 3 12
424	2 2 6
425	2 2 15
426	2 3 6
427	2 0 12
428	2 2 8
429	2 0 15
430	2 0 24
432	2 2 7
433	2 2 0
434	1 3 6
435	2 2 9
436	2 2 16
437	2 1 17

THE IMPLEMENT STANDS.

Year by year as the interest of the food production for man and beast progresses, so do the agricultural engineers and implement makers increase their efforts to supply the farmers with improved tools, implements, and engines. If the live stock are attractive to the general public, no less so are implements of any kind to the agriculturist, whether they are simplified or rendered more effective, cheapened or enhanced in price. What with the high price of money and labour, fuel and materials, the implement makers and machinists have had many difficulties to contend with during the last few months, and

we notice numerous changes in the styles of many of the small, but well-known, firms. Although the available exhibition space in the Hall is necessarily limited, yet not to be seen there would be a decided retrogression, and hence no effort is left unturned to secure space, and to exhibit some few of their best leading machines and implements. The bulky steam engines and steam ploughing tackle, thrashing machines, and such like are located, as usual, on the ground floor, and to these we shall first direct attention in a brief synopsis, taking the exhibiting firms in the alphabetical order in which they appear in the catalogue, and endeavour to point out the specialities which each firm shows.

THE GROUND-FLOOR.

Alexander and Hoskin, of Cirencester, had an improved horizontal high-pressure stationary engine, and a portable steam engine of simple construction in the working parts, combined with proportionate strength, and their annular water-heater and wind collector for boilers, which supplies them with hot water without using the exhaust steam, which not only injures the draught but increases the corrosion of the boilers.

Ashby, Jeffery, and Luke, of Stamford, had a good display of wrought-iron frame chaffcutters for hand and steam power, which are not liable to fracture, like those made of cast-iron; the foot lever for stopping and reversing the roller, in case the man should get his hand caught, has secured several prizes. They also had improved solid-axle haymakers and horse rakes, and a well-finished 20-horse power portable engine.

Aveling and Porter, Rochester, had two of their road locomotive engines and waggons, intended for heavy hauling work upon ordinary roads at low speeds.

Barrows and Stewart, Banbury, had a set of their well-known thrashing machinery, consisting of six-horse power portable steam engine and a four-feet six-inch drum thrashing and finishing machine; the latter embraces many improvements, among which is a contrivance for thrashing beans without an extra drum.

The Beverley Iron and Waggon Company, Limited, had several excellent carts, strong spring luries and waggons, liquid manure distributor and water cart, an improved cattle cart, and single-roller bone mill, and clod crushers.

Brown and May, of Devizes, had one of their neat eight-horse power engines.

C. Burrell, of Thetford, also had an eight-horse power traction engine mounted on springs.

Clayton and Shuttleworth, Lincoln, had a twenty horse power fixed engine with a double-blast thrashing machine with Wilder's patent self-acting feeder, an eight-horse portable engine, an improved stacking machine. When used for stacking hay or corn, the stacker can be driven by an ordinary one-horse gear, or by a portable steam engine. Also a grinding mill.

W. Crosskill and Sons, Beverley, had a good many useful one-horse carts, including an improved cattle cart, a liquid manure cart, a pair-horse waggon, and their self-cleansing clod crusher.

Davey, Paxman, and Co., Colechester, showed two of their vertical engines and boilers, which have been selected for use at the International Exhibition, Kensington, the last three years for their thorough efficiency and saving of fuel.

W. S. Eddington and Co., Chelmsford, had one of their standard eight-horse portable engines in which some important improvements have been made.

Wm. Foster and Co., of Lincoln, had a portable engine on show.

John Fowler and Co., Leeds, exhibited some of their steam cultivating machinery on two different systems, the double-engine and roundabout.

The double-engine system is represented by a 16-horse power single-cylinder engine, constructed exclusively of malleable cast-iron, wrought-iron, and steel—no common cast-iron being employed. This renders the engine very light in weight, but remarkably strong. The set of roundabout tackle consists of a new patent windlass, mounted on four wrought-iron road wheels. The drums are mounted horizontally, and are fitted with Fowler's patent self-acting coiling gear. This ensures the rope being correctly coiled, and also paid out at any angle required, without passing round any pulleys. The anchors are constructed so as to keep themselves back or pull themselves forward, as the nature of the field or the work may require. They are made entirely of iron, but can be constructed of wood at a lower cost. Messrs. Fowler claim for this tackle that the rope requires less bending (as it only passes over three pulleys) and that the tackle requires much less fixing than is the case in any other system. It can be worked by two men, but it is recommended that two extra boys attend to the anchors. The material and workmanship are first-class throughout. Another novelty exhibited is a new patent balance steam plough, combining a rigid frame with an adjustment for the width of the furrows. This is an essential point in steam cultivating implements. The skifes are thrown off the line of draught by means of wedges. This throws the frame at a greater or less angle with the work that is to be done, and enables the furrows to be adjusted from 8 to 11 inches. Messrs. Fowler also exhibited one of their well-known six-horse power traction engines, fitted exclusively with steel gearing, and a number of patent double-furrow horse ploughs, for light and heavy land.

R. Garrett and Sons, Suffolk, made a good display of portable steam engines, thrashing machines, and corn-drills. The thrashing machines are all on fixed springs of the same length, have but a single fan or blower, and are on a truss frame. The engines are fitted with the patent fuel-economising water-heater.

Holmes and Son, Norwich, had a portable finishing, thrashing machine to cleanse and bag the chaff, a clover and seed sheller, second-prize corn and seed drills, and a manure distributor.

R. Hornsby and Sons, Grantham, besides their well-known reapers, showed several single and double furrow ploughs, with patent radial breasts and shares, and other great improvements, a 10-horse power double-cylinder portable engine, suitable for steam cultivation, contractors' or builders' purposes. Their spring-balance self-raker is a manifest improvement, the whole vehicle being hung on springs, thus securing both for the driver and his conveyance more perfect immunity from vibration and concussion. It is claimed for it that in consequence of its lightness, simplicity, and perfection of principle, a really first-class machine can now be constructed at a cheaper rate than has before been possible, so that whilst its important improvements distinguish it as the most efficient in the trade, its price puts it within the reach of every farmer.

J. and F. Howard, Bedford, exhibited a model of one of their new sets of steam cultivating apparatus, comprising a self-moving engine, self-coiling windlass, self-moving anchors, and self-lifting cultivator. Two men and two boys are sufficient to work this. There were also a variety of harrows, several single ploughs, and the Union double plough, a neat, handy implement, fitted with a drop wheel for lifting it out of work at lands' end, and a steering which controls the two front wheels. Among the harvesting machines shown were the well known International and European reapers, a new mowing machine, hay-making machine, and a very effective self-acting horse rake.

P. and H. P. Gibbons, Wantage, had an 8-horse power steam engine and a thrashing machine.

Hempsted and Co. (Limited), Grantham, had a thrashing machine, and some wrought-iron cranks made out of round bars.

Edward Humphries, Pershore, had a good servicable 8-horse power portable engine and thrashing machine.

Marshall, Sons, and Co. (Limited), Gainsborough, had on show an 8-horse power engine, with thrashing machine, and a 14-horse power engine.

Nalder and Nalder (Limited), Wantage, had a 6-horse power engine, with a double blast thrashing machine.

Ransomes, Sims, and Head, Ipswich, had some of their portable steam engines and thrashing machines, several wooden and iron double-furrow ploughs, a potato-raising plough with rotary fork, and other machines; but the most noticeable feature was their straw-burning engine (Head and Schiemott's patent). By means of the patent apparatus attached to the engine any description of fuel can be burnt, and consequently steam can now be used as a motive power in countries where vegetable products abound, such as straw, reeds, cotton and muze stalks, sugar-cane refuse, &c., but where coal and wood are not easily obtained except at a very high price. The apparatus for feeding the engine with straw, &c., is self-acting, and driven from the engine by means of a strap. It can easily be disconnected from the boiler and the ordinary fire door substituted in its place, in cases where it may be expedient to burn wood or coal. Steam may be got up with straw as easily as with any other combustible, by attaching a handle to the feeding rollers and turning them by hand instead of steam power. One man only is necessary to feed the straw into the machine, and an engine of his description does not require any more men to superintend it than if coal or wood were used as fuel. The average consumption of straw is about four to five times the weight of that of coal, and, according to experiments made, about ten to twelve sheaves of straw are required to thrash one hundred sheaves of wheat. The consumed straw does not, as might be expected, form a dense glassy slag of the silica and potass or soda contained in it naturally, but falls to the bottom of the ash pan as a dusky flock, which is cleared away by a rake or slice.

Reading Iron Works Company (Limited) had on their stand a nozzle boiler, a rapid, safe, and economical steam generator, a new series of small fixed engines of 4-horse power, an 8-horse power prize engine as shown at Cardiff, a thrashing machine with strong open gear work, a lock horse rake, and other implements.

Robey and Co. (Limited), Lincoln, had an 8-horse power traction engine; an improved portable steam engine, with self-acting governor expansion gear, and a straw elevator, for stacking hay, barley, and wheat.

Ruston, Proctor, and Co., Lincoln, had a 12-horse power portable engine, with steam jacketed cylinder, and a 10-horse power engine, with patent steam-heating apparatus attached, and many important improvements; an improved 6-horse power fixed engine, and a thrashing and finishing dressing machine, with trussed frame.

Tangye, Brothers, and Holman, London, had on show a horizontal high-pressure expansion steam engine; some steam pumping, and other apparatus.

W. Tasker and Sons, Andover, exhibited a combined stacking machine, elevator, and rake, which carried off the £25 prize at Hull; and an 8-horse portable engine, fitted with patent adjustable eccentric and efficient water heater of very good design and finish; a patent combined thrashing machine, with rotary screen, chaff-bagging apparatus, &c., and two of their prize winnowing machines.

E. R. and F. Turner, Ipswich, had on their stand several varieties of their corn and seed-crushing mills, which

gained the medal of merit at Vienna; grinding mills, with French stones, at moderate prices; some portable engines, one of 4-horse power, well-designed, simple, and substantially constructed, with the feed-water heater peculiar to the firm. A double-blast thrashing finishing machine, fitted with adjustable screw; an 8-horse power portable engine, with patent automatic variable expansion apparatus.

Tuxford and Sons, Boston, had a traction engine, mounted on stout springs; a steam cultivating windlass, and improved small portable 1-horse and 2-horse power engines.

W. S. Underhill, Newport, Salop, had some double and single-furrow ploughs, light, strong, and low in price; wrought-iron cultivators, pulverizers, and harrows, and a vertical engine.

Wallis and Steevens, Basingstoke exhibited their sheaf-elevator, which was rewarded at Cambridge and Hull, a thrashing machine, with an 8-horse power engine, fitted with patent water-heater, for saving fuel.

Woods, Cocksedge, and Warner, of Stowmarket, had a good collection of their useful machines, which have an extended home and Continental reputation, among which were a patent combined steam engine and boiler, of 2-horse nominal power, cheap, useful, and strong, which burns any kind of fuel, and any ordinary man on a farm could attend to it; some covered safety horse-gear; and an oilcake breaker, which carried off a high prize recently at the Hague.

THE GALLERIES.

As we have already stated, the less bulky implements and machines are chiefly shown in the galleries, and the various firms endeavour as much as possible to settle year by year in the same locality, so that this may be the more readily found by their customers and friends. We restrict our observations to the implement makers and food suppliers, although there are many exhibiting firms who indirectly aid the farmer. We arrange, as we have already done on the ground-floor, the exhibitors in alphabetical order.

G. Ball, Rugby, had some carts and waggons.

W. Ball and Son, of Rothwell, also exhibited carts and waggons, for the make of which they have a good reputation.

John Baker, of Wisbeach, had some good specimens of corn winnowing, screening, and blowing machines, and a useful corn elevator for stacking grain.

R. S. Baker, of King's Lynn, showed his self-acting Eclipse two-horse rakes, asserted to be strong and light in draught, and not liable to get out of order.

Thos. W. Baker, of Wallingford, had corn-dressing and winnowing machines.

Thos. Baker, of Compton, exhibited liquid manure carts and pumps.

Barford and Perkins, of Peterborough, exhibited their steaming apparatus, land rollers, corn-grinding mill, and models of their elevator and stacking machine, and steam cultivating machinery.

E. H. Bentall, of Maldon, made, as usual, a large and varied display of his chaffcutters, pulpers, and other cattle-food preparing machines.

Robert Boly, of Bury St. Edmund's, showed corn dressing machines, corn screens, and double-action hay-making machines, and horse-rakes.

Bristol Waggon Works Company, Limited, had on their stand four excellent carts and waggons, as samples of their make and prices.

Burgess and Key, of London, showed their patent one-horse reaping machine, with the improvements made in it this year; and their mower which took the gold medal at the Hague; and their self-raker reaper, with and

without driving seat. They also exhibited some new French sheep shears, simple and safe.

Carson and Toone, of Warminster, made a good display of chaffcutters and haymakers.

Coleman and Morton, of Chelmsford, had a varied display.

Corbett and Peede, of Shrewsbury, exhibited a screening and dressing machine.

James Coultas, of Grantham, had some of his useful drills, and a potato-planter, and some horse rakes.

John Davey, of Crothole, St. Germans, showed his patent double and single-furrow ploughs; these worked well in the trial field at Hull, and were awarded prizes.

C. Dening and Co., of Chard, exhibited their chain corn drills.

Dye and Son, of Westerham, had some carts.

J. P. Fison, of Cambridge, had on show some double-furrow and other prize ploughs; and showed Hughes' laid-corn lifter, which can be fitted to reapers.

G. O. Gooday, of Stanstead, showed his patent thatch machine, the principle of which has been frequently noticed in our columns.

H. W. Gower and Son, of Winchfield, had a drill and some other implements.

James Hall and Co., Lincoln, exhibited examples of their corn mills and corn-dressing machines.

Haughton and Thompson, Carlisle, had some horse hay rakes.

Hayes and Sons, Stamford, had some good carts, general purpose waggons, barrows, &c.

H. Hughes, of Market Harborough, showed a working model of his laid-corn lifter, with reapers, &c.

Hunt and Tawell, Halstead, made a good display of root pulpers and strippers, and chaff-cutters, and horse gears.

Kennan and Sons, Dublin, exhibited an implement termed "the Clydone turnip spacer and thinner." The machine consists of a series of hoe blades arranged side by side at convenient distances apart, and connected with guides which rest on the ground, and which are constructed so that as the machine is drawn transversely across the ridges and furrows, a *wave-like* motion is imparted to the hoes, which remove from the tops of each successive ridge portions of the row of plants, leaving tufts standing in the spaces between the hoes.

John Kindle, near Salisbury, showed a prize general-purpose waggon, marked at £25.

J. L. Larkworthy and Co., Worcester, had a number of new sheep troughs and cattle cribs, pulpers, harrows, and scuffle drags.

Le Butt, Bury St. Edmund's, confines himself to corn screes and haymakers.

G. W. Murray, and Co., Banff, showed models of steam ploughs, combined ploughs and subsoilers, and double-furrow plough.

Murton and Turner, Thetford, had some lever horse-hoes and drills.

W. N. Nicholson and Son, of Newark, had a large and varied collection of food-preparing and harvesting implements.

E. Page and Co., Bedford, besides drag harrows, chaff-cutters, and cake mills, had an improved peat-compressing mill, for making peat blocks: and driven by 8-horse power engine, it will produce 55 to 60 tons of peat per day. After being dried about a week in the open air, one ton of peat equals on the average 15 cwt. of best coal.

Penney and Co., Lincoln, had a collection of screens and wire work.

Perkins and Co., Hitchin, had some ploughs, folding shafts for reapers and mowers, drag harrows, and straw elevators.

Picksley, Sims, and Co., Limited, send a fine collection of chaff-cutters, cake mills, and some improvements in their patent balance-standard mowing machine.

The Ravensthorpe Engineering Company showed a model of their patent windlass.

Riches and Watts, Norwich, exhibited a specimen of their grist mills.

The Ravensthorpe Engineering Company, Mirfield, exhibited one of their 8-horse power Chester prize windlasses for steam cultivation, as manufactured for them by David Fiskin; also one of their improved light rope porters, corner anchors, &c.

Riches and Watts, Norwich, exhibited a gathering rake, grist mills, a vertical engine and boiler, and other machines.

E. and H. Roberts, Stoney Stratford, had on show a model of their newly-invented patent folding stacker and elevator, grist mills, chaff cutters, oilcake breakers, and other machines.

Richmond and Chandler, Salford, had a fine collection of their chaff cutters, corn crushers, root-preparing machines, and horse gear.

John G. Rollins and Co., Old Swan Wharf, London Bridge, had a varied assortment of American implements, especially forks and axes.

W. Rainforth and Son, Lincoln, had on show a winnowing machine, corn and other screens, and a sack-lifting barrow.

R. J. Reeves and Son, Westbury, exhibited one or two drills.

Samuelson and Co., Banbury, had a good collection of reaping and mowing machines and turnip cutters. Their Royal self-raking reaper was only brought out this season. They show a set of new corn-lifters in their self-rakers, which are useful in working laid crops, and these can be attached to any machines.

J. N. Sears and Co., London, had some good flour-mill machinery and announce the early introduction of an improved disintegrating middlings purifier. Their Eureka double combined aspirator, separator, and smutter is already well known. They also had a model of an adjustable grain elevator (Keen and Dence's patent) for discharging or transhipping grain or other produce.

W. Smith, Kettering, had some improved grindstones, horse-hoes, and various useful implements.

Smith and Grace, Thrapstone, had some of the cheapest chaffcutters in the show, some mills, pulpers, and oilcake breakers.

James Smyth and Sons, Peasenhall, had some of their well-known drills.

Southwell and Co., Rugeley, made a good display of grist mills, chaffcutters, root pulpers, strippers and slicers, corn crushers, oilcake breakers, cheap horse gear, and an economizer, combined sheep rack and trough.

Vipan and Healdy (late Hunt and Pickering) exhibited some prize ploughs, harrows, cultivators, a stubble and paring plough.

John Whitnee and Co., London, had some wheat-grinding and dressing machines, corn crushers, and mills for preparing grain for cattle.

John Williams, from Rhuddlan, Wales, had some root pulpers, and oilcake breakers.

E. Wilson, Berrymondsey, exhibited a universal disintegrator, or mill for crushing stone, bark, peat, and any other substance.

W. A. Wood, London, showed his popular mowing and reaping machines, which were honoured with the diploma of honour at the Vienna Exhibition this year. They were shown in all the forms of self-delivery reaper, iron mower, combined mower and reapers.

THE ROOT AND SEED SHOW.

If, as we have shown, the tillage, harvesting, culti-

vating, and farmyard implements were represented, the seedsmen and cattle-food providers also came out in strong force; and never was there a finer display of roots and vegetables of all kinds shown, nor were there more cake, confection, and other manufacturers present with their samples. The roots shown were among the most magnificent that we have ever seen, evidencing what care in selection, culture, and manuring can do under favourable circumstances.

Carter, Dunnett, and Beale, Holborn, occupied a large space with the finest samples of roots, vegetables, and seeds. Among the objects worth mention are the immense size and perfect symmetry of their Imperial hardy swede. Some of the London purple top swedes shown weighed between 20 lbs. and 30 lbs.; the turnips and other roots were excellent. The potatoes, parsnips, carrots, onions, &c., were exceedingly fine, while some of the Champion drumhead cabbages were over 70 lbs. in weight.

Dick Radclyffe and Co., of Holborn, had a noble display of cabbages, gourds, seeds, &c.

George Gibbs and Co., of Down-street, Piccadilly, had a famous collection of globe, long, and intermediate mangolds, swedes, kohlrabi, potatoes, carrots, hybrid turnips, &c.

Thomas Gibbs and Co., Half-Moon-street, Piccadilly, also made a fine display of large parsnips, turnips, ox cabbages, seeds, &c.

Hall and Sons, of Westbury Fams, Wilts, have a strong display of roots, including some new varieties of mangold, and swedes of local celebrity.

Harrison and Sons, Leicester, had their globe mangold wurzel Defiance swede and improved green barrel turnip, as well as seeds.

J. K. King, Coggeshall, had some exceedingly fine orange globe wurzel, or mammoth long red wurzels, unrivalled swedes, and white fleshed turnips. Some of the Elvetham long yellow measure 42 inches exclusive of blade, and are well proportioned.

Little and Ballantyne, of Carlisle, represented by the chief partner, W. Baxter Smith, formerly the London agent of Messrs. P. Lawson and Son, had a small stand with roots, seeds, &c. For the latter speciality of choice seeds they have great knowledge and facilities.

Raynbird, Caldecott, and Co., of Basingstoke, had a collection, too, of cereals and seed corn. They showed roots selected more for their quality and symmetrical proportions than for their size. At a time when "laying down to pasture" is a question of great importance to the agricultural interest, from the high price of labour and the increasing demand for stock, the selection of a good assortment of grass seeds which may be depended upon requires judgment and care.

Sutton and Sons, of Reading, made, as they always do, a large and handsome show of noble roots, seeds, and all the articles which they supply so extensively: thus, mangolds, Mammoth, Long Red, and intermediates; Champion swedes, Golden Tankards, rich in saccharine and nitrogen. The onions shown were fine. Their Red-skin Flour-ball and Hundred-fold Fluke potatoes are highly approved, having been proof against the disease.

In feeding-stuffs there was an ample choice presented to the farmer by the well-known firms of J. Beach and Co., Dudley; the Drillind Pure Linsed Cake Company; the Farmers' Supply Association; W. A. Hope, Wellingborough; Milburn and Co.; Shields and Stainsby, Hull, &c. P. C. Matthews, Son, and Co., Drillfield, had their celebrated compounding cake for all stock, which has a large sale, and it may be incidentally mentioned, as showing the rise and progress of the trade in artificial manures, that thirty years ago this firm was the first to commence this important business in the North of England by dissolving bones in an earthen punchoon—so insignificant was then the trade which has now grown into gigantic proportions.

THE ANNUAL MEETING.

This meeting took place on the Tuesday afternoon, at the Agricultural Hall, and the attendance was very large. His Grace the Duke of Richmond, President of the Club, presided.

The minutes of the last meeting having been read, scrutineers were appointed to examine the votes for 8 members of the Council in lieu of the members retiring by rotation, viz.: Mr. T. C. Booth; Mr. John Giblett; Mr. Richard Hornsby; Mr. E. W. Moore; Mr. Henry Overman; Mr. T. L. Senior; Mr. William Taylor; and Mr. J. S. Turner.

The Hon. Secretary (Mr. BRANDRETH GIBBS) then read the following report of the Council:

The Council begs to lay before the general meeting the following report of its proceedings during the past year.

The Council has held three meetings, which have as usual been well attended.

In addition to the ordinary routine business, the following subjects have had the Council's careful consideration.

I. The preparation of the prize-sheet for the present show. The Council resolved to make the following alterations, viz.:

To discontinue the classes for longhorned cattle.

To increase the prizes for Irish and cross-bred cattle, also for Kentish and long and short-woolled cross-bred sheep.

The Council determined to continue for the present show the following special rules, which were in force last year, viz.:

1. That no animal (cattle, sheep, or pigs) exhibited at any other show within one month previous to 5th December, 1873, be allowed to be exhibited at the Smithfield Club's show this year.
2. That each exhibitor be required to certify that any animal to be sent by him for exhibition at the Smithfield Club's show this year has not been, and will not be shown at any other exhibition within one month previous to the 5th December, 1873.
3. That all animals undergo a veterinary examination, previous to being admitted at the doors of the Agricultural Hall, and that suitable covering be constructed over the outer yard, to enable this to be properly carried out.
4. That the exhibitor shall send with each animal a certificate that it has not been, for fourteen days previous to its leaving home for the Smithfield Club's show, in contact with any animal suffering from any contagious or infectious disease.

Before adopting the rule prohibiting animals exhibited within a month previously to being sent to the Club's show, the Council endeavoured to elicit the feelings of the members of the Club at the general meeting regarding it. The subject was then however unanimously left to the Council.

It has been resolved to consider, at the next meeting in February, whether or not this rule shall again be enforced.

II. The Council having accepted the offer of the Earl of Powis to renew his prize for an instrument for slaughtering animals, appointed judges duly qualified to adjudicate on the instruments sent in for competition, and they decided that none possessed sufficient merit to receive the prize.

The Council has had much pleasure in voting its thanks to the proprietors of slaughter-houses, who kindly furnished animals for the judges' experiments; also to the judges for the services they rendered.

III. The Council decided to adopt the suggestion made at the last general meeting that iron troughs should be provided by the Club for all animals coming to the show, in order to prevent infection being brought from other exhibitions.

IV. In order to ensure a thorough inspection of the merits of all stock exhibited, and also to obviate the necessity of calling in an umpire in the case of equality of votes in deciding the champion prizes, the Council has determined that there shall be three sets of judges of three each for cattle, and the same for sheep, instead of two sets as hitherto.

The result has been most satisfactory, both as regards the hour by which the judges' work has been completed this year, and also as to the adjudication of the champion prizes.

V. The Council has to express its thanks to the local authorities, viz., the Metropolitan Board of Works, for having again selected a convenient and suitable place for the reception of animals in case any might have been rejected in consequence of disease.

The Council has also expressed its thanks to the Vicar of Islington for the Divine Service given on Sunday last, specially

for the herdsmen and shepherds attending the show, and which appears to be duly appreciated by the men.

VI. The Council has prepared the "House List," with the names of sixteen members, from which they recommend the eight to be elected to replace councillors who retire this year.

The voting papers have been sent to each member of the Club qualified to vote in accordance with the alteration of the bye-laws determined upon last year.

VII. The Council lays before the meeting the printed copies of the annual balance-sheet up to December 1st instant, duly audited, showing balances in hand amounting to £2,786 18s. 4d., and in invested stock in the Three per Cent. Consols, £1,957 9s. 9d. The Club has to receive the usual £1,000 from the Agricultural Hall Company for the present show, and against these amounts in hand there will as usual be the prizes and other expenses connected with the present show to be paid.

VIII. The Council has great pleasure in reporting that no animals suffering from contagious or infectious disease was presented for admission, and further that the animals in the show remain perfectly healthy at the present time.

IX. The Council has to express their regret at the loss which the Club has sustained by the death of the Right Hon. the Earl of Harwicke, the senior Vice-President of the Club, and who has held office since the year 1841.

X. The Council has the satisfaction of reporting that His Royal Highness Prince Christian enrolled his name among the members of the Club early in the present year.

In conclusion the Council has to congratulate the members on the character of this year's exhibition and the general prosperity of the Club. They beg to express their anxiety to be favoured from time to time, with suggestions of any improvements that may appear to the members to be desirable, and such suggestions will at all times receive careful consideration.

By order of the Council,
(Signed) B. T. BEANDRETH GIBBS,
Hon. Sec.

On the motion of Mr. Duckham, seconded by Mr. Owen Wallis, the report was adopted unanimously.

The CHAIRMAN observed that it was intended by the Council, with the sanction of the meeting, to invite his Royal Highness the Prince of Wales to accept the presidency of the Club for the year 1875 (Hear, hear). No communication had yet taken place on the part of the Council with his Royal Highness, but, should the meeting accede to the proposal, he thought there was every probability that his Royal Highness would gladly accept the office. During the past week, when he (the Duke of Richmond) had the honour of paying a visit to him, his Royal Highness took the deepest interest in the stock he was preparing to send to the Smithfield Show, and requested him, the Earl of Leicester, and Lord Walsingham, to go round very early in the morning and give their opinion; and his Royal Highness was extremely disappointed, when they returned to the house, that they did not give him much hope of his winning many prizes (laughter). The opinion then expressed had since been confirmed by the judges here; but he thought that, as he knew his Royal Highness took a very deep interest in agriculture, he would accept the office if the Club chose to ask him to do so. He hoped, then, it would be the opinion of the meeting that his Royal Highness should be invited to become president for the year 1875 (cheers).

The motion having been seconded by Mr. Turner of Clington, was passed by acclamation.

The Vice-presidents were then re-elected, and his Grace the Duke of Bedford was elected to fill the place of the late Earl of Harwicke.

The trustees having been also re-elected on the motion of Viscount Bridport,

Mr. MOORE said he felt great gratification in proposing the re-election of the Honorary Secretary, as the Club was so much indebted for his valuable services.

The motion was seconded by Mr. T. Horley, and carried unanimously.

Mr. L. WILLMORE (Newarke, Leicester), having given notice of his intention to propose that no gentleman be eligible to serve on the Council of the Club until he has been a member three years

The Hon. SECRETARY stated that the Council had considered the matter, and recommended that, instead of adopting this motion, the house-list should have the date of his election inserted before each candidate's name

Mr. WILLMORE, in proposing his motion, said he was sorry to trespass on the time of the meeting, but he could assure them that he was actuated by a desire to promote its interests. He had been a member of the Club thirty years, and an exhibitor of stock for a quarter of a century, and he thought it very desirable that the older members should have a considerable share in the proceedings of the Council. He believed that one of the candidates now proposed had not been a member of the Club more than a twelvemonth, and he wished to see more regard shown to those who had during a number of years rendered good service to the Club. He thought that the exhibitors of each of stock class should be represented in the Council, which was not the case at present. He might allude particularly to the exhibitors of Leicester sheep. If the Council had looked about they would probably have found a fitting breeder of that stock willing to sit among them. He knew that the Leicester breed was going out of fashion, but he believed it would always be required for crossing purposes, and in his opinion it ought to be encouraged. On the previous day he was talking with a life-member of the Club, who said he was sorry he was a life-member because the affairs of the Club were conducted in such a close way. He went on to say that he won the first prize fifteen or sixteen years ago, and he thought the members throughout the country ought to have a voice in the appointments, particularly of the judges. He (Mr. Willmore) would like to know how the judges had been appointed this year. During his long experience in that Club he had had some reason to find fault with these appointments, and great care should be taken by the Council with regard to that matter.

Mr. MOORE STEVENS, in seconding the motion, said he would submit with great deference that the recommendation of the Council was rather a begging of the question. A rule that a member of the Club should have had a certain period to qualify himself for the Council before he was elected seemed to him sound in principle, and in his judgment it would be well for the Club and for the members generally if the motion were adopted.

Mr. MOORE thought it would not be wise absolutely to preclude a man for being elected on the Council because he had been recently elected a member of the Club, as he might be one of the best men that could be found for such a position. No doubt there was something to be said in favour of the proposed resolution, but it was undesirable that the Club should seem exclusive, and he thought that on the whole the best course would be to adopt the recommendation of the Council which had been read by Mr. Gibbs (Hear, hear). If the papers sent round contained, together with the names of the members proposed for the Council, the date of their election as members of the Club, that would, in his opinion, be quite sufficient for the purpose. As to the appointment of judges, every one must feel that that was a most vital question. Every member of the Club was invited to nominate persons whom they wished to have made judges. When the papers were returned they were placed before the committee appointed to select the judges; and they must all feel that as a rule a moderate-sized committee was more likely to do business efficiently than a large one (Hear, hear). It seemed exceedingly important that the members of the Club should be careful to send only the names of persons whom they well knew to be thoroughly qualified for the position of judges; for very often the committee did not know even the names which came before them, and had to rely principally upon the gentlemen by whom they were forwarded. It was the desire of the Council that every class of exhibitors should be represented, and that the result should be satisfactory to the members generally. The Show was, as they all knew, a national one, and he hoped that, notwithstanding any difference of opinion which might exist among them, it would continue to increase in importance and in the estimation of the country (cheers).

The Hon. SECRETARY, alluding to a remark of Mr. Moore observed that it was only members of the Council who nominated judges.

Mr. MOORE said that made a great difference, adding that he saw no reason why it should not be thrown open.

A MEMBER asked the Chairman whether it was true if the eight senior members of the Council selected the judges this year.

The CHAIRMAN said he was not prepared to answer that question off hand. It seemed to him somewhat irregular when the motion was "That no gentleman be eligible to serve

on the Council of the Smithfield Club until he has been a member three years," without notice to mix up with that question that of the mode of appointing the judges (Hear, hear). If the present mode of appointing them was to be called in question the proper course would be to give notice in a regular manner and bring it forward at a meeting of the Club. It was not convenient to mix up that question with one with which it had nothing whatever to do.

Mr. WILLMORE said he had hoped that his resolution would, if adopted, lead to a change in that direction.

Mr. CROSSKILL, after being informed by the Chairman in reply to a question that it was competent to him to do so, proposed as an amendment the adoption of the recommendation of the Council. He said that amendment seemed to him far preferable to Mr. Willmore's proposal. The motion would introduce restrictions into the election of members of the Council, and he was opposed to restriction, and thought it would be very bad policy to adopt it in that case. Under the change made on the motion of Mr. Willmore at the last annual meeting the members of the Club now had an opportunity of choosing the members of the Council, and therefore there could now be no longer a question of close management. He was indeed very sorry to hear Mr. Willmore speak of close management, for if there had been such a thing in the past it did not exist now (Hear, hear). The Council was now chosen freely, and he thought it would be bad policy to place restrictions upon the free choice of the members. The suggestion of the Council seemed to him an excellent one, and he hoped it would be adopted. While he was on that subject he wished to say that he was very sorry that the Club last year placed the restriction it did on the re-election of members of the Council by deciding that they should not be eligible till the expiration of a year. He opposed that change at the time, and he now thought that the restriction should be removed at the earliest opportunity ("No, no").

Mr. THURNALL seconded the amendment, which was then put and carried, the numbers being 52 for, and 15 against it; after which it was adopted as a substantive motion.

The following balance sheet was presented :
DETAIL STATEMENT OF ACCOUNT from December 1st 1872, to December 1st, 1873,

Showing the Cash received and paid, and the Balance, brought forward from last year, and the Balances carried forward to next year.

RECEIPTS.	
Balance in the hands of Bankers, December 1st, 1872	£2,836 4 7
Balance in the hands of Hon. Secretary, December 1st, 1872	9 10 1
	£2,845 11 8
Received since (by Bankers)—	
Half year's Dividend on £1,805 17s. 6d., 3 per Cent. Consols, due January, 1873	70 17 9
Half year's dividend on £1,805 17s. 6d., 3 per Cent. Consols, due July, 1873	71 3 9
	142 1 6
3 Annual Subscriptions for year 1873	3 3 0
Receive 1 (by Hon. Secretary and Assistant Secretary)—	
Of the Agricultural Hall Co. for Show, 1872	1,000 0 0
Life Compositions during the year	152 5 0
1 Annual Subscription for 1865	1 1 0
1 " " " 1866	1 1 0
1 " " " 1867	1 1 0
1 " " " 1870	1 1 0
5 " " " 1871	5 5 0
44 " " " 1872	46 4 0
267 " " " 1873	280 7 0
27 " " " 1874	28 7 0
	364 7 0
Fines for Non-Exhibition of Live Stock at Show, 1872	7 0 0
Payment for Implement Stands at Show, 1873 (including £1 4s. extra paid on account of Show 1872)	1,650 4 0
Non-Members' Fees, Live Stock at Show 1873	275 2
	£6,478 17 2

EXPENDITURE.	
Prizes Awarded at Show 1872	2,165 0 0
Silver Cups	330 0 0
Medals	132 12 0
Rewards to Feeders of First Prize Animals	68 0 0
	2,695 12 0

	£ s. d.	£ s. d.
Stewards' Fees	80 0 0	
Judges	105 0 0	
Veterinary Inspectors and Assistants	42 0 0	
Inspector of Implement Galleries	8 8 0	
Weighing Clerk and Superintendent	5 2 0	
Special Door-Keepers, &c.	6 6 0	
Inspector of Sanitary Certificates	3 3 0	
		249 19 0

Bills, &c., for Show 1872.—	
Printing (Burnett)	150 3 6
Stationery (Mason)	13 7 6
Advertising—Mark Lane Express	9 11 6
Bell's Messenger	9 4 0
Gardener's Chronicle	7 4 0
Chamber of Agriculture Journal	7 11 0
Field	8 9 0
Farmer	9 6 0
Ridgway	2 2 0
Weighting Machine and Attendants (Hart and Co.)	6 17 0
Agricultural Hall Co., Ingredients for Disinfecting Carts, Labour, and Inspector	25 11 6
Rosettes for Prize Animals	5 16 3
Plaques (Paraman)	10 19 4
Diplomas, Feeders First Prize Animals (Brooks and Co.)	23 18 4
Cases for Ditto (Bishop and Co.)	4 18 4
Carriage of Diplomas (Suttons)	3 17 6
P. O. Clerks and Postmen's Xmas Boxes	1 0 0
Assistant Secretary's and 2 Clerks' Lodgings and Expenses	12 8 0
Bankers for two Stamped Cheque Books	1 0 0
Printing Notices (Smith & Tarrant)	0 3 0
Expenses of Trials of Slaughtering Instruments (Chadwick)	1 10 6
	314 18 3

Assistant Secretary's Salary, 1½ year up to Michaelmas, 1873	105 0 0
Clerk's Time, as per time book to Dec. 1st, 1873	57 4 6
Postage and Receipt Stamps during the year up to Dec. 1st, 1873 (as per Postage Book)	27 8 7½
Bankers' Commission on Country Cheques	0 1 5
	189 14 6½

	3,450 3 9½
Donation to the Royal Agricultural Society of England towards Legal Expenses, Feeding Stuffs	100 0 0

	3,550 3 9½
Total Payments	3,550 3 9½
Life Compositions invested in 3 per Cent. Consols (Stock, £151 12s. 1d.)	141 15 0
Balance in hands of Bankers (including Life Composition paid since investment) Dec. 1st, 1873	2,777 7 1
Balance in hands of Hon. Secretary, Dec. 1st, 1873	9 11 3½
	2,786 18 4½

INVESTMENT ACCOUNT.	
1873: December 1st—Amount of Stock standing in Three per Cent. Consols in the names of the Trustees	£1,957 9 9
N.B.—This includes £2,600 surplus Annual Income Invested till wanted for Current Expenses.	
Examined and found correct—	
(Signed) E. W. MOORE.	
Dec. 6th, 1873. HENRY WEBB.	

Several new members were then elected. On the motion of Viscount Bridport, seconded by Mr. J. D. Allen, it was resolved, "That the Council be empowered to nominate three scrutineers from the Council before the general meeting of members."

Viscount BRIDPORT said he was sure the meeting would join with him in giving a cordial vote of thanks to his grace the President (cheers). They had long been indebted to his noble friend for his attention to the interests of the Club. He had once previously been its president; and they all knew that he took the liveliest interest in everything connected with the welfare and prosperity of the society. He had great pleasure, therefore, in moving a "Vote of thanks to his Grace the Duke of Richmond."

The motion was seconded by Mr. C. S. Read, M.P., and carried amid loud cheers.

The Duke of RICHMOND said: I beg to return you my most sincere thanks for the honour which you have conferred upon me. I feel a sort of hereditary interest in this club (cheers), and assure you that of all the honours to which I have succeeded there is none which I take a greater interest in than in its welfare. I had hoped that on this occasion, when I have the honour of being the president of the Club, I should have been fortunate enough to get the champion prize for sheep. Unfortunately, however, I have not been successful; but it is some consolation to me, in the want of success that I have experienced, to believe that the sheep which I do exhibit are not a disgrace to the flock which I have the honour of representing (loud cheers). I believe also that they were beaten by a pen of sheep that were their superiors; and that being the case I feel that I have no right

to complain (Hear, hear). It will be a matter of very great gratification to me if my last act as President of the Club will be to secure his Royal Highness the Prince of Wales as its president for the year 1875 (loud cheers).

In the course of the afternoon it was announced that the following gentlemen had been elected as members of the Council in place of the eight retiring and from the eighteen other names proposed, viz.: Mr. C. S. Read, M.P., Mr. W. Rigden, Mr. J. Howard, M.P., Mr. Farthing, Mr. Bowley, Mr. Duckham, Mr. J. N. Beasley, and Mr. Ralph Newton, The rejected, as nominated by the Council, were Messrs. T. Brown (Marham), H. Fookes (the "next best" to Mr. Newton), J. Ford, Masfen, T. Murton, Joseph Stratton, Thurnall, and H. Woods; while Mr. Moore Stevens was also nominated.

THE BIRMINGHAM AND MIDLAND COUNTIES SOCIETY.

MEETING IN BIRMINGHAM.

NO CONNEXION WITH ANY OTHER ESTABLISHMENT is the notice with which the old London firm will again open its doors; and no question the knowledge of this fact has told upon the provincial trade, at the head of which stands Birmingham, where the business is by no means so good as it has been. The sheep and pig classes are indisputably weak; while, with a good beast here and there, the cattle classes are not generally well filled, and the competition mostly confined to a couple or so of animals, who had a long lead of everything else in their class, or often of their breed. Still, on the face of it, with the best beast at Islington last Christmas, the polled Scot, now only taking a second prize, the show would seem to have more merit than it actually possesses. Moreover, it opened very favourably, for in the opinion of many good judges the number one in the catalogue was the number one in the Hall. This was Mr. Lloyd's Hereford ox, second in the old class at Islington last year, when, no doubt, he should have been first, and now ripened into a really fine specimen of his breed. With style, coat, and quality, he is good to meet, has a capital straight back, is light in his bone, and at most points a far handsomer beast than the Shorthorn to which he ran up for the Challenge Cup as the best of all. He was quickly ordered in from the other selections in his class, where there was otherwise nothing extraordinary, only one commendation being added in the dozen entries, to a very highly connected steer, however, fed by Mr. Heath, and bred by Mr. Philip Turner; while the winner of that vulgar butchers' premium for the heaviest ox received no attention from the judges. The best three-year-old from Shropshire struck us, as we said at the time, as a particularly promising young steer when he won here last season as a two-year-old, and he has not failed in this promise, being now a very true smart steer, with the additional credit of having two very good beasts as next best to him. Mr. Crane's first cow is neat and level, but, lacking size, as the second was terribly plain by comparison, and only two heifers were shown for three prizes; but there were some nice things to be found amongst the Hereford steers and oxen.

In a class running close up to twenty Shorthorn oxen, there were only two really superior animals, if we are to estimate its merits by Colonel Lindsay's plain beast put third; as, in truth, there seldom has been a commoner lot got together at such a show. The very winner hardly looks like a thoroughbred one, but is simply a great mountain of beef of not very prime quality, while he begins with a poor, plain, mean head, and has as little style about him as any beast which ever took so high a place. Nevertheless, his career during the season has been one of very remarkable success. Bred

by Mr. Tidey, he was exhibited here last year, when, with five shown and three prizes awarded, he was never noticed in that miserable invention, the Tenant-Farmer Class; so that he stood as low down on the list as possible when he was purchased almost on his way to the shambles by Mr. Wortley for £50, half the sum for which he had just sold his own prize ox. Nevertheless, at Kettering, this "tidy ox" beat the Ridlington-bred one right off, as he did the Smithfield Club champion poll at Oakham early in the past week, and he also won in Norfolk and elsewhere during the summer, thus amply testifying to Mr. Wortley's abilities as a judge of and as a feeder of a beast. Anybody can buy a prize bullock; but it takes a man of some quickness and acumen to pick one out in the rough, as Mr. Wortley did his ox from the Tenant-Farmer class. Mr. Walter's second prize was more bloodlike, and altogether far more "taking" forward, but he was very bad behind. The decision was a unanimous one in favour of the heaviest ox in the class, at 23 cwt. 1 qr. 21 lb.; as, indeed, the Champion was, saving a cross, the heaviest in the Hall. Mr. Thompson now did more justice to Mr. Beasley's high-quality steer, with his capital coat, than when they last met, for the roan was now at the head of a much larger class, although he has not fed very evenly in the interim, and would not promise to go on; as, in fact, there was not much merit behind him, and the judges did not even call him out when they went for the best of the Shorthorns. The finish for this £100 was entirely between Mr. Wortley's ox, and Mr. Reid's capital cow, with her good looks, grand back, great substance, and well-covered points. But like most cows getting into years, she is growing gaudy about her quarters, and so the award went for the ox, who, what with standing terribly in at his hocks, is himself anything but clever from behind. There were three really good cows standing here together, the winner, Mr. Wells' nice lengthy second, for which one of the judges went, and Mr. Wilson's Fleda's Farewell, a finely-framed old cow, not unknown in the prize list, but not fed up enough for a fat stock show, and was thus put out from among the actual prize-takers by Mr. Bradburn's well-known Moss-Rose, who was looking very fresh and well; as the Shorthorn cow was no question the best filled class in the Hall, even if it did not include the very best beast. Mr. Cartwright's first heifer proved beautifully in her profile, being very level and straight, but the class was not so strong, nor ought it to be, with the prices breeding Shorthorns are making.

The display of Devons was unmistakably bad either for numbers or merits, with thirteen animals competing for twelve prizes. Mr. Taylor sent a won-

derfully well-preserved old cow, which, at over nine years old and with six calves to the good, was first; while, Her Majesty won with a very stylish steer, not quite ripe, and Mr. Farthing with a wonderfully fed heifer, known as Fair Rosamond, who has been out of place from her early youth in a breeding show, where the judges of late have refused to look at her; as, indeed, for breeding purposes they might as reasonably have awarded a prize to the fat boy in Pickwick. The Devon judge wished to make the Royal steer the best of the breed, as no doubt he carries the best beef, but the other two judges could not get away from another mountain of flesh, wanting though she does all the stylish points of the Devon, and so it came to pass the best male and best female were anything but handsome illustrations of their several breeds. Moral: Anything of scale may make a fat beast. There were but few Longhorns either from the Midlands or the Highlands; while the black Polls included the Smithfield Club champion ox and the Scotch champion heifer; and the Islington beast was beaten by one from Tillyfour, which Mr. Adamson had lately beaten in Scotland; and the best ox was beaten for best of the breed by Mr. Reed's champion heifer, the only entry in her class. The "form" here, it will be seen, was very good, as very possibly another set of judges would put the awards about again; for, good as the heifer is forward,

he is fearfully bad behind, while Mr. McCombie's ox is also mean in his quarters, but he has a deep, well covered carcase, and, as ox beef is always better than cow beef, we think he should have won, so near, when put in comparison, were the merits and defects of the two. The Earnhill cross, Shorthorn and Poll of course, has not fed evenly, but Messrs. Martin's cross-bred heifer is a very admirable specimen of what can be done in this way, a branch of meat manufacture in which the Scotch have always excelled South country breeders and feeders.

It was the worst show of Leicester sheep ever seen in Bingley Hall, with scarcely a really prize pen in the entry; the Cotswolds were as indifferent as usual, and the Southdowns indisputably below their previous standard of excellence. Scarcely any of the pens were well sorted; but Mr. Foljambe's first and Mr. Colman's second numbered four smart wethers out of six; while Lord Sondes' third, bad in their mutton, were nevertheless the best Shortwools at Oakham. The Shropshires, again, were a very moderate class, but with Lord Chesham's good first pen looking to be of more weight than heretofore, and Mr. Sheldon's second best smothered in wool, although the trimming had been deftly done. The few Lincoln, on the contrary, were very good, Mr. Byron's best, on from Oakham, especially so; and the Oxfordshire Downs, as the judges one and all declared, the best lot of sheep in the show. Here the Duke of Marlborough maintained his supremacy with a really great grand well-matched pen, strongly backed as he was throughout, and with numerous commendations emphasising the actual awards. Mr. Morrison was the only exhibitor of Hampshires, and Messrs. Barge and Street changed places amongst the Cross-breeds, of which there were only half-a-dozen entries. It was wholesome to see Mr. Rigden very literally wash his hands of such a business—after all the smearing and colouring he had encountered—at the small charge of two-pence.

In the opening class of fat pigs, of four entries, two pens were disqualified, and another declared to be of *no merit*; and the next class of older pigs, in pens of three, was alike a small and indifferent one. The single fat pigs were better; but, as one of the judges said, most of the breeding Berkshires should have been sent to market instead of to Bingley Hall. Mr. Smith and Miss Smith had all the best of the class with pens made up of pigs of two sorts, dark and light-coated; while Mr. Humphrey

looks to have fined or refined his good stamp of Berkshires into something else, and The Berkshire sow, which was nowhere at Wolverhampton, first at Cardiff, and nowhere at Hull, was now third in the fat pig class. The other breeding pigs of a large breed were a poor plain lot, and the only high commendation bestowed by the judges was over an entry in the small breed, which ran up to a really creditable class.

The show of corn is small and poor in quality; but there is a large entry of roots, which are of about average size but coarse, more especially the Long Red mangolds, manifesting the lack of sun during growth. The judges appear to have attached less importance to mere bulk than has sometimes been the case, and to have based their awards more upon the symmetry and quality of the specimens which came under their notice; and frequently the arbitrament of the scales was very properly dispensed with. The collection of Colonel North, M.P., which gained one of the cups, weighed in the aggregate 648lbs., the six Bangholm swedes 50½lbs., six Green kohlrabi 74lbs., six Yellow Globe mangolds 152lbs., six Intermediate mangolds 126lbs., six Long Red mangolds 206lbs., and fourteen turnips 39½lbs.

The moisture of the past season favoured the kohlrabi, which is really good. We may state that the six bulbs which gained the first prize weighed 101 lbs., and those which were placed second 98lbs. The weight of the first six Long Red mangolds was 181½ lbs., and of the second 123½ lbs.; the weight of the first six Intermediate mangolds being 141 lbs. Of the swedes the first prize lot weighed 162 lbs., and the second 88 lbs. The white Belgian carrots are mediocre, and inferior to the Altrincham, which, though not large, are of better quality. There are only three entries of Ox cabbage. The three which obtained the first prize weighed 192½ lbs.; the second lot weighing 172½ lbs., and the third 133 lbs. The best twelve Bovinia potatoes scaled 19 lbs.

The show of potatoes was a much larger display than last year, and the quality generally was unexceptionable. The collection shown by Mr. Graddon Perry, which gained the cup, was very good, and the class generally was such a deserving one that the judges regretted there were not more prizes to be awarded. The class for King of Potatoes was particularly noticeable, but the Victorias, with the exception of the first prize dish, were not quite up to the standard which we have been accustomed to in Bingley Hall. In the class for Red Skinned Flour Balls the competition was very close, and the judges had much difficulty in deciding upon their awards. The total entries numbered 175.

Of poultry and pigeons, the entries in all are 2,341, and most exhibitors of note are represented. The following are the winners of the cups: T. C. Burnell, Micheldever, Hauts, for Dorking cock; Henry Tomlinson, Birmingham, for Cochinchina cock; W. A. Taylor, Manchester, for Brahma cock; G. K. Chilcott, Bristol, for Spanish cock; H. Beldon, Bingley, for Pencilled Hamburg cock; W. A. Hyde, Ashton-under-Lyne, for Spangled Hamburg cock; S. Matthew, Stowmarket, two cups for game cocks; G. F. Ward, Wrenbury, Cheshire, for game cock; and W. Bious, Leeds, for ornamental waterfowl.

The following are the weights of the winning pens of ducks, geese, and turkeys: Ducks (white Aylesbury), drake and one duck: First, 17lbs. 6oz.; second, 17lbs.; third, 16lbs. 14oz.; fourth, 16lbs. 12oz. Rouen: First, 19lbs. 10oz.; second, 18lbs. 4oz.; third, 21lbs. 2oz.; fourth, 18lbs. 2oz.; fifth, 17lbs. 6oz. Ducks (Rouen), selling class, drake and duck: First, 15lbs. 2oz.; second, 12lbs. 12oz.; third, 13lbs. 2oz.; fourth, 13lbs. 6oz. Geese (white), gander and goose over one year old: First, 56lbs. 6oz.; second, 38lbs. Geese, birds of 1873: First,

46lbs. 12oz.; second, 45lbs. Grey or mottled, over one year, gander and goose: First, 52lbs.; second, 50lbs. Birds of 1873: First, 42lbs. 12oz.; second, 42lbs. 8oz. Turkeys, cocks exceeding one year: First, 37lbs. 4oz.; second, 35lbs. 10oz. Hatched 1873: First, 24lbs. 12oz.; second, 23lbs. 4oz. Turkeys, hens over one year: First, 38lbs. 6oz.; second, 38lbs. 2oz. Hatched 1873: First, 31lbs. 6oz.; second, 28lbs. 14oz.

It would be unfair to close our report without testifying to the genial courtesy of Messrs. G. Wise, T. Horley, and Joseph Smith, three of the stock stewards, a "return" compliment, which we should be by no means inclined to extend to all the Birmingham officials.

J U D G E S.

CATTLE.

H. W. Keary, Bridgnorth.
R. J. Newton, Campsfield, Woodstock.
J. Thompson, Badminton, Chippenham.

SHEEP.

C. Clarke, Scopwick, Grantham.
J. Evans, Uttington, Salop.
W. Rigden, The Hove, Brighton.

PIGS.

E. Little, Lanhill, Chippenham.
G. M. Sexton, Wherstead Hall, Ipswich.

ROOTS.

J. H. Burbery, Kenilworth.
H. Lowe, Comberford, Tamworth.
R. H. Masfen, Pendeford, Wolverhampton.

POTATOES.

S. Evans, Arbury, Nuneaton.
F. Lythall, Offehurch, Leamington.

CORN.

E. Davenport, Gravelly Hill, Birmingham.

CATTLE.

HEREFORDS.

Oxen or Steers, of any age exceeding 3 years and 3 months old.

Prize of £100, for best Hereford, to G. W. Lloyd, Baysham, Ross.

Second of £10 to Henry Yeomans, Hay, Hereford.

Third of £5 to W. Groves, Shrewsbury.

Commended.—W. Heath, Norwich.

Heaviest in class, prize of £10 to J. B. Downing, Holme Lacey, Hereford.

Steers, not exceeding 3 years and 3 months old.

First prize of £20 to R. Everall, Leebotwood, Salop.

Second of £10 to J. Baldwin, Stratford-on-Avon.

Third of £5 to R. Keene, Penraig, near Caerleon.

Cows.

First prize of £15 to J. Crane, Shrewsbury.

Second of £10 to E. J. Morris, Wuchcomb.

Third of £5 to H. Instone, Cound, Salop.

Heifers.

First prize of £15 to W. Groves.

Second of £10 to H. N. Edwards, Leominster.

SHORTHORNS.

Oxen or Steers, of any age exceeding 3 years and 3 months old.

Prize of £100, for best Shorthorn, to E. Wortley, Ridlington, Uppingham.

Second of £10 to J. Walter, M.P., Wokingham, Berks.

Third of £5 to Colonel Loyd-Lindsay, Wantage, Berks.

Commended.—Executors of F. Jordan, Driffield, York.

Heaviest in class, prize of £10 to E. Wortley.

Steers, not exceeding 3 years and 3 months old.

First prize of £20 to J. N. Beasley, Northampton.

Second of £10 to Colonel Loyd-Lindsay.

Third of £5 to Earl Spencer, Northampton.

Steers, not exceeding 4 years old, bred and fed by a tenant-farmer.

First prize of £15 to T. H. Ferris, Marlborough.

Second of £10 to W. Colwell, Uppingham.

Third of £5 to W. Colwell.

Steers, not exceeding 2 years and 6 months old.

Prize of £10 to W. Sisman, Buckworth, Huntindon.

Cows.

First prize of £15 to J. Reid, Alford, Aberdeenshire.

Second of £10 to W. T. Wells, Withern, Lincolnshire.

Third of £5 to W. Bradburn, Wednesfield, near Wolverhampton.

Highly commended.—Lord Leigh, Kenilworth.

Commended.—C. W. Wilson, Kendal; E. Abraham, Barnetby-le-Wold.

Heifers.

First prize of £15 to F. Cartwright, Barton-on-Trent.

Second of £10 to A. Pike, Tewkesbury.

Third of £5 to A. Robotham, Tamworth.

DEVONS.

Oxen or Steers, of any age exceeding 3 years and 3 months old.

First prize of £20 to W. Taylor, Eastbourne, Sussex.

Second of £10 to T. L. Senior, Aylesbury.

Third of £5 to W. Taylor.

Heaviest in class, prize of £10 to W. Taylor.

Steers, not exceeding 3 years and 3 months old.

First prize of £20 to H. M. The Queen, Windsor Castle.

Second of £10 to T. L. Senior.

Third of £5 to J. Jackman, Launceston, Cornwall.

Commended.—W. Taylor.

Cows.

First prize of £15 to W. Taylor.

Second of £10 to W. Farthing, Bridgewater.

Third of £5 to T. L. Senior.

Heifers.

Prize of £100, for best Devon, to W. Farthing.

Second of £10 to T. L. Senior.

LONGHORNS.

Oxen or Steers, of any age.

First prize of £10 to Sir J. H. Crewe, Derby.

Second of £5 to W. P. Barbery, Stratford-on-Avon.

Cows or Heifers.

First prize of £10 to S. Forrest, Kenilworth.

Second of £5 to R. H. Chapman, Nuneaton.

SCOTCH.

Polled Oxen or Steers, of any age.

First prize of £15 to W. McCombie, M.P., Tillyfour, Aberdeen.

Second of £10 to H. D. Adamson, Alford, Aberdeen.

Highly commended.—T. Ross, Forbes, N.B.

Commended.—Jn. Reid.

Heaviest in class, prize of £10 to T. Ross.

West Highland Oxen or Steers, of any age.

First prize of £15 to Duke of Roxburghe, Kelso.

Second of £10 to J. Watson, Birmingham.

Cows or Heifers.

Prize of £100, for best Scot or Cross-bred to J. Reid.

OTHER PURE BREEDS AND CROSS-BRED

ANIMALS.

Oxen or Steers, exceeding 3 years and 3 months old.

First prize of £15 to R. H. Harris, Forbes, Morayshire.

Second of £10 to A. H. Browne, Acklington, Northumberland.

Commended.—J. and W. Martin, Newmarket, Aberdeen.

Heaviest in class, prize of £10 to J. and W. Martin.

Steers, not exceeding 3 years and 3 months old.

First prize of £15 to H. D. Adamson, Alford, Aberdeen.
Cows.

First prize of £10 to Sir W. C. Trevelyan, Wellington, Northumberland.

Heifers.

First prize of £10 to J. and W. Martin.

Second of £5 to W. H. Hewett, Taunton.

EXTRA CLASSES.

(Not qualified to compete in any of the preceding Classes.)

Oxen or Steers.

[No entry.]

Cows or Heifers.

Prize of £5 to Rev. W. Sneyd, Newcastle-under-Lyme.

SILVER CUPS.

For the best Animal, of any breed or age, bred and fed by the exhibitor.—Silver Cup, value 25 gs., to W. Farthing.

For the best Animal in the Show.—The Elkington Challenge Cup, value 100 gs., to be won two years successively, or any three years, by the same exhibitor, to E. Wortley.

S H E E P.

LEICESTERS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of £10, to W. P. Herriek, Beaumanor Park, Leicestershire.

Second of £10 to W. P. Herriek.

Highly commended.—W. Brown, Holme-on-Spalding-Moor, York.

Commended.—Earl of Lonsdale, Oakham, Rutland.

LINCOLNS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of £10, to J. Byron, Sleaford.

Second of £10 to J. Pears, Mere, Lincoln.

Highly commended.—C. Lister, Lincoln.

COTSWOLDS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of £10, to T. Mace, Northleach, Gloucestershire.

Second of £10 to T. Mace.

Highly commended.—Z. W. Stilgoe, Adderbury Grounds, Oxon.

SOUTH DOWNS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of 10 gs., to F. J. S. Foljambe, Worksop, Notts.

Second of £10 to J. J. Colman, M.P., Norwich.

Third of £5 to Lord Sondes, Dereham, Norfolk.

Commended.—Lord Walsingham, Thetford, Norfolk.

Wethers exceeding 23, and not exceeding 35 months old, Prize of £5 to Lord Walsingham.

Highly commended.—Lord Walsingham.

Commended.—Lord Sondes.

SHROPSHIRE.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of 10 gs., to Lord Chesham, Latimer, Chesham, Bucks.

Second of £10 to H. J. Sheldon, Brailes House, Warwickshire.

Third of £5 to Lord Chesham.

Highly commended.—Mrs. S. Beach, Penkridge, Stafford.

Commended.—Earl Howe, Atherstone; H. J. Sheldon.

Wethers exceeding 23, and not exceeding 35 months old. Prize of £5 to Mrs. Beach.

Highly commended.—Mrs. Beach.

OXFORDSHIRES.

Three fat Wethers, not exceeding 23 months old.

First prize of £15, and extra prize of £10, to Duke of Marlborough, Woodstock.

Second of £10 to N. Stilgoe, Adderbury Manor Farm, Oxon.

Third of £5 to S. Druce, Eynsham.

Highly commended.—Z. W. Stilgoe.

Commended.—Duke of Marlborough; J. and F. Howard, Bedford.

HAMPSHIRE, WILTSHIRE, AND OTHER DOWNS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15 to A. Morrison, Tisbury, Wilts.

Second of £5 to A. Morrison.

Highly commended.—A. Morrison.

NOT QUALIFIED TO COMPETE IN ANY OTHER CLASS.

Pen of three fat Wethers, not exceeding 23 months old.

First prize of £15 to H. Farthing, Bridgewater, Somerset.

CROSS-BREDS.

Three fat Wethers, not exceeding 23 months old.

First prize of £15 to C. Barge, Weedon.

Second of £5 to F. Street, Bedford.

Commended.—N. Stilgoe.

EWES HAVING BRED ONE OR MORE LAMBS.

Silver medals, value 2 gs. each.

Leicester, to W. Brown.

Lincoln, to J. Byron.

Cotswold, to J. Baldwin.

Southdown, to F. J. S. Foljambe.

Shropshire, to Mrs. Beach.

Oxfordshire, to Duke of Marlborough.

Of any other pure breed, to R. H. Harris, Forres, Morayshire.

Highly commended.—L. J. Bradshaw, Oakham; W. Tidy, Tamworth; Z. W. Stilgoe; N. Stilgoe.

Commended.—Earl of Lonsdale, Oakham; H.R.H. Prince of Wales.

P I G S.

FAT PIGS.

Three of one litter, not exceeding 10 months old.

First prize of £10 to Marquis of Arlesbury, Marlborough, Wilts.

Three of one litter, not exceeding 15 months old.

First prize of £10 to W. Lort, Kings Norton.

Second of £5 to J. Biggs, Leighton Buzzard.

Third of £3 to Z. Walker, Birmingham.

Fat Pigs, exceeding 15 months old.

First prize of £6 to C. R. N. Beswicke-Royds, Littleborough, Manchester.

Second of £4 to W. E. Minion, Atherstone.

Third of £2 to R. Fowler, Aylesbury.

Commended.—J. Wheeler and Sons, Shipston-on-Stour; Earl of Ellesmere, Worsley Hall, Lancashire; W. Lort.

BREEDING PIGS.

BERKSHIRES.

Five Pigs of one litter, exceeding 3 and not exceeding 6 months old.

First prize of £10 to J. Smith, Henley-in-Arden.

Second of £5 to Miss. H. Smith, Henley-in-Arden.

Third of £3 to H. Humfrey, Shrivenham, Berks.

Commended.—Marquis of Westminster, Tarporley, Cheshire, H. Humfrey.

OTHER LARGE BREEDS.

Five Pigs of one litter, exceeding 3 and not exceeding 6 months old.

First prize of £10 to T. Satchwell, Knowle.
Second of £5 to M. Walker, Anslow, Burton-on-Trent.
Third of £3 to H. Robson, Penkridge, Stafford.

SMALL BREED.

Five Pigs of one litter, exceeding 3 and not exceeding 6 months old.

First prize of £10 to Earl of Ellesmere.
Second of £5 to C. R. N. Beswicke-Royds.
Third of £3 to W. Lort.

Highly commended.—T. Statter, Whitefield, near Manchester.

[Silver medals, value 2 gs., were awarded to the breeders (being subscribers to the funds of the Society) of animals which obtain the first prizes in all the stock classes.]

C O R N.

Shown in samples of 1 bushel.

WHITE WHEAT.

Talavera.

First prize of £2 to Colonel Loyd-Lindsay, Wantage, Berks.

Second of £1 to S. Robinson, Melbourne, Derby.
Any other variety.

First prize of £2 to Colonel Loyd-Lindsay.
Second of £1 to J. K. Fowler, Aylesbury.

RED WHEAT.

First prize of £2 to Colonel Loyd-Lindsay.
Second of £1 to S. Robinson.

BARLEY.

First prize of £2 to S. Druce, Eynsham, Oxford.
Second of £1 to H. Frampton, Newbury.

WHITE OATS.

First prize of £2 to J. Greatorex, Stretton, Burton-on-Trent.

Second of £1 to G. Dunkley, Kingsthorpe, Northampton

BLACK OATS.

First prize of £2 to N. Stilgoe.
Second of £1 to S. Druce, Eynsham.

BEANS.

First prize of £2 to J. K. Fowler.
Second of £1 to H. Humphrey, Shrivenham.

WHITE PEAS.

First prize of £2 to G. Dunkley.
Second of £1 to N. Stilgoe.

BLUE OR GREY PEAS.

First prize of £2 to G. Dunkley.
Second of £1 to H. Frampton, Newbury.

R O O T S .

For collection of 6 roots of Long Mangold Wurzel, Globe Mangold Wurzel, and Swedes.—A Silver Cup, value 5 gs., to Sir F. Smythe, Acton Burnell, Shrewsbury.

For collection of the six Long Mammoth Mangolds, Yellow Globe Mangolds, Golden Tankard Yellow-fleshed Mangolds, Champion Purple-top Swedes, and Turnips (White or Yellow-fleshed).—A Silver Cup, value 5 gs., to G. Perry, Acton Pigott, Shrewsbury.

For collection of Six Imperial Hardy Swedes, Mammoth Mangolds, Sandringham Mangolds, and White-fleshed Turnips.—A Silver Cup, value 5 gs., to Sir F. Smythe.

For collection of Six Improved Bangholm Swedes, Green Kohl-rabi, Yellow Globe Mangolds, Intermediate Mangolds, Long Red Mangolds, and Turnips (Green White, or Yellow).—A Silver Cup, value 5 gs., to Colonel J. S. North, M.P., Banbury.

Kohl-rabi, six specimens

First prize of £2 to J. P. Hall, Westbury, Wilts.
Second of £1 to Sir F. Smythe, Acton Burnell.

Long Mangold Wurzel, six specimens.

First prize of £2, and extra prize of 2 gs., to Marquis of Ailesbury.

Second of £1 to S. Robinson.

Globe and Intermediate varieties of Mangold Wurzel, six specimens.

First prize of £2, and extra prize of 2 gs., to G. Perry, Acton Pigott, Shrewsbury.

Second of £1 to Col. J. S. North, M.P.

Swedes of any variety, six specimens.

First prize of £2, and extra prize of 2 gs., to R. Guilding, Malvern.

Second of £1 to G. Greaves, Droitwich.

Turnips, six specimens, white flesh.

First prize of £2 to Marquis of Ailesbury.

Second of £1 to Duke of Portland, Mansfield, Notts.

Turnips, six specimens, yellow flesh.

First prize of £2 to T. L. M. Cartwright, Ladybank, Fife.

Second of £1 to H. D. Adamson, Alford, Aberdeen.

Carrots, six specimens, white Belgian.

First prize of £2 to F. J. S. Foljambe, M.P.

Second of £1 to ditto.

Carrots, any other variety.

First prize of £2 to F. J. S. Foljambe, M.P.

Second of £1 to ditto.

Ox Cabbage, three specimens.

First prize of £2 to S. Robinson.

Second of £1 to ditto.

Third J. Greatorex.

Bovina, or Cattle-feeding Potatoes, twelve specimens.

First prize of £2 to R. Fowler, Aylesbury.

Second of £1 to Lord Willoughby de Broke, Compton Verney, Warwick.

POTATOES.

For collection of Twelve Ash-leaf Kidneys, any other Early Kidneys, Dalmahoy's, Red or White Regents, Victorias, and Red-skinned Flour-balls.—A Silver Cup or 5 gs. to P. McKinlay, Beckenham, Kent.

For collection of twelve specimens of each, to include New Hundred-fold Fluke and the Red-skinned Flour-ball.—A Silver Cup value 5 gs. to G. Perry.

Ash-leaf Kidney.

First prize of £1, and extra prize of 2 gs., to G. Dunkley.

Second of 10s. to J. Betteridge, Chipping Norton.

Royal Ash-leaf Kidney.

First prize of £1, and extra prize of 2 gs., to G. Dunkley.

Second of 10s. to N. P. Stilgoe.

Gloucestershire Kidney.

First prize of £1, and extra prize of 2 gs., to Z. W. Stilgoe.

Second of 10s. to Z. W. Stilgoe.

King of Potatoes.

First prize of £1, and extra prize of 2 gs., to Duke of Portland.

Second of 10s. to Duke of Portland.

Milky-white

First prize of £1, and extra prize of 2 gs., to Duke of Portland.

Second of 10s. to G. Perry.

Flukes.

First prize of £1, and extra prize of 2 gs., to J. Sucksmith.

Second of 10s. to P. McKinlay.

Dalmahays.

First prize of £1, and extra prize of 2 gs., to T. L. M. Cartwright, Fife.

Second of 10s. to J. Betteridge.

White Regents.

First prize of £1, and extra prize of 2 gs., to J. Sucksmith.

Second of 10s. to T. L. M. Cartwright.

Red Regents.

First prize of £1, and extra prize of 2 gs., to Duke of Portland.

Second of 10s. to G. Perry.

Victorias.

First prize of £1, and extra prize of 2 gs., to G. Dunkley.

Second of 10s. to S. C. Pilgrim, Hinckley.

Red-skinned Flour-ball.

First prize of £1 to Duke of Portland.

Second of 10s. to J. K. Fowler.

ANY OTHER VARIETIES.

Early Kidney Potatoes.

First prize of £1 to Duke of Portland.

Second of 10s. to G. Dunkley.

Second Early varieties.

First prize of £1 to G. Dunkley.

Second of 10s. to Duke of Portland.

White Late or Winter varieties.

First prize of £1 to Duke of Portland.

Second of 10s. to J. Sucksmith.

Red or Blue Late varieties.

First prize of £1 to G. Dunkley.

Second of 10s. to G. Perry.

RUTLAND AGRICULTURAL SOCIETY.

MEETING AT OAKHAM.

At this show the number of beasts entered was about equal to last year. In class 1, for the best ox or steer exceeding three years and three months old—the competitors in which were nearly twice as numerous as at the previous meeting of the society—the blue ribbon was secured by a roan ox belonging to Mr. Wortley, of Ridlington. Lord Lonsdale came second with a younger animal, a white steer, which had never been shown before, and which was declared entitled to the premium offered by his lordship for the best fat beast bred and fed within the district of the Cottesmore hunt. Amongst other animals in this class was a black polled ox which took the champion plate in London last year, but the silver medal and £30 offered by Uppingham school for the best fat beast in the first seven classes went to Mr. Wortley's roan ox. In the class for the best ox or steer not exceeding three years and three months old a Shorthorn belonging to Mr. Beasley, of Pitsford Hall, took honours, beating beasts sent by well-known breeders. This animal had previously taken two or three prizes. The best cow in the open class was a Shorthorn of Mr. Wells, of Withern, near Alford. It was followed by Mr. Bradburn's Moss Rose, which in 1872 took the first prize here as a heifer, and also the first prize at Birmingham. The class for heifers not exceeding four years was likewise better filled than last year. Lady Pigot's guineas fell to Lord Exeter's cow Penelope, which had already secured £60 in prizes. In class 10 Mr. Sharp's heifer took first place and Lord Exeter's Moll Gwynne, highly commended at the Royal, second place, thus confirming the decisions of the judges at Kettering. Among the young bulls—one of the best classes in the show, both as regards number and quality—the Marquis of Exeter's Telemachus the 6th was put at the top, beating Mr. Savill's Earl of Geneva which was first at Kettering. The classes reserved for small tenant-occupiers were creditable. The sheep were a good show, eclipsing that of last year; and the names of such exhibitors as Byron, Bradshaw, Allen, Lord Sondes, Lord Lonsdale, Lord Gainsborough, and Painter testify to the character of the competition. The pigs were not numerous, but Messrs. Carver and Sons contributed some good specimens. There was a smart show of horses, and, in spite of the rain, a numerous company in the field.

PRIZE LIST.

JUDGES.—HORSES: Capt. Riddle, Melton Mowbray, and J. K. Elliott, of Hethingcote, Worcester. STOCK: G. Drewery, Holker Grange, Lancashire; G. Garne, Churchill Heath, Oxon; and R. Baker, Garmston, Notts.

CATTLE.

Oxen or steers of any breed, exceeding three years and three months (open).—First prize, £15, E. Wortley, Ridlington; second, £7, Earl of Lonsdale, Barleythorpe Hall. Highly commended: A. H. Browne, Aeklington. Commended: H. P. Adamson, Balcuham, Aberdeen.

Oxen or steers of any breed, not exceeding three years and three months old (open).—First prize, £10, J. N. Beasley, Pitsford Hall, Northampton; second, £5, G. Sowerby, Putteridge Park, Beds. Highly commended: Earl Spencer, Althorpe Park. Commended: Sir W. de Capell Brooke, Geddington Grange.

Cows of any breed or age (open).—First prize, £7, W. T. Wells, Withern, Alford; second, £3, W. Bradburn, Wednesfield, Wolverhampton. Commended: W. T. Wells.

Heifers of any breed, not exceeding four years old (open).—First prize, £7, F. Cartwright, Drakelow, Burton-on-Trent; second, £3, J. J. Sharp, Broughton, Kettering. Commended: L. Hardy, Burley-on-the-Hill.

Steers, not exceeding two years and six months old.—First prize, £10, W. Sisman, Buckworth Lodge, Huntingdon; second, £5, S. Wallis, Barton Seagrave, Kettering. Commended: Lieutenant-Colonel Tryon, Bulwick, Wansford.

Steers, not exceeding one year and nine months old.—Prize, £10, E. Wortley.

Fat beasts, shown as extra stock, above two years and six months old.—Prize, £5, C. Speed, Horn Mills, Oakham. Highly commended: W. Colwell, Thorpe-by-Water, Uppingham.

Best beast shown in the above classes.—Uppingham School Silver Medal and special prize of £30, E. Wortley.

Best fat beast shown in the above classes bred and fed within the district of the Cottesmore Hunt.—First prize, £15, Earl of Lonsdale; second, £5, T. Swingler, Langham, as the breeder.

Shorthorn cows, above three years old, in milk or in calf (open).—Prize, 10 gs., Marquis of Exeter.

Cows, above three years old, in milk or in calf.—Prize, £10, J. Pretty, Braunston; second, £5, J. Woods, Langham. Highly commended: J. J. Sharp. Commended: T. Swingler.

Heifers, above two and not exceeding three years old, in calf or in milk, bred within the district.—First prize, £7, J. J. Sharp; second, £5, Marquis of Exeter. Commended: T. Swingler.

Heifers, above one and not exceeding two years old, bred within the district.—First prize, £7, D. Dainty, Belmistorpe, Stamford; second, £4, J. J. Sharp. Commended: E. Wortley.

Heifer calves, above six months and not exceeding twelve months old.—First prize, £8, J. J. Sharp; second, £2, G. L. Watson, Rockingham Castle. Commended: Marquis of Exeter.

Bulls, not exceeding fifteen months old.—First prize, £10, Marquis of Exeter; second, £5, G. Savill, Ingthorpe, Stamford. Highly commended: J. H. Caswell, Laughton, Falkingham. Commended: J. Wright, Stonesby, Melton; J. Snodin, Stonesby; and W. Colwell.

Cows in milk.—First prize, £5, J. Edgson, Langham; second, £2, divided between W. Neal, Eggleton, and J. Harris, Langham.

Heifers, under three years old.—First prize, £4, J. Harris; second, £2, J. Edgson. Highly commended: R. Watkin, Hambleton.

Heifer calves, above six and not exceeding twelve months old.—First prize, £2, R. Fardell, Cold Overton; second, £1, J. Harris. Commended: Mary Hammond, Egleton.

Breeding beasts, over two years old, in calf or in milk, shown as extra stock.—Gold Medal, value 10 gs., J. J. Sharp; second, Silver Medal, value 5 gs., E. Wortley. Highly commended: C. Speed.

Best beast shown the nine preceding classes.—Prize, £10, J. J. Sharp.

SHEEP.

Three fat wether sheep of the Leicester breed, one year old (open).—First prize, Silver Cup or £10, C. J. Bradshaw, Barley-on-the-Hill; second, £5, Sir W. de Capell Brooke, Bart.

Three long-woolled fat whether sheep of the Lincoln breed, one year old (open).—First prize, £10, J. Byron, Kirkby Green, Sleaford; second, £5, T. W. D. Harris, Wootton, Northampton.

Three short-woolled fat wether sheep (open).—First prize, £10, Lord Sondes, Elmham Hall, Dereham; second, £5, S. Druce, Eynsham, Oxford. Highly commended: S. C. Pilgrim, Outwoods, Ilitchley; and F. Street, Bedford.

Three cross-bred long and short-woolled fat wether sheep, one year old (open).—First prize, £10, W. Wells, Holme, Peterboro'; second, £5, F. Street. Highly commended: C. Barge, Manor Farm, Weedon.

Best pen of sheep in the four preceding classes.—Prize, £5, J. Byron.

Four long-woolled breeding ewes, bred within the district.—First prize, £5, T. Allen, Thurmaston, Leicester; second, £3, C. J. Bradshaw. Highly commended: Earl of Lonsdale.

Four long-woolled theaves, bred and fed within the district.—First prize, £5, Earl of Lonsdale; second, £3, J. Dawson, Warkton Lodge, Kettering.

Four long-woolled wether lambs, bred and fed within the district (ram lambs excepted).—First prize, £5, T. Close, Barnack, Stamford; second, £3, W. Close, Collyweston, Stamford. Commended: Earl of Gainsborough, Exton.

Four long-woolled ewe lambs, bred and fed within the district.—First prize, £5, T. Close; second, £3, T. Swingle, Langham. Commended: B. Painter, Barley-on-the-Hill.

Best pen of sheep in the four preceding classes.—Prize, £5, T. Allen.

Best sheep shown as extra stock (open).—Silver Medal, value £5, J. Byron. Highly commended: B. H. Brown, Greetham. The class commended.

PIGS.

Fat pigs, under eighteen months old (open).—Prize, £5, Carver and Sons, Ingarsby, Leicester.

Fat pigs, under ten months old, not exceeding 30 st. live weight (open).—First prize, £5, Carver and Sons; second, £3, W. Hughes, Oakham.

To tenant-occupiers of not more than 30 acres of land in the district for fat pigs of any weight.—First prize, £3, G. H. Dexter, Oakham; second, £2, S. Dexter, Oakham. Commended: J. Harris, Langham.

HORSES.

Cart mares.—First prize, £5, J. Bromhead, Braunston; second, £3, T. Stokes, Caldecott, Rockingham. Highly commended: W. Berridge, Barrow, Oakham.

Cart horses under seven years old.—First prize, £5, and second, £3, Lord Aveland, Normanton Park. Highly commended: R. Lucas, Edithweston. Commended: Earl of Lonsdale, Barleythorpe Hall.

Hunting mares or geldings, above five years old, in riding order (open).—First prize, £20, and second, £10, W. Richards, Ashwell. Highly commended: W. Richards. Commended: A. J. Fludyer, Ayston.

Farmers or tradesmen for four-year-old hunting mares or geldings, in riding order, bred within the district.—First prize, £30, W. Linnell, Woodford Lodge, Thrapstone; second, £15, W. Marriott, Ryhall; third, £5, J. Lawrence, Warrington, Oundle. Highly commended: G. E. Foster, Uppingham.

Farmers or tradesmen for three-year-old hunting mares or geldings, bred within the district.—First prize, £10, W. Marriott, Ryhall; second, £5, S. Earl, Morborne, Peterborough. Commended: J. Brewster, Grantham.

Farmers or tradesmen for mares adapted for breeding hunters, in-foal by a thoroughbred horse.—First prize, £10, R. L. Healey, Hambleton; second, £5, W. Colwell, Thorpe-by-Water. Highly commended: W. Berridge, Barley-on-the-Hill. Commended: W. Barnes, Teigh.

Farmers or tradesmen for riding mares or geldings, under seven years old, not exceeding 15 hands 1 inch high.—First prize, £10, P. Hornsby, Grantham; second, £5, J. Bailey, Hambleton. Highly commended: J. N. Beasley, Pitsford Hall, Northampton. Commended: W. Staple, Oxney House, Peterborough.

Ponies, under seven years old, not exceeding 13 hands high.—First prize, £3, T. Stokes, Glaston; second, a hunting whip, R. J. Garfoot.

ROOTS AND VEGETABLES.

Crop of Swedish turnips, not less than ten acres, grown in the county of Rutland.—First prize, silver cup or £10, Rev. J. H. Fludyer, Ayston Hall; second, £5, J. G. Bosworth, Greetham.

Crop of Swedish turnips, not less than five acres.—First prize, £7, — Fisher, Ashwell; second, £3, E. Wortley, Riddlington. Highly commended: J. Shield, Wing.

Crop of mangel-wurzel, not less than three acres.—Prize, £3, Lord Lonsdale, Barleythorpe Hall. Highly commended: — Pinder, Whitwell. Commended: Rev. B. Smith, Glaston.

Crop of mangel-wurzel, not less than one acre.—Prize, £2, — Brown, Thistleton. Highly commended: Rev. J. H. Fludyer; — Burroughes.

Crop of cabbages, not less than one acre.—Prize, £2, — Fisher, Ashwell. Highly commended: F. Daniel, Oakham.

Crop of kohlrabi, not less than one acre.—Prize, £2, — Wortley, Riddlington.

Crop of common turnips, not less than ten acres.—Prize, £7, — Hardy, Thistleton. The class highly commended.

Crop of common turnips, not less than five acres.—Prize, silver cup or £5, — Pinder, Whitwell. Highly commended: — Chapman, Langham. Commended: Earl of Gainsboro'.

A B I N G D O N S H O W.

PRIZE LIST.

JUDGES.—CATTLE AND CART COLS: G. Garne, Churchill Heath, Chipping Norton; B. Castle, Charlton, near Wantage. PIGS AND SHEEP: A. Edmunds, Longworth Lodge, near Faringdon; C. Hobbs, Maiseyhampton, near Lechlade. HORSES: T. Theobald, C. P. Duffield. ROOTS: J. Lichfield, Draycot; J. Kimber, Fyfield; R. Pike, Lyford. CORN: W. Powell; J. Prowse, Wallingford.

CATTLE.

Fat ox.—First prize, £5, Col. Loyd-Lindsay, M.P., Lockinge; second, £3, H. Betteridge, Hanney.

Steer under three years and three months old.—First prize, £5, Col. Loyd-Lindsay, M.P.; second, £3, H. Betteridge. Commended: G. Walhis.

Fat cow.—First prize, £5, Col. Loyd-Lindsay, M.P.; second, £3, T. Latham.

Fat heifer under four years of age.—First prize, £5, Col. Loyd-Lindsay, M.P.; second, £3, W. Aldworth.

Two heifers, in-calf or with calf, under three years of age.—First prize, £3, H. Betteridge; second, £2, J. Powell.

Shorthorn bull, under 15 months.—Prize, £5, Colonel Loyd-Lindsay, M.P.

Pair of heifers, under two years of age.—Prize, £5, J. B. Jenkins.

Best beast shown in classes 1 or 2.—Prize, a silver cup, value £5 5s., Colonel Loyd-Lindsay, M.P.

Best beast shown in classes 3 or 4.—Prize, a silver cup; value £5 5s., Colonel Loyd-Lindsay, M.P.

Best two heifers in class 5.—Prize, a silver cup, value £5 5s., H. Betteridge.

SHEEP.

Pen of three fat Half-bred or Oxford Down wether sheep, under 22 months old.—Prize, £3, Colonel Loyd-Lindsay, M.P.

Pen of three fat Hampshire or Southdown wether sheep, under 22 months old.—First prize, £3, Sir W. Throckmorton, Bart.; second, £2, R. P. King.

Pen of five fat wether tegs, under 12 months old, irrespective of breed.—First prize, £3, S. Druce; second, £2, Colonel Loyd-Lindsay, M.P.

Pen of sheep, in any class.—Prize, a silver cup, value £5 5s., Sir W. Throckmorton, Bart.

PIGS.

Pen of three fat pigs, of one litter, under nine months old.—First prize, £3, Col. Loyd-Lindsay, M.P.; second, £2, G. Wallis.

Three fat pigs, under 14 months old.—First prize, £3, W. M. Tagg; second, £2, J. Aldworth.

Fat hog, above 14 months old, irrespective of weight, age, or breed.—First prize, T. Duffield; second, £1, Sir W. Throckmorton, Bart.

Best pig in the show, age to be taken into consideration.—A silver cup, value £5 5s., W. M. Tagg.

HORSES.

Four-year-old hunter.—First prize, £10 10s., E. Pullen, sen. Commended: Mr. Hitchman.

Cart colt under three years old.—First prize, £5 5s., W. M. Tagg. Commended: Mr. Woodbridge.

ROOTS.

Five acres of Swedish turnips.—First prize, a silver cup, value £5 5s., E. Pullen; second, £2, J. Harris; third, £1, T. Latham.

Two acres mangold wurtzel.—First prize, £3, W. M. Tegg; second, £1, E. Pullen.

Collection of roots, not less than 10 each, field culture, not less than four sorts.—First prize, £2 2s., W. M. Tagg; second, £1, Col. Loyd-Lindsay.

Collection of roots, not less than four sorts, field culture, 12 of each to be exhibited.—First prize, £5, Col. Loyd-Lindsay; second, £2, W. J. Powell.

CORN.

Five quarters of wheat, one bushel in an unmarked bag to be pitched.—First prize, £2, Col. Loyd-Lindsay; second, 10s., J. Holliday.

Five quarters of barley, one bushel to be pitched.—First prize, £2, R. P. King; second, 10s., A. Benson.

THE YORKSHIRE SOCIETY'S FAT STOCK SHOW AT YORK.

Among the many events which come off annually in the old city of York—racing, rowing, or municipal—none is more welcome to the citizens than the Fat Stock Show. We do not refer to innkeepers, to whom horse-fairs and reviews are glorious institutions, but the whole body, corporate and non-corporate, the authorities, including those of the home-office—the ladies, and also the people. Here the mayor takes his share of duty in the chair of the committee; a nobleman acts as president; an M.P. of the city presides at the dinner; the sheriff lends a helping hand to everything; councillors collect money, and tradesmen subscribe freely to promote the prosperity of the Society. Under these circumstances, and the show being held in the same place, the patrons and officials permanent, the show of one year seems very like another. Bunting here, evergreens there, cattle in the nave, sheep in one transept, pigs in the other, and poultry at the sides, the scene to-day appears to be a stereotype of that of the previous year. Between the show of this and last year there is one great difference—the sun shines to-day, and the temperature is genial; while last year the frost was keen and the approach of Old Christmas was heralded by a snowstorm, and the world was white. If, however, owing to its air of comfort and its convenient arrangements being the same year after year, the show seems a copy of itself to the outsider, to the initiated observer, the practical farmer and breeder, it by no means wears an unvarying aspect. Classes vary greatly between year and year; and in some kinds of stock on this occasion the merit is not as high as we have seen it; while in others the exhibition has not been previously excelled. Coming close after the Midland Counties meeting at Birmingham, the Society has every reason to be satisfied.

The aggregate entries are 781, and are a little in excess of last year. Cattle, however, number 16 less than in 1872; but this deficiency is more than compensated for by an addition in other sections. Sheep number 10 more, and pigs five more than at the last show. The entries for the present year are: Cattle 68, sheep 39, pigs 36, poultry 312, roots 90, and butter 13. Although deficient a little in numbers, the cattle are generally superior in quality; whilst sheep show better than we have ever seen them; and in other departments the exhibition is of more than average excellence. The

cattle, though not so numerous as last year, are a capital section, and are, as a matter of course, the great feature of the exhibition. Of oxen not exceeding four years there are five entered, the first prize going to an animal of large proportions belonging to Mr. I. H. Stephenson, of Sancton Grange, Brough; Mr. Kettlewell taking second. The first is a level animal and of fine quality of flesh, no lumps, and entitled to his place; but the second and third are very moderate. The class for oxen not exceeding three years old muster more largely than the afore-named, there being ten animals entered here. The Earl of Zetland, Aske, Richmond, takes the premier award with a red ox, 2 years 8 months and 12 days old, bred by J. Ross; while the contest for the cup, value £25, for the best animal in the above two classes, lay as a matter of course between the two prize-takers, and the judges, believing that the Earl of Zetland's ox was the better animal, awarded it the coveted honour; as we think this award to the younger animal a just decision. Sir G. O. Wombwell, of Neuburgh Park, Easingwold, was the successful competitor in the next class, for oxen not exceeding four years (cross-bred); and the award given for the best cow or heifer not exceeding four years (cross-bred) was taken by Mr. J. Reid, Grey-stone, Alford, N. B. For the silver-mounted claret-jug, for the best animal in the these classes, Sir G. O. Wombwell's and Mr. Reid's first prize-takers were pitted against one another, and victory rested with Mr. Reid. In the classes in which only tenant-farmers residing within the county or in an adjacent county could exhibit the entries were few, and competition was almost at zero. The falling off in the entries of cattle is chiefly in the classes for tenant-farmers, and the reason assigned for it, though one which the public at large would rather should not exist, is one which the farmers at all events will appreciate—it is that prices for fat stock are too temptingly high for graziers to keep their beasts long on hand. In the next two classes, viz., cows of any age, and heifers not exceeding 4 years old, there were six animals competed in the one, and three in the other. In the former the Lord of Feversham carried off the first prize with a red cow, 7½ years; and in the latter class, Mr. A. H. Browne, of Bank House, Acklington, Northumberland, took the first award with a roan, 2 years and 6 months old. The silver cup, or piece of plate, value

£20, given by the corporation of York, for the best animal in those classes, became the property of the Earl of Feversham.

Of Shorthorn oxen (any age) there were only four, and two each of Shorthorn cows (any age), oxen of any other breed or cross, and cow or heifer of any other breed or cross. In the several classes, Mr. W. Wilberforce, York; Mr. W. Clarkson, Syke Farm, Brough; Mr. J. H. Scholfield, Bridge Sheer, Tadcaster; and Mr. J. Cattley, Stearsby, Easingwold, were the first-prize takers. Mr. Wilberforce's ox also took the cup given by the York Licensed Victuallers' Association, as the best animal in the four classes named. In the several classes for Scotch breeds there was but little competition; and first prizes were taken by Messrs. W. and J. Lawson, Aberdeenshire, who also takes the silver challenge cup for the best Scotch bred animal in those classes.

The classes of sheep in which the greatest competition exists are pens of three Leicester wethers, of any cross breed and any age, and sheep of any age and breed, not a ram. Mr. E. Usher, of Warter Wold, Pocklington, takes both prizes for pens of three Leicester wethers, one of which pens is also awarded the piece of plate for the best pen of sheep on the ground. In the class for pens of three South or other Down wethers under 22 months, the Earl of Zetland and Lord Wenlock are the only competitors, the one exhibiting three, and the other two pens; and the Earl of Zetland took both prizes.

The pigs in the show are a useful lot of animals, the class coming out most prominently being the small breeds not exceeding 12 months old, of which eight are entered. Mr. Graham, of Blackburn's Buildings, York-road, Leeds, takes the first award in the class, and, with the same animal, has become the possessor of the silver plate given by the Society to the best pig on the ground. Here, however, Mr. Graham was closely run by a pig exhibited by Mr. J. Bramlitt, Manor-street, Leeds, who gets the first prize for small breeds above 12 months.

Amongst the poultry, the classes most strongly represented are the Dorkings, Cochins Chinas, Brahma Pootras, game, and Hamburgs. The chief prize takers are R. W. Richardson, Meaux Abbey, Beverley; H. Beldon, Goitstock, Bingley; R. Newbitt, Epworth; W. G. Urwin, Whitby; T. M. Derry, Gedney; W. W. Clough, Sheffield; G. Sutton, York; J. Watson, Knaresboro'; T. Peter, Fairfield, York; W. Ormerod, Walsden, Todmorden.

PRIZE LIST.

JUDGES.—CATTLE: J. R. Singleton, Givendale, Pocklington; G. Westmoreland, Huttonfields, Winstan, Darlington; and T. Wetherell, Claypath, Durham. SHEEP AND GOATS: J. Cundall, Acaster, Malbis, York; and T. B. Whitwell, Gate Helmsley, York. PIGS: Connciller Fawcett, Osbaldwick, York; and J. M. Turner, Wakefield.

SHORTHORNS.

Ox not exceeding four years old.—First prize, £10, J. H. Stephenson, Sancton Grange, Brough; second, £5, G. Kettlewell, Skelton, Ripon; third, £1, S. Wiley, Brandsby.

Ox not exceeding three years old.—First prize, £10 and President's cup, Earl of Zetland, Aske, Richmond; second, £5, W. Knapton, Kelk, Lowthorpe, Hull; third, £1, Sir W. C. Trevelyan, Bart., Wallington, Newcastle-on-Tyne.

Cow of any age.—First prize, £10 and York Corporation plate, Earl of Feversham, Duncombe Park; second, £5, W. and G. Lovel, Norton, Malton; third, £1, Sir J. Swinburne, Bart., Capheaton, Newcastle-on-Tyne.

Heifer not exceeding four years old.—First prize, £10, A. H. Browne, Bank House, Aekington, Northumberland; second, £5, Sir W. C. Trevelyan; third, £1, R. Danby, Manor House, Stamford Bridge.

EXTRA SPECIES.—Shorthorn bull, between the age of six and fifteen months old.—First prize, £3 and Silver Plate, T. Stamper, Oswaldkirk; second, £2, Sir G. O. Wombwell, Bart.; third, £1, W. Aldgley, Salisbury Old Hall, Ribchester, Preston.

CROSS-BREDS.

Ox not exceeding four years old.—First prize, £5, Sir G. O. Wombwell, Bart., Newburgh Park, Easingwold; second, £3, G. Lancaster, Morton Grange, Northallerton.

Cow of any age, or heifer not exceeding four years old.—First prize, £5 and Ex-Sheriff Rooke's cup, J. Reid, Greystone, Alford, N.B.; second, £3, R. Bruce, Newton of Struthers, Forres, N.B.

TENANT FARMERS' CLASSES.

Shorthorn ox of any age.—First prize, £5, and the York Licensed Victuallers' silver cup, value 10 gs., W. W. Wilberforce, Fishergate, York; second, £3, G. Kettlewell; third, £1, M. and W. Boville, Walk Mill, Northallerton.

Shorthorn cow of any age, or heifer, not exceeding four years old.—First prize, £5, W. Clarkson, Syke Farm, Newbald, Brough; second, £3, H. Richardson, Cherry Hill, York.

Ox of any other breed or cross, of any age.—First prize, £5, J. H. Scofield, Tadcaster; second, £3, J. D. Gowland, Widdington Manor, Nun Monkton, York.

Cow or heifer of any other breed or cross, the cow of any age, and heifer not exceeding four years old.—First prize, £5, J. Cattley, Stearsby, Easingwold; second, £3, J. D. Gowland.

SCOTCH BREEDS.

Polled ox.—Prize, £5 and Mr. Roper's silver challenge cup, value £20, W. and J. Lawson, Lessendrum, by Huntley, Aberdeenshire.

Polled cow or heifer.—Prize, £5, J. Reid, Greystone, Alford, N.B.

Horned Highland ox.—Prize, £5, Sir W. C. Trevelyan, Bart.

Horned Highland cow or heifer.—First prize, £5, T. Francis, Skipton Bridge, Thirsk; second, £3, J. Outhwaite, Bainesse, Catterick.

DISTRICT PRIZES

For tenant farmers residing within twenty miles of the City of York.

Ox of any breed not exceeding four years old.—First prize, £5, T. Eastan, Newburgh Grange, Easingwold; second, £3, H. Kilby, Loundsborough Market Weighton.

Cow or heifer of any breed, the cow of any age and the heifer not exceeding four years old.—First prize, £5, W. H. Woodward, Baxby, Easingwold; second, £3, W. and G. Lovel, Norton, Malton; third, £1, F. Rowntree, Brandsby, Easingwold.

SHEEP.

Three Leicester wethers, under twenty-two months old.—First prize, £5 and Silver Plate, given by the York Chamber of Agriculture, E. Usher, Water Wold, Pocklington; second, £2, E. Usher.

Three South or other Down wethers, under twenty-two months old.—First prize, £3, Earl of Zetland; second, £1 10s., Earl of Zetland.

Three horned Scotch or Mountain wethers.—First prize, £3, T. Lund, Monk Bar, York; second, £1 10s., T. Lund.

Three wethers, of any cross breed, of any age.—First prize, T. Hobson, Crockey Hill, York; second, £1 10s., Mrs. Agar, Brockfield, York.

Sheep of any age and breed, not a ram.—First prize, £2, W. White, Full Sutton, Stamford Bridge; second, £1, E. Tindall, Knapton Hall, Rillington.

PIGS.

Pig, small breed, exceeding twelve months old.—First prize, £3, J. Bramlitt, Manor Street, Sheepscare, Leeds; second, £1, Mrs. Agar, Brockfield, York; third, 10s., J. Morrell, Rusby Place, Ilungate, York.

Pig, small breed, not exceeding twelve months old.—First prize, £3 and Society's Plate, Mr. Graham, Blackburn's Buildings, York Road, Leeds; second, £1, C. Edwards, Colliergate, York; third, 10s., J. Dixon, Walmgate, York.

Pig, middle breed, exceeding twelve months old.—First prize, £3, J. Cundall, Sycamore Grange, Copt, Hewick, Ripon; second, £1, J. Blake, Warthill, York; third, 10s., Lord Wenlock, Esrick Park, York.

Pig, middle breed, not exceeding twelve months old.—First prize, £3, J. Bramlitt; second, £1, W. Connell, Heslington, York; third, 10s., W. Coates, Pavement, York.

Three pork pigs, under twenty weeks old.—First prize, £3, Mrs. Agar; second, £1, Mrs. Agar; third, 10s., J. Cundall.

EXTRA STOCK.—First prize, 5s., C. Edwards, jun.; second, 2s. 6d., H. Falkingham, Barker Hill, York; third, 3s. 6d., J. Cundale.

ROOTS.

Six specimens of long mangold wurzel, any variety.—First prize, £15s., Hon. E. Lascelles, Middlethorpe Manor, York; second, 7s. 6d., J. Nalton, Copmanthorpe, York.

Six specimens of globe mangold wurzel, any variety.—First prize, 15s., Hon. E. Lascelles; second, 7s. 6d., J. Dickinson, Holme Hill, West Rasen.

Six specimens of Swede turnips, any variety.—First prize, 15s., T. Dickson, Langwith, York; second, 7s. 6d., J. Snowball, Stockton Forest, York.

Six specimens of common turnips, any variety.—First prize, 15s., G. Harrison, Newton-on-Derwent, York; second, 7s. 6d., W. Ripley, Kirk Hammerton.

Twelve specimens of carrots, white or red.—First prize,

15s., F. Thompson, Poppleton Hall, York; second, 7s. 6d., F. Thompson.

Twenty specimens of round potatoes.—First prize, 15s., R. Whitehead, Heslington, York; second, 7s. 6d., W. Kendall, Heslington.

Twenty specimens of kidney potatoes.—First prize, 15s., J. Blake, Warthill, York; second, 7s. 6d., H. R. W. Hart, Dunnington Lodge, York.

Six specimens of ox cabbage.—First prize, 15s., not awarded; second, 7s. 6d., J. Milner, Skirpenbeck.

BUTTER.

Three rolls of butter.—First prize, £1, Mrs. Balderson, Bielby; second, 10s., Mrs. M. Merrall, Burneston, Bedale; third, 5s., Mrs. S. Robson, Deighton, York.

Fancy butter.—First prize, £1, Mrs. M. Merrall (cow and calf); second, 10s., Mrs. M. Merrall (horse and foal); third, 5s., Mrs. S. Robson.

RUGBY AND DUNCHURCH FAT STOCK SHOW.

PRIZE LIST.

JUDGES.—W. P. Bridford, Wyken House, Coventry; H. Lowe, Cumberford; J. Rooke, Welford Grange, Wansford.

CATTLE.

Fat steer under four years old.—First prize, T. and H. Major, Hillmorton; second, R. Bolton, Flecknoe.

Fat cow that has had a calf in 1872.—First and second prizes, H. J. Bromfield, Cawston.

Bull of pure breed, above a year old.—Prize, M. W. Furness, Clifton.

Pure Shorthorned bull, above one and under three years old, the property of a tenant-farmer.—Prize, T. and J. Major.

Cow in milk at the time of the Show.—Prize, J. Beale, Wolvey.

Pure-bred breeding cow, which has had a calf in 1873, and in milk at the Show, and bred by the exhibitor.—First prize, M. W. Furness; second, C. Marriott, Cotesbatch.

Heifer in milk, under four years old.—Prize, C. Marriott.

Heifer in calf or in milk, under three years old.—Prize, M. W. Furness.

Yearling heifer.—Prize, C. Marriott.

Pair of yearling steers.—Prize, J. Beale. Commended: J. Haswell, Rugby.

HORSES.

Hunter, under nine years old, the property of a farmer, which has never run in any Open Handicap Steeple or Hurdle Race.—First prize, J. Gilbert, Swinford Lodge; second, Mr. Montgomery, Bourton.

Mare for agricultural purposes, in foal, or with a foal at its foot.—Prize, J. Beale. Commended: T. J. Johnson, Willoughby.

Cart colt, or filly, for agricultural purposes, under two years old.—Prize, Mr. Major.

SHEEP AND LAMBS.

Three fat shearlings, of the long-wool breed.—Prize, H. and J. Brierley, King's Newnham Hall.

Three cross-bred shearlings.—First prize, Messrs. Brierley; second, Mr. Major.

Three long-wool breeding ewes, which have suckled their lamb or lambs up to the 1st July, 1873, and are in a fair state.—Prize, W. Cowley, Watford.

Three short-wool breeding ewes, which have suckled their lamb or lambs up to the 1st July, 1873, and are in a fair breeding state.—Prize, S. C. Pilgrim, Wantage.

Three long-wool theaves, in a fair breeding state.—Prize, W. Cowley.

Three Shropshire breeding theaves.—Prize, S. C. Pilgrim.

Pure-bred long-wool tup lamb, bred by the exhibitor.—Prize, W. Cowley.

Pure-bred short-wool tup lamb, bred by the exhibitor.—Prize, S. C. Pilgrim.

Three long-wool wether or ewe lambs, bred by the exhibitor.—J. A. Beale, Brokhurst.

Three short-wool wether or ewe lambs, bred by the exhibitor.—Prize, S. C. Pilgrim.

PIGS.

Sow or yelt, of large breed, with its farrow of pigs under twelve weeks old.—Prize, J. Downing, Cawston Grange.

Three breeding pigs under six months old.—Prize, J. Crofts, Lawford Hill.

EXTRA STOCK.

Best beast, as extra stock, which has been the property of the exhibitor six months preceding the show.—Prize, Mr. Cropper, Rugby. Commended: H. J. Bromfield.

THE CHIPPENHAM AGRICULTURAL ASSOCIATION.

PRIZE LIST.

JUDGES.—R. J. Newton, Woodstock; T. Horley, jun., Leamington; T. Morris, Gloucester.

CATTLE.

Bull, cow, and offspring.—First prize, J. Stratton, Alton Priors, Marlborough; second, R. Stratton, The Duffryn, Newport. Highly commended: J. A. Mumford, Brill House, Thame. Commended: J. Cox, Whatley, Frome.

Fat steers, above three years old.—First prize, J. Stratton, Manningford; second, J. Stratton, Alton Priors.

Fat steers, under three years old.—First prize, T. H. Ferris, Manningford Bohune; second, J. A. Mumford.

Fat cows.—First prize, F. H. Baker, Foxley; second, T. H. Ferris.

Dairy cows of any age.—First prize, H. White, Stanley; second, J. Smith, Bynoll.

Dairy cows under four years old.—First prize, J. Stratton, Alton Priors; second, J. Smith.

Heifers under thirty-six months old.—First prize, J. Stratton, Alton Priors; second, R. Stratton, The Duffryn, Newport.

Heifers under twenty-four months old.—First prize, J. A. Mumford; second, O. Viveash, Strensham, Tewkesbury. Commended: R. Stratton.

Heifer calves under twelve months old.—First prize, R. Stratton, The Duffryn; second, J. Stratton, Alton Priors.

Bull calves under twelve months old.—First prize, T. Hewer, Inglesham; second, O. Viveash.

Bulls under two years old.—Prize, J. Stratton, Alton Priors.

Bulls above two and under three years old.—Prize, R. Stratton, The Duffryn.

SHEEP.

Four fat short-wool wethers.—Prize, C. Rich, Sutton Benger.

Long-wool breeding ewes.—Prize, W. Limbrick, Horton.

Eight cross-bred breeding ewes.—First prize, Mrs. F. Blanche, Iron Acton; second, J. C. Fry, Oldfield, Marshfield.

HORSES.

Two years old cart gelding or filly.—A. Gregory, Forest Gate Farm.

Mares and foals.—Prize, W. Archer, Wotton Bassett.

Weight-carrying hunter.—Prize, J. Keevil, Shaw, Melksham.

PIGS.

Boars.—First prize, J. Downing, Stanton, St. Quintin; second; H. Brinkworth, Stowell, Corsham.

Breeding sows.—First prize, W. Spencer, Chalfield; second, R. Spackman, Broughton Gifford.

Two fat pigs of one litter.—First prize, W. Spencer, Chalfield; second, R. Spackman, Broughton Gifford. Highly commended: E. Little, Lanhill.

Pat pigs of any age.—Prize, E. Little.

EXTRA STOCK.

Four fat short-wool wethers.—Prize, C. Rich, Sutton Benger.

Heifer.—Prize, W. Redman, Conlstone

Filly.—Prize, I. Clark, Heddington.

CENTRAL CHAMBER OF AGRICULTURE.

On Wednesday, December 10, a Council meeting and the annual meeting of the Central Chamber of Agriculture were held at the Salisbury Hotel, Sir H. M. Beach, M.P., in the chair.

The Council meeting commenced at two o'clock. After the usual preliminary business,

Mr. WILLSON, in presenting the auditor's report, said he wished to call attention to the fact that the arrears of members' subscriptions had very much increased during the last year, and at the same time to observe that the 30th rule of the Chamber suggested the remedy for that evil. That rule said that no members should be entitled to vote, or to hold office, if his subscription were unpaid, and that the Council should have power to strike off the list of members persons whose subscriptions were in arrear two years, and that no member should be readmitted till the arrears had been paid. He would suggest that the secretary should be instructed to make an application for immediate payment of the arrears, and to call their attention to Rule 30. At the present time the liabilities amounted to £67 ls. 3d., and they had only £40 to meet them. It was really disgraceful that a Society like that should stand in such a position, when so much money was owing, viz., £189.

Mr. NEILD: What is the amount of the deficiency of the chambers?

The SECRETARY: £74, £62 of it being for this year.

On the motion of Mr. WILLSON, seconded by Mr. CLAY, it was resolved unanimously that the secretary should make application for the immediate payment of the arrears, and at the same time call attention to Rule 30.

The SECRETARY, after reading some communications from Associated Chambers, read the reply of the Chancellor of the Exchequer (Mr. Gladstone) to the letter, asking him to receive a deputation respecting the Malt-tax, before the meeting of Parliament. In this reply, which has been previously published, the right hon. gentleman consented to receive a deputation after the opening of the next Session.

Mr. JASPER MORE inquired whether any arrangement had been made for ensuring a discussion of the question in the House of Commons in the next session. Unless some members were pledged in the matter the Chamber might be placed in the ridiculous position of having sent a deputation to the Chancellor of the Exchequer and of that not being followed up by any discussion in Parliament.

The CHAIRMAN said if Mr. MORE had been present at the last meeting of the Council he would have heard the question fully discussed (Hear, hear).

Mr. JASPER MORE observed that every one knew that unless a day for introducing a subject were balloted for when Parliament first met there was no chance of introducing it. He thought they should know who would undertake to introduce it before they went to the Chancellor of the Exchequer; otherwise the interview might be fruitless.

Mr. ARKELL said there were three members of Parliament who were supposed especially to represent the farmers, and he thought it should be arranged that one of them should ballot on the first night.

Mr. HIBBELL concurred in this view.

Mr. C. S. READ, M.P., said some misapprehension appeared to prevail with regard to the rules of the House of Commons respecting notices of motion. A notice of motion could not be kept on the paper for more than a month; and he did not think it at all desirable that there should be a discussion and division on the Malt-tax in the first month of the session,

when probably many of their friends would not have arrived in town. The case was quite different with regard to bills. There was a general wish on the first night of the session to put them down in order to secure some Wednesday during the session. He cordially agreed with Mr. Jasper More that Parliament ought not to be dissolved without a discussion and a division on the Malt-tax, so that previously to the general election they might know who were their friends on that question (cheers).

Ultimately it was resolved, with only one dissentient, on the motion of Mr. JASPER MORE, seconded by Mr. T. ORTON, that before the deputation waited upon Mr. Gladstone the chairman of the Central Council should take steps to ascertain whether Colonel Barttelot, or, if not Colonel Barttelot, any other member of Parliament, would engage to bring the question of the Malt-tax under the notice of the House of Commons next session.

On the motion of Mr. G. F. MUNZ, seconded by Mr. D. LONG, it was resolved "That in lieu of the present practice of supplying Parliamentary Blue Books and Papers, the Secretary be instructed to forward to all chairmen and secretaries of Associated Chambers in future a copy of the bill or bills before Parliament which concern the agricultural interest as soon as printed; and that he be instructed to enclose with the circulars announcing the ordinary Council meetings a list of all Bills and Blue Books published in the month preceding, with the information printed thereon that he will forward these if requested at the published prices, and that a copy of this resolution be sent to all the associated chambers."

The Council then agreed to the annual report to the Chamber.

The next business being the selection of subjects for future meetings of the Council,

Mr. NEILD observed that in his opinion it was very desirable that they should confine themselves to questions that were especially interesting to tenant-farmers, especially as they were very deficient in the support of that class, partly, he believed, because they had directed their attention to legislative matter instead of matters which had a direct bearing on agriculture. He had hoped that the Business Committee would recommend that their attention should first be directed to the question of compensation for unexhausted improvements. While almost every industry in the country was progressing, and there was a great increase of national wealth, the tenant-farmers seemed to be rather retrograding in their position, owing to the heavy burdens which were imposed upon them. What the patriarch said about Issachar being "a strong ass couching down between two burdens" seemed to him to be most applicable to the present position of the tenant-farmer (laughter).

The CHAIRMAN: Do you propose that subject then? (great laughter).

Mr. NEILD: I propose the subject of compensation for unexhausted improvements.

Mr. READ, M.P., suggested the subject of thrashing machines.

The CHAIRMAN then laid before the meeting, and moved the adoption of, the eighth annual report of the Council, which described the progress made in strengthening the organisation, which for seven years had endeavoured to provide the owners and occupiers of land with centres for conference and discussion, with means for securing a uniform and simultaneous expression of opinion, and with a ready agency for

combination and concerted action throughout the kingdom upon questions affecting agricultural interests. It also recorded the proceedings of the Council with regard to Local-taxation, compensation for unexhausted improvements, contagious diseases of animals, Malt-tax (respecting which Mr. Gladstone has promised to receive a deputation from the Chamber early after the opening of the Session of Parliament in February), the Agricultural Children's Act, poor-law relief, and middle-class education in rural districts. In conclusion it expressed satisfaction that although few great victories had yet been won, though the rural grievance was still unredressed, improvement of land still discouraged by oppressive and exceptional taxation, the Malt-tax still an exceptional burden on industry, the property of the farmer in live stock still left a prey to preventable diseases, his crops still insecure from the ravages of ground game, and (save in exceptional instances) his capital invested in high cultivation still without the security of law or custom, progress was being made towards a settlement of some of these leading questions now before the associated chambers. The combination of owners and occupiers to promote and defend their common interests and to rectify their mutual relations was gathering strength, and the importance assigned both in the legislature and the public press to the expressions of opinion in the chambers of agriculture, and especially to the ultimate decisions of the representatives of those chambers in the Central Council, proved that the organisation had become a power in the state, and encouraged members of the chambers to earnest and strenuous exertions in the future.

After some discussion it was determined that the first subject discussed by the Council should be Compensation for Unexhausted Improvements, and that the three following should succeed in such order as the Council might thereafter decide upon—Thrashing Machines, Highway Districts, and Local-taxation.

The business of the Council meeting being concluded, the annual meeting was then held.

The annual report of the Council was then presented, and on the motion of the Chairman, was adopted, being taken as read.

Mr. WILSON, having presented the auditor's report, and it having been adopted,

On the motion of Mr. NEILD, seconded by Mr. FORD, thanks were voted to Mr. Willson, and he was reappointed auditor.

Mr. Thomas Rigby, of Winsford, Cheshire; Mr. Thomas Willson, of Biggen Grange, Oundle, Northamptonshire; Mr. Thomas Horley, of The Fosse, Leamington, Warwickshire; Mr. James Webb, of Spring Hill, Fladbury, Pershore, Worcestershire; Mr. Thomas Arkell, of Penhill, Swindon, Wilts; and Mr. C. M. Caldecott, of Holbrook Grange, Rugby, Warwickshire (six of the eight retiring members of the Council), were re-elected; Sir J. Pakington, M.P., and Mr. Bowen Jones being chosen to fill the places of Colonel Tomline, M.P., and Mr. Genge Andrews, the other two.

The report of the Select Committee of the House of Commons on the operation of the Contagious Diseases (Animals) Act, 1869, together with the existing orders of the Privy Council for the regulation of the cattle traffic in Great Britain and Ireland, was next brought under the notice of the Chamber, at a special general meeting appointed to consider the subject.

Mr. STRATTON moved a series of resolutions recording the profound disappointment of the Chamber that the committee had come to a decision adverse to any stringent and systematic attempt to deal with foot-and-mouth disease; also reiterating the conviction of the Chamber that it was most desirable, in the interest of both producers and consumers of meat, that foot-and-mouth disease should be adequately dealt with; further, pointing out that at a time like the present, when the disease had from natural causes reached a low ebb, it would be easy to adopt adequate restrictive measures without seriously interfering with the cattle trade; claiming, too, for the Chamber, as a representative body, the right of expressing on behalf of the agricultural interest a perfect readiness to submit to such restrictions as might be necessary to effectually keep foot-and-mouth and other diseases in check; and, whilst recognising the efforts which are being made to enlarge the supply of foreign dead meat, declaring that for the safety of home stock it was desirable that the importation of foreign live animals should be converted into a dead meat trade.

Professor GAMGEL, who seconded the motion, spoke at some length in support of these resolutions. He criticised the action of the Veterinary Department which he censured as equally ignorant and inefficient. He also observed that since we had had foreign importations of live stock and a Veterinary Department there had been a great increase of disease whilst there was no augmentation in the amount of supplies. If meat were brought into this country dead there would be no foot-and-mouth disease. The farmers of Aberdeenshire had voluntarily adopted the system of carrying their meat dead. The most distant port from which supplies were obtained, Cuxhaven, was not so distant from London as Aberdeen, and arrangements were being made there by which, in the course of a year or two, the German cattle might be brought dead to London, *via* Harwich, in 24 hours. By the surrounding of dead meat with an atmosphere of 45 degrees only, it might be preserved for three weeks.

The SECRETARY read communications on the subject from associated chambers, which were in general accordance with the resolutions moved by Mr. Stratton.

Mr. WHITAKER believed that farmers generally would be willing to submit to almost any restrictions for the prevention of disease, provided only such restrictions were not more stringent than those which were placed upon foreign cattle.

Mr. T. DUCKHAM thought some allusion should be made to those parts of the Report of the Parliamentary Committee of which they approved. It recommended the adoption of a uniform system throughout the United Kingdom, and it also recommended that there should be a more liberal rate of compensation in cases of compulsory slaughter (Hear, hear).

Mr. PELL, M.P., observed that a more liberal compensation depended very much on the view of the local authorities (Hear, hear). Under the Act and the Orders in Council it was possible to give the full value of the animal. There was nothing to prevent the local authority from allowing the owner to take the whole of the salvage, besides which, the Act permitted the magistrates to give him half the value of the animal; and the two would perhaps make up more than the value of the animal before it was taken ill. Of course in practice that was not done.

Mr. STORER believed that extended compensation would do more than anything else to stamp out the disease.

Mr. NEILD said the law required to be definitely settled. There was great jealousy of any interference with free trade, but justice must be done to the owners of cattle compulsorily slaughtered.

Mr. EGERTON concurred in the opinion that slaughtering was the only effectual method of stamping out disease.

Mr. KELLE, from China, who was invited by the chairman to address the meeting, read a paper tending to show that rinderpest is as truly endemic in the Chinese empire as in the steppes of Russia. After entering into minute details respecting the slaughter of animals at Shanghai and other oriental ports, he suggested that Her Majesty's Government should be requested to enter into communication with the Chinese Government on the subject, in order that they might at all events be induced to prohibit dead meat being thrown overboard in Chinese ports and harbours.

After a few remarks from Mr. WALLER in support of the motion, the resolutions were adopted.

The business having terminated, Mr. WILLSON said, as that was the last occasion on which the chairman would preside he begged to move a vote of thanks to him; and he was sure they would all agree with him that Sir Michael had been a most excellent chairman during his year of office (cheers).

After being seconded by Mr. ADKINS, the motion was carried by acclamation.

The CHAIRMAN, in returning thanks, said when he took office he expressed his determination to do all he could to ensure that the Council should not lose in position or influence during his presidency, and that it had not lost in those respects was shown by the power it had exercised both in the country and in Parliament in reference to such important questions as local taxation and compensation for unexhausted improvements. It was a very difficult task to preside over the deliberations of such a body, and if anyone had any ground of personal complaint against him he tendered him his best apologies, assuring all of them at the same time that whatever he had done in his capacity as chairman was done with the best intention (cheers). He was to be succeeded in the chair by a gentleman who was thoroughly competent through his know-

ledge, experience, and ability to fill it, and he was confident that the Chamber would continue to progress under that gentleman's guidance. For himself, he would only add that, if he lived, he should cherish for many years to come pleasurable reminiscences of the period during which he acted as their chair-

man and of the many friends that he made in that position; and it would ever be his wish to attempt to forward, whether in public or in private, the interests of the Central Chamber of Agriculture (cheers).

The meeting then separated.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the monthly meeting of the directors, held on Wednesday in Edinburgh, Mr. Mitchell in the chair,

The anniversary general meeting was fixed for the 21st of January, 1874, being the third Wednesday of the month, and the usual day for holding the meeting.

The Secretary, in submitting a statement of the funds at the close of the financial year on the 29th ult., reported that the books and vouchers had been placed in the hands of the auditor, Mr. Kenneth Mackenzie, C.A.

The report by the committee on office-bearers for 1874 was given in, and the secretary was instructed to communicate with the noblemen and gentlemen suggested to fill the vacancies which occur in January next before publishing their names.

INVERNESS SHOW, 1874.—At the last meeting of the board it was remitted to the Committee on General Shows to consider and revise the increased scale of premiums, as formerly arranged. The committee held meetings on the 19th November and 2nd December, and have suggested premiums to the amount of £2,022, being an increase over what was offered at Inverness in 1865 of £722, and about £250 more than what was awarded at Stirling this year. The list was approved of, and will be submitted to a meeting of members to be held in the Caledonian Hotel, Inverness, on Friday the 19th current, at one o'clock.

GLASGOW SHOW, 1875.—The classes for the proposed show at Glasgow in 1875, as suggested by the Committee on General Shows, was submitted to the board previous to being laid before a meeting of members to be held in the Queen's Hotel, Glasgow, on Wednesday, the 10th current, at one o'clock.

The committee in charge of the district shows held a meeting on the 26th of November, when it was reported that the Society's premiums and medals had been in operation in 314 districts of Scotland during the past year. The committee, taking into consideration the suggestion made at the general meeting in January last, by Sir Thomas Gladstone, that the grants to local shows should be extended, recommended that for 1874 the number of cattle districts should be increased from 8 to 10; of the districts for horse premiums from 4 to 6; and of sheep districts from 8 to 10, adding a medium silver medal to the first prize, and giving a money premium, in place of a minor silver medal, as a third prize. This, with some additional districts for medals, will make the

amount to be offered about £1,100, or nearly £315 in excess of what it was this year.

The report was approved of.

The Committee on Cottages held its meeting on the 26th of November, when it was reported that the Society's money premiums and medals had been offered in forty-six parishes, and that reports had been received from upwards of thirty. A number of new applications were added to the list for 1875, making the sum to be offered upwards of £130, being an increase on the sum offered this year.

The report was adopted.

STIRLING SHOW, 1873.—*Trial of Reapers*: The board, on a report by the Local Committee at Stirling, awarded a medium gold medal to J. and F. Howard, Bedford, for their European reaper; a minor gold medal to Samuelson and Co., Banbury, for their Royal self-raking reaper; and a similar medal to W. A. Wood, London, for his combined reaper and mower.

Trial of Potato Diggers: The Local Committee having selected three potato diggers invented by Mr. Corbett, and made by Corbett and Peele, Perseverance Ironworks, Shrewsbury, and exhibited by A. and J. Main, Edinburgh and Glasgow; Kemp, Murray, and Nicholson, Stirling; and J. P. Cathcart, Ayr, the board awarded the Society's medium gold medal to Corbett and Peele.

Trial of Self-Delivery Reapers: On a report by the Local Committee, the directors awarded a medium gold medal to J. and F. Howard, Bedford, for their International reaper; a minor gold medal to Samuelson and Co., Banbury, for their Royal self-raking reaper; and a silver medal to W. A. Wood, London, for his Champion reaper; a silver medal to J. Biset and Sons, Blairgowrie; and a medium silver medal to J. D. Allan and Sons, Culhill, Dunkeld, for their back-delivery machines.

A letter was submitted from Messrs. Macgregor and Ross, S.S.C., sending copy of the warrant for the affiliation of the new Veterinary College of Edinburgh with the Royal College of Veterinary Surgeons.

The Special Committee on an inquiry into the Potato Disease having considered the memorial to the Board of Trade and their reply, recommended that no further proceedings in the matter should take place until the result of the premium offered by the President of the English Society was made known, which was approved of.

ROYAL AGRICULTURAL SOCIETY OF IRELAND.

At the last monthly meeting of the council of this Society, held at the office, Upper Sackville-street, Dublin, Sir George Hodson, Bart., in the chair, it was agreed to request Earl Fitzwilliam to allow himself to be appointed president of the Society for the ensuing year.

The CHAIRMAN said the first matter to be disposed of was the notice of motion of Major Borrowes, which was as follows: "It shall be a fundamental rule of the Society that no question shall be introduced or discussed at any of its meetings of a political tendency, or which shall refer to any matter to be brought forward or pending in either House of Parliament, which is not purely and simply agricultural, and spoken to from an agricultural point of view alone." In reference to the rules, he ascertained that matters of this kind required to be discussed, and decided a month previous to the stated meeting, and as the next general meeting of the Society would be held in December, he took it for granted that they could not take the motion into consideration that day.

Mr. OWEN said the subject had been already very fully discussed, and it was the unanimous wish of the council that

Major Borrowes should give the notice of motion which then appeared on the paper.

The CHAIRMAN believed the question was, Could they then take the matter into consideration, and discuss the rule bearing on it?

Mr. OWEN remarked that the matter had been fully discussed on the last day of meeting; but if the chairman ruled that it was irregular to bring it forward in the absence of Major Borrowes he would move the adoption of the resolution.

The CHAIRMAN said, as the matter was of great importance, he would like to take the sense of the meeting on it.

Mr. OWEN intimated that, if necessary, he would move the adoption of the resolution, because its terms had met with the approval of a very large meeting of the council. At the request of the council, Major Borrowes had framed the resolution according to their views.

Lord TALBOT DE MALAHIDE thought it was very desirable that they should make the proposed change. With reference to stopping people's mouths, it was an exceedingly difficult thing

to prevent politics from being touched upon at public meetings. The fully expressed resolution of the council and of the Society showing the course that was intended to be pursued, would, he believed, have a great effect in future on most gentlemen who got up to speak at the meetings of the Society. There were many questions of a non-political character which it was most desirable the Society should have the power of discussing.

Lord POWERSCOURT then moved, in the absence of Major Borrowes, that the resolution which the last-named gentleman had placed on the notice paper should be substituted for rule twenty-two.

Mr. OWEN seconded the motion, which, on being put from the chair, was unanimously adopted.

The CHAIRMAN announced that the next matter for consideration was the notice of Mr. Charles Cannon, to the effect that he would call attention of the council to the report of the select committee of the House of Lords appointed to inquire into the condition of the country with regard to horses, and its capabilities of supplying any present or future demand for them; and, further, that he would move that a committee of the council should be nominated to consider the same, and to advise the council thereon at their subsequent monthly meeting.

Mr. CANNON said he would have been very diffident in introducing this subject, but that he was under the impression, when the report was made by the committee of the House of Lords, that it was not absolutely before the House at all. He was bound to express his own view, lest it might be supposed that he desired to throw an apple of discord into the council. Before he went into the subject, he wished to observe that he felt, as a junior member, the matter should have been introduced by an old member of the council. In bringing this matter forward he would leave the report of the committee of the House of Lords to the consideration of the members. He would offer no suggestions upon it; and although in the words of his notice of motion he proposed moving the nomination of a committee to advise the council, he would leave it to them to say whether or not this course should be carried out. He held in his hand the blue book which contained the evidence taken and the report of the committee. It was a large and weighty document, but every point contained in it would be found to be grave, and worthy of deep consideration. He desired in the first instance to call attention to some of the evidence and several paragraphs in the report, in order to make out a case as to whether or not the committee should be appointed. The House of Lords seemed to think, from the scarcity of horses in this country, that a committee should be appointed to inquire into the causes which led to this, and accordingly the Prince of Wales and other distinguished personages were nominated on the committee. Thirty-eight witnesses were examined. Mr. East, a job master in London, deposed that he employed a thousand horses, and that he found those procured from Ireland worked longer and paid best. Lord Stradbroke, in his evidence, thought the best thing would be for the Government to encourage the keeping in every county good thorough-bred sires; and Captain Stack, another authority in this respect, threw out some valuable suggestions on the same subject. Major-General Wardlaw likewise recommended that the Government ought to put good stallions in different parts of the country, the result of which would be to improve the breed generally, and that the offering of prizes by agricultural societies would be desirable, with certain advantages attached. No less valuable suggestions were thrown out by Colonel Price and Colonel Baker. Earl Spencer, who was also examined before the committee, thought it would be very desirable that stallions should be kept in Ireland by the Government, and let them out, as was done in England. His Excellency also recommended that prizes should be given at the different agricultural shows in the country. He was asked—"Do you think it would be very advisable to encourage agricultural societies, by giving prizes for good stallions?" to which his Excellency replied, "I do." With regard to the report made by the committee, the third suggestion approximated to the only recommendation made by them, and was as follows: "It seems practicable that the Government should give or add to the prizes of agricultural shows for stallions." He felt it to be his duty to bring this matter before their notice. He would be sorry that it should be supposed that he wished to alienate the attention of the agriculturists of Ireland from their usual pur-

suits in husbandry, because he did not think it was the province of the Society to seek to induce the occupiers of land to sow where they could not reap: it was desirable that this pursuit should be carried out in the most scientific and best informed manner. Knowing, as they did, from the report which he held in his hand, that nineteen cavalry regiments in the British army were remounted solely in Ireland, it was the province of the Society to ventilate this subject, and discuss every matter which tended to advance the material interests of the country. In conclusion, he submitted that this was a matter for the consideration of the council, as to whether they would appoint a committee to go into more carefully the ample report, and see in what way they could sustain the observations that had been made by Earl Spencer, as head of the Irish government. From his Excellency's remarks as to giving the agricultural societies some assistance, it might be desirable if they could devise means to fortify his view, if it was likely to conduce to the benefiting of the interests of the country.

Mr. OWEN observed that the subject brought forward by Mr. Cannon was a most important one, for which he deserved the thanks of the council. In the evidence given there was a suggestion thrown out in the way of aiding agricultural societies in offering prizes for the improved breed of horses. If Mr. Cannon concluded his proposition with these words—"That the attention of the premium-sheet committee and showyard committee be requested to this pressing and important matter"—he would second the resolution. The proposer of the resolution was himself a member of the premium-sheet committee; and they could not better comply with his request, which had at present a strong claim on their attention, than by referring it to that body to which he (Mr. Cannon) belonged.

Mr. CANNON said he merely brought the matter forward in the interests of the Society, and he would be very glad, indeed, to receive any suggestions from Mr. Owen or any other member of the council. He had himself some experience arising from the vicissitudes of horse breeding, so that he was enabled to say that it would be desirable that gentlemen should be selected to act on the committee who had their attention directed to the breeding of horses.

Mr. MACFARLANE said he would second Mr. Cannon's resolution, in order to bring it regularly under discussion. There was no doubt but that the subject was a most important one, and he would mention what the Society had been doing, which would assist the council in deciding what steps they should take in the matter. Having been the chairman of the horse-breeding committee, appointed some years ago, he was in possession of what occurred. In 1863 there was a committee formed to consider the whole question, before the committee of the House of Lords was appointed, and they put before the country the matters referred to in the report. In 1864 a report was brought up and adopted, when it was agreed that they should, at the request of the Society, continue to act as a committee. That committee adjourned until they should be again called together by summons. They had never since met so that this fact might solve the difficulty which Mr. Cannon apprehended presented itself.

Lord TALBOT DE MALAHIDE asked if that was not a joint committee?

Mr. MACFARLANE said not. It was a committee of the Royal Agricultural Society. The next step taken was to make preparations for holding a horse show, which took place on the premises of the Royal Dublin Society. This was the origin of the horse shows now being held under the auspices of the Royal Dublin Society. Subsequently some communication took place with the Government, which terminated in the appointment of the committee whose report Mr. Cannon had brought that day before the council. In his opinion, it would be well to appoint the old committee, or so many of the members of it as were alive, and add others who would be selected for their well known experience in the breeding of horses.

Mr. YOUNG thought, before any further prizes were offered by the Society, as the Government wanted remounts for their cavalry, they should call upon them to assist them.

Mr. MACFARLANE replied that that would be a matter for future consideration. When the Society offered prizes for thorough-bred stallions, he was aware that the members had to subscribe out of their own pockets, and not out of the funds of the Society.

Mr. CANNON then proposed the appointment of a committee to consider and report on the question.

Mr. MACFARLANE suggested that the committee should be selected out of the entire members of the Society.

Mr. CANNON replied that a committee so selected would be too large and unwieldy. The council had in itself sufficient capacity to take the whole question into consideration.

The resolution was then put from the chair, and accepted unanimously.

The following noblemen and gentlemen were placed on the committee: Lord Talbot de Malahide, Lord Alouck, Baron de Robeck, Sir Percy Nugent, Bart., G. A. Rochford-Boyd, Hans H. Woods, J. L. Naper, N. M. Archdall, W. L. Burton, R. Cosby, W. O'Malley, Thomas Franks, John La Touche, Major Borrowes, Charles Cannon, H. J. MacFarlane, the Rev. R. W. Bagot, Richard Chatoner, Sir Allan Walsh, Bart., William Owen, James Robertson, Dawson A. Milward, Edward Purdon, J. M. Roysse, Phineas Kiall, Sir Robert Paul, Bart., Charles Uniacke Townshend, Lieutenant-Colonel C. C. Vesey, Seymour Mowbray, and Leopold Cust.

The CHAIRMAN submitted the draft half-yearly report, which was, after some discussion, adopted.

Mr. ROBERTSON, in pursuance of notice which he had given, moved that the Society's show at Wexford be held at a convenient date between the Bath and West of England and Royal of England's meetings. He said he had been induced to give this notice of motion by many members of the Society, and persons who intended to be exhibitors. There was no doubt that it was desirable to hold the Society's shows at an earlier period than heretofore. Owing to the late period at which the shows were held, most of the local gentry had left the country; the farmers were too busy in getting in their crops; judges could with difficulty be got over from England; and manufacturers from the sister country would not send over their implements in time. For his own part, he did not see any reason why their shows should not be held at an earlier period than usual. From communications which he had received from judges, exhibitors, and others who generally attended the shows, he ascertained that the great majority of them were in favour of his proposition. Having regard to the English fixtures, he was decidedly of opinion that the most desirable time to hold the Wexford show was from the 24th to the 30th of June, and he concluded by moving a resolution to that effect.

Mr. BAGOT, in seconding the resolution, observed that if the holding of the next show was an inconvenience to any one, he believed it would be a great convenience to the farmers who usually attended such displays. The Waterford show of last year prevented the farmers, as well as the implement manufacturers, from attending in as large numbers as could be desired, and it would be more convenient for all of them to have the gathering next year somewhat earlier. At all events, it could do no great harm if they tried it for one year, if it suited the Wexford people. By holding it in the last week in June, they would have it come off between the two great shows of England. The local shows were rising very fast in Great Britain, so that it made it the more difficult, once they commenced, to get implement manufacturers to come over to this country. Unless some strong arguments were put forward, he hoped the council would give their sanction to have the next show held earlier than usual, especially as, he understood, Mr. Robertson had been in communication with various parties in Wexford, who intimated that the period named by him would suit them.

The CHAIRMAN said before any definite conclusion was arrived at, there should be some direct communication with the people of Wexford.

Sir ALLAN WALSH thought it was a serious thing to jump back from August to June. If the proposition were carried out, there was one class of exhibitors which it would knock on the head altogether, and that was the sheep breeders, a great many of whom brought their rams to the annual shows in order to dispose of them, which they could not do if the meeting was held so early in June. The sheep were not in a condition to be exhibited so early, and he would suggest that the show should be held on the week commencing the 22nd July.

Mr. BAGOT said that would practically exclude every English exhibitor from attending.

Sir ALLAN WALSH, from conversations which he had with various leading persons connected with Wexford, believed that the people of the county were in favour of having the show held about the end of July or the beginning of August.

Alderman PURDON remarked that when attending shows in England he had repeated conversations with various persons, who complained that the annual gatherings here clashed with those on the other side of the channel, and that it was highly desirable that some alteration should take place—that they should be held at an earlier or a later period than usual, so as not to clash with the Highland, the great Yorkshire, and other shows. The last meeting of the Yorkshire was, he believed, as large and as important as that of the Royal Society itself.

Mr. OWEN was opposed to holding the show so early as June, in which opinion many persons with whom he had been in communication concurred. July was early enough, and in the minds of not a few individuals too early.

Alderman PURDON observed that whatever conclusion was arrived at by the council, the people of Wexford should be informed as to the days on which the different shows in England were held.

Mr. BAGOT, perceiving so much diversity of opinion on the subject amongst the members of the council, moved that the secretary be directed to write to the local committee and intending exhibitors, asking them for their opinion as to the period on which the Wexford show should be held, and in the meantime hold over the resolution to the next meeting of the council.

The resolution, having been seconded, was adopted.

Sir ALLAN WALSH brought up a report from the premium sheet committee, the only feature of importance connected with it being a recommendation that the 14th section of the rules, as regards the entrance fee required for sheep entered for competition, should be omitted.

The report was adopted, Mr. Owen dissenting.

Sir ALLAN WALSH reported that the committee—after having had an interview with Mr. Barlow Smythe, Dr. Cameron, and Mr. Sproule, in reference to the offer of Mr. Smythe, as chairman of the Beet-root Sugar Company, to place one hundred guineas at the disposal of the Society, to be given in prizes for beet-root grown in the vicinity of their works—had come to the conclusion that there was not sufficient information before them to justify them in recommending the council to accept the offer contained in that gentleman's letter.

The following gentlemen were balloted for, and unanimously admitted members of the Society: The Hon. Gerald Normanby Fitzgibbon, Mount Shannon, Lisnagry; Captain E. R. Bailey, J.P., Mount Talbot, Roscommon; Arthur W. Shirley Ball, (High Sheriff Co. Longford), Geraldstown, Navan; and John Talbot Power, M.P., D.L., Edermine, Enniscorthy.

The council, having disposed of some ordinary business, adjourned.

SPEAKING OUT.—At Bodmin Mr. R. Olver said that though they had spoken against pampering, the judges had given the first prize to a pampered animal. Having tried both plans, he was convinced that high feeding was neither profitable to a farmer or to a butcher. A wonderful change had come over farming in the last ten years. It now took £2,000 where £1,000 would have done. The price of horses had doubled, rents had increased, and whereas labourers could be had for 9s. a-week when he first engaged in farming, they now had to pay 13s. for inferior men, with every probability of having to pay more. Then, farmers had to farm more highly because of the larger sum they had to raise. They had to grow heavier crops, use rather more artificial manure, consume the corn with oilcake on the farm, and turn out a greater lot of good stock. With these extra expenses, and with taxation increasing, they had a right to ask the landlords to give them encouragement by acceding Tenant-Right. There were hundreds of farmers in Cornwall that could keep half again as many cattle if only the tenants had security for the outlay. People were talking of getting meat from America and Australia, but English agriculturists could grow it all. If landlords would only give proper facilities, farmers could produce enough mutton and beef and corn to feed half as many people again as there were in England. The fault was with the landlords, and not with the tenant-farmers, who could not do as they would like. Often the landlord took the highest rent and got the worst man, whereas if he would be content with a little less rent he would have his farm improved, and much more food would be produced. They wanted legislation on this point and if farmers did not get it from the Tories they would

from the Liberals, as the townsmen seemed to be waking up on the subject. They could beat the Americans in corn-growing, but it could only be done by growing heavier crops. Mixed up with the Tenant-Right they must have the present law of distraint, which should be so reformed that the land-

owner's interest would be to get the best and most respectable farmer, instead of the one who would promise to pay the highest rent. Unless this were done in a very few years landlords would have great difficulty in keeping the best farmers. The present leases were altogether out of date.

ACCIDENTS FROM THRASHING MACHINES.

At a meeting of the members of the Norfolk Chamber of Agriculture held in Norwich, for the purpose of considering the provisions of a bill introduced into Parliament last session, for fencing drums of thrashing machines; and also the question of compulsory highway districts, Mr. C. S. Read, the President, was in the chair.

The PRESIDENT explained that the Bill in question was introduced on July 25th, 1873, and he moved that it should be considered that day three months. He did this because he was sure that legislation in the harum-scarum way which must have taken place in August would in all probability have done a great deal more harm than good. The bill provided that the drum of every thrashing machine intended to be driven by any other power than manual labour should be provided with a fence sufficient to prevent accidents when such machine was in use. Messrs. Clayton and Shuttleworth had sent him a design of a "self-acting safety slide." When a man was not feeding the machine, a slide covered up the drum. But that was no fence. The fence wanted was something to prevent the people slipping into the drum. Another design sent him by Messrs. Clayton and Shuttleworth was "Wilder's patent self-acting feeder for thrashing machines." This was something like the straw shakers at the other end of the machine. It was driven by power. The man instead of delivering the corn into the machine, threw it upon the feeders which conveyed it into the drum. No doubt such a machine would prevent many accidents, still it did not fence the drum. Something in addition to that would consequently be wanted. But though this seemed the most reasonable way of getting over the difficulty, in another way it was unreasonable, for it could not be applied at all to small machines, while to make it applicable to others would cost something like twenty guineas, which was more than the majority of machine owners would like to spend upon it. He had also received a simple design from Mr. C. Burrell. It was to put a small eight-inch board round three sides of the drum. No doubt this would effectually prevent persons falling off the board into the drum; but it was not so pleasant to have to lift 100 quarters of corn in a day over a board though it might only be eight inches in height. Mr. Burrell wrote to him to the effect that some years ago he was struck with the dangerous appearance of the drum being quite open and unprotected. Since then he had a simple board six or eight inches deep, just round the feeding mouth, which was quite sufficient to prevent accidents which might occur from a man's foot slipping. The board could be lifted up for a few minutes while sweeping out the machine, and then again dropped into its place. Unfortunately the bill provided that the person in charge of every thrashing machine should, while it was in use, take care that the fence provided for the drum was fixed, and not removed at any such time as the machine was in motion. He proposed the following resolution: "The Norfolk Chamber of Agriculture considers the language of the principal clauses of the Thrashing Machine Bill to be vague and undefined, and is of opinion that before any law is passed upon the subject of agricultural machines, an inquiry into the question of the number and circumstances of accidents arising from the use of all farm machinery should be instituted, with a view of ascertaining whether any legislation is necessary." He had tried in vain to obtain a return of accidents caused from thrashing machines. But his experience was that there were only few. Other machines in use in agriculture were more dangerous; for instance, the horse-gears of chaff-cutters, of which a boy often slipped among the wheels and had his toes bitten off. Mr. Howard, M.P., was of opinion that no chaff-cutter that went by power ought to be allowed to be used unless it had a spring clutch to take it out of gear. This could be easily adapted to all chaff-cutters, and it was now generally used.

Mr. J. EVERETT seconded the motion.

Mr. G. HOLMES (of the firm of Holmes and Son) said the arrangements that would, he thought, meet the case was mainly a circular hood covering the front of the feeder, extending twelve inches on each side of the feeding hole. This would prevent any man slipping his foot in, or if he slipped a little his side would catch against the top of the cover, and his going into the machine would be prevented. It would not prevent his feeding barley or wheat sheaves. This could be added to the machine at a cost of 30s. or £2. Accidents could not be entirely prevented, but if what he had suggested were added to a machine it would be found to be a great safeguard and an arrangement which would rather be accepted than any elaborate self-feeding apparatus.

Mr. CHAMBERS thought that Mr. Holmes' plan, if it would not fence the machine completely, would go a great way towards it. It was the careless boys who walked about the drum rather than the feeder who were in danger. Mr. COZENS-HARDY asked Mr. Holmes what was his real objection to Wilder's plan. Mr. HOLMES said he had really no objection to it. What was wanted was something simple, that could be applied at once. Though self-feeders would eventually come in, yet it should not be made compulsory upon machine owners to have Wilder's patent apparatus. He entered at length upon what could and could not be done with the self-feeder; and Mr. G. DAY said he considered that what Mr. Holmes had said as to the self-feeder proved the uselessness of the bill. At the conclusion of the discussion,

The PRESIDENT said the conversation which had taken place showed that a fair sort of guard to prevent avoidable accidents might be applied to machines at a trifling cost. If that were so he was sure the agriculturists of England would be glad to have it provided, if it did not interfere with the efficiency and ready working of the machine. This was a question that might engage the attention of agricultural societies. Prizes were offered for many implements that wanted no encouragement; and he asked Mr. Chambers of the Norfolk Agricultural Society, and Mr. Aldous of the Royal Society, when they considered the prizes for the implements for the coming year, to see whether it would not be possible for them to offer prizes for the best, cheapest, and most efficient guard for a thrashing machine.

The resolution was adopted.

The subject next taken was Compulsory Highway Districts.

The PRESIDENT said it had been discussed on several previous occasions. The resolution passed on the 29th of Jan., 1870, the Council suggested should be again submitted to the Chamber. It was: "That the compulsory extension of the new Highway Act would fail to secure better roads in Norfolk without a considerable increase in the present highway rates; but should the Act be made general, this Chamber suggests that the cost of repairing the roads should be borne by the common fund of the district, and not as at present by separate parishes."

In the discussion which followed Mr. Lombe mentioned that in the Mildenhall district, where the Act had been adopted, the roads were excellent, while the rates were not more than two-thirds what they were formerly. Mr. R. Smith said Norfolk was rather different to Suffolk; where highway districts had been formed in Norfolk they had been dissolved. The Norfolk roads were generally in a very good state. Mr. R. T. Gurdon said the Act had been carried out in Somersetshire and Gloucestershire, and Sir William Miles had over and over again told him that it worked there perfectly well. Mr. G. W. Lely said in Leicestershire the rates were positively 8 per cent. less than they were previously to the system being introduced. Mr. J. Hill remarked that in Dorset the Act was adopted, and the result was an enormous increase in the expenditure; and Mr. Everett, formerly chairman of the Docking Highway Board, added that the adoption

of the Act was followed by an increase in the expenses. The President having commented on the various points raised, Mr. Gordon suggested that the motion had better be split up into two, for while some could not agree with the first clause, all would support the second.

The resolution was then divided, as suggested; but both clauses were adopted, there being to the first only four dissentients.

The Chamber then adjourned.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, December 10.*—Present: Earl Cathcart, Vice-President, in the chair; the Duke of Bedford, the Duke of Richmond, K.G.; the Earl of Lichfield, the Earl of Powis, Viscount Bridport, Lord Chesham, Lord Kesteven, the Hon. Wilbraham Egerton, M.P.; Sir Watkin Wynn, Bart., M.P.; Mr. Barthropp, Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Dent, M.P.; Mr. Edmunds, Mr. Evans, Mr. Brandreth Gibbs, Mr. Horley, Mr. Hornsby, Mr. J. Bowen Jones, Colonel Kingscote, M.P.; Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Rigden, Mr. Shuttleworth, Mr. George Turner, Mr. Jabez Turner, Mr. Wakefield, Mr. Webb, Mr. Wells, M.P., Mr. Jacob Wilson, Professor Simonds, and Dr. Voelcker.

The following members were elected:—

Blackwell, Richard, Gold Hill Farm, Southwell.
 Boustead, John, Armathwaite Hall, Cockermouth.
 Bard, Henry, The Laurels, Shrewsbury.
 Cheavin, George, Boston.
 Cobb, H. M., Higham, Rochester.
 Colegrave T. E., Gosforth Grove, Newcastle-on-Tyne.
 De Trafford, John Randolphus, Croston Hall, Croston, Lancashire.
 Haiffenden, Rev. John Wilson, Homewood, Tenterden, Ashford.
 Herbert, Hon. Auberon, M.P., Ashley Armwood, Lymington.
 Marshall, William, Gaston House, Bedford.
 Peach, Edward, Oundle.
 Pochin, Henry D., Barn Elms, Barnes.
 Rincou, Manuel Ceferino, Espirita Santo 47, Madrid.
 Robinson, Thomas, Westoning, Woburn.
 Samuda, Joseph D.A., M.P., 7, Gloucester Square, W.
 Sapwell, Benjamin Beckham, Aylsham, Norfolk.
 Sharpe, William Taylor, Baumber Park, Horncastle.
 Smith, William, the Laurels, Offenham, Evesham.
 Snowden, J. D., Doncaster.
 Southern, John, Calcheth, Warrington.
 Start, C. W., Pobmarsh, Bures, Essex.
 Tattersall, William, Charlton Place, Bishopsbourne, Kent.
 Thackwell, John, Witten Place, Dymock.
 Watts, George James, Monkham's Hall, Waltham Abbey.
 Williams, Captain George Griffiths, Wallog, Aberystwith.
 Yeld, Edward, Moss Hill, Leominster.
 Yorkshire Agricultural Society, Secretary, of York.

FINANCES.—Lieut.-General Viscount Bridport (chairman) presented the report, from which it appeared that the secretary's receipts during the past month had been examined by the committee, and by Messrs. Quilter, Ball, and Co., the Society's accountants, and found correct. The balance in the hands of the bankers on November 30 was £1,111 2s. 6d. The committee recommended that the names of ten members in arrear of their subscriptions be erased from the list of members, and that instructions be given to the solicitors of the Society to take legal proceedings against those members whose subscriptions are four years and upwards in arrear.—This report was adopted.

The following letter was then read:

Kirby Hall, York, Dec. 6.

My lords and gentlemen,—It is with great regret that I have to request that at the reconstitution of committees, which takes place next week, you will not place my name on the list of members then appointed, as my health will not permit me to attend any business meetings at present.

After taking an active part in the affairs of the Society for 35 years this sudden severance causes me deep disappointment, but my illness is too serious to be trifled with, and I take this opportunity of offering my best thanks to all my colleagues on the Council for the kindness and courtesy which I have received from them from the original formation of the Society to the present time.

I am, my lords and gentlemen,
 Your faithful servant,
 H. S. THOMPSON.

To the Council of the Royal Agricultural Society.

The following resolution was thereupon moved by Major-General Viscount Bridport, who testified to the great value which he had always attached to Mr. Thompson's services to the Society:—

The Council cannot accept the resignation of Mr. Thompson as a member of its committees without expressing their sincere appreciation of the valuable assistance he has rendered not only to this Society, but to agriculture in general. The regret which the Council feel at the loss of his valuable services is deepened by the cause of his retirement; and, in accepting his resignation, the Council beg to assure him of their sympathy with him in his illness, and of the grateful recollection that those who have worked with him will always entertain of his earnest and eminent labours in the service of the Royal Agricultural Society."

The resolution was seconded by Mr. Randell with the greatest possible cordiality, who expressed his appreciation of Mr. Thompson's services as President of the Society, Chairman of the Journal Committee, and writer of essays of the highest and most practical value. His regret at the prospect of the cessation of such services was much increased by the cause of Mr. Thompson's retirement. Mr. Dent Dent, M.P., who had been acting as Chairman of the Journal Committee during Mr. Thompson's illness, expressed his complete sympathy with Mr. Thompson and his concurrence with the resolution. He referred to Mr. Thompson's services in connection with the *Journal* since Mr. Pusey's death in 1835, and to his great interest in all questions connected with agriculture, even now when weakened by illness. The Duke of Richmond, Earl Cathcart, and other members of the Council having similarly expressed their views, the resolution was carried unanimously.

JOURNAL.—Mr. J. Dent Dent reported that the committee had met ten times and made eight reports to the Council. They had received a letter from the Colonial Office, enclosing one from the Governor of Victoria, asking that the publications of the Royal Agricultural Society may be forwarded to the Department of Agriculture at Melbourne in exchange for the papers of that Department. The committee recommended that the volumes included in the Second Series of the *Journal* and all future numbers be forwarded to the Department. In accordance with a previous vote of the Council, the committee recommended that the secretary expend a sum not exceeding £25 in the purchase of books of reference for the library. A letter was read from Mr. Thompson, resigning his seat on the committee; and the committee, accepting with regret the resignation of their chairman, proposed that Mr. Bowen Jones and Mr. Rawlence be new members of the committee, and that the other members be re-elected.—This report was adopted.

CHEMICAL.—Mr. W. Wells, M.P. (chairman), reported

that the committee had met seven times and made seven reports to the Council. He also presented the annual report of the Consulting Chemist, of which the following is an abstract :

A marked improvement has taken place in cake transactions, the greater number of the 181 samples analysed having been found pure. The practice, however, of selling as genuine linseed cakes which are made from badly-screened linseed still continues; the committee, therefore, recommend to purchasers that they should insist upon a written guarantee that the cake is pure linseed cake, in good condition, and made from well-screened ground linseed only, containing not more than $\frac{1}{2}$ per cent. of sand.

Rapeseed cake of good quality is becoming scarce, and all the samples made from Indian seed being found to contain too much wild mustard to be a safe food for stock, it is advisable for purchasers to buy none but green German rape, or Rubsen cake, this being generally free from pungent and injurious seeds.

Attention is directed to cocoa-nut and olive cakes, two comparatively new feeding materials, which, though useful for feeding purposes, are neither of them equal in value to the best English palm-nut meal.

Reference is made to the analysis of locust-meal, which, containing about half its weight in sugar, is a very fattening food, of which good use can be made if it be blended with decorticated cotton-cake or other food rich in albuminous compounds, in which locust-meal is rather deficient.

A larger number of artificial manures, belonging to the class of phosphate manure, represented by superphosphate, were analysed than in any preceding year, and most were found to be of good qualities, and worth the money at which they were sold.

The term dissolved bones appears to be no longer applied, as it ought to be, to a manure composed of bone-dust and acid, but to mixtures of mineral superphosphate with small quantities of bone-dust, rarely exceeding 20 per cent. Dr. Voelcker therefore recommends farmers to buy mineral superphosphate and bone-dust separately, to wet the bone-dust, and to mix it in the proportion of one to two of superphosphate, to put the mixture in as compact a heap as possible, and to turn it over after a lapse of three or four weeks.

The samples of nitrate of soda, sulphate of ammonia, bone-dust, and guano sent for analysis by members of Society in 1873 were all genuine.

The quality of Peruvian Government-guano has not improved since last year.

Dr. Voelcker directs attention to the injurious effects which brown-coloured sulphate of ammonia produced in gasworks is found to produce when applied as a top-dressing to cereal crops, or to grass land, and points out that the injury is due to the presence of extremely poisonous cyanogen compounds. He recommends that all gas refuse materials which are employed occasionally for manuring purposes should be carefully tested for cyanogen compounds before use.

Reference is made to the communication from the Consul at Leghorn to Lord Grenville on the subject of the application to the land of night soil in Italy.

Dr. Voelcker reports that he has lately visited the sewage works at Bondy, near Paris, where the solid contents of the cesspools of Paris are converted into "pondrette," a portable artificial manure; and arrangements are now in progress to extract ammonia by distillation from the liquid portion, and to convert it into sulphate of ammonia.

A large number of drinking waters have again been submitted for examination. Amongst them several have been found contaminated with drainage products, and unfit for use.

Dr. Voelcker reports on the occurrence of ergot in the case of grass which has been allowed to run to seed—his attention having been directed to certain instances of injury to mares in foal, kept in pastures where the grass had been allowed to run to seed, the grass, on examination, being found to be attacked by ergot.

In accordance with the resolution passed at the last meeting of Council, Dr. Voelcker made an analysis of a specimen of iron slag, produced by a new process, and brought under the notice of the Chemical Committee by Lord Cathcart. The result of his examination shows that it may be usefully applied to moorland and peaty soils, as a cheap and efficacious substitute for lime.

The quarterly report of the Chemical Committee was received, and the Committee were authorised to prepare it for publication in the usual agricultural newspapers.

JOINT BOTANICAL AND JOURNAL COMMITTEE.—Mr. J. Dent Dent, M.P., reported that the committee had received, and to lay upon the table the report of the judges who were appointed to award the prize offered by Earl Cathcart for the best essay on the potato disease and its prevention, and after considering the recommendations made in that report, they begged to give notice that at the next Council they would ask for a grant of £100 to carry out the first recommendation of the judges. They proposed that a special committee consisting of Lord Cathcart, Mr. Whitehead, Mr. Jabez Turner, Mr. Wakefield, Mr. Brandreth Gibbs, Mr. Bowen Jones, Mr. Algernon Clarke, and Mr. Carruthers, be appointed to consider suggestions 2 and 3, and, if they think it desirable, to draw out in detail a scheme for farther investigation into the growth of the Potato, and the incidence of the potato disease, and to submit such scheme to the Council. The committee farther recommended that the Royal Agricultural Society of England should carry out its own independent investigation, but as far as possible in concert with the other national societies.—This report was adopted.

The following is the report of the judges on the competing essays :

The judges appointed by the Council of the Royal Agricultural Society to examine the essay competing for the prize of £100, offered by Earl Cathcart, for the best essays on the potato disease and its prevention, have the honour to report as follows :

They have examined ninety-four competing essays, and have carefully re-examined twenty-three selected from the total number.

They are desirous of expressing their recognition of the great pains bestowed upon the preparation of some of these essays, especially in the collection of facts relating to the history of the potato disease, and to the various theories that have been promulgated as to its cause and prevention.

The theories most frequently advanced by the essayists, either for affirmation or contradiction may be stated as follows :

CAUSE.	PREVENTION.
1. Degeneration of the tuber.	Use of new sorts for planting.
2. Fungus on the tuber.	Steeping, or kiln-drying the tuber previous to planting.
3. Wet weather, and generally superabundant moisture.	Use of lime as manure.
	Clumping, tamping, or hilt-lock-growing. Bending haulm downwards, clear of the tubers. Tying haulm upright to stakes, or growth of sorts having erect stalks.
4. Peronospora infestans attacking the foliage.	Dressing haulm with sulphur, chlorine, &c.
	Cutting off tops on appearance of disease.
	Sowing disease-proof sorts (either specially mentioned, or generally, as very early and very late vigorous sorts).
5. Electricity.	Use of lightning-conductors of various modes of construction.
6. Plethoric, or succulent, or diseased condition of the plant caused by the use of specific manures.	Avoidance of the use of certain manures.

A number of other theories are also advanced, but it is not necessary to particularise them. Like the foregoing they have, probably without exception, been for many years familiar to those acquainted with the practice of potato growers, or with the literature of the subject. Amongst the 94 essays abundant evidence may be collected, both in support and in contradiction of any of the foregoing theories; and it is especially noticeable that the essayists generally consider it sufficient to assign a cause and a mode of prevention of the potato disease, without giving any scientifically accurate theory of their pro-

posed remedy, or sufficient experimental proof of the accuracy of their statements. The judges are, therefore, unable to admit that any essayist has established the truth of his theory, particularly as the first condition attached to the offer of the prize is, that "all information contained in prize essays shall be founded on experience or observation."

Like the theories of the cause of disease, the practical suggestions made with a view to its prevention do not go beyond those with which agriculturists and horticulturists were previously familiar; and, as regards the botanical part of the subject, it must be confessed that all the essayists appear to be in arrears of the present condition of scientific knowledge.

The judges have, therefore, but with much regret, come to the conclusion that, in accordance with one of the conditions (the judges are not bound to award a prize, unless they consider one of the essays deserving of it), on which the prize was offered, they must recommend the Council not to award it to the writer of any one of the essays that have come before them.

The judges have authority to say that Lord Culheart hopes the Council will apply the amount of his intended prize in any manner that in the interests of agriculture may seem most advantageous.

Power having been given to the judges to report as to the advisability of a grant being made for further investigations into the incidence and prevention of the potato disease, they have carefully considered this question. They are much impressed with the national importance, as well as with the difficulties, of the subject. Therefore, while considering the Society might, and probably would, confer a great benefit on the community by inaugurating a sufficiently extensive inquiry, they feel it their duty before recommending a course of proceeding, to specially call the attention of the Council to the fact that no reliable results can be expected unless experiments are made simultaneously at many different places, and continued for some years in succession.

Presuming that the Council is willing to grant the funds necessary for such an investigation, the judges have drawn up a scheme, which they have based on the following facts:

(1.) The natural history of the potato fungus, from the time it attacks the foliage until the potatoes are harvested, is now well known; but the history of the fungus from the potato harvest until its reappearance the following year is at present entirely unknown, and therefore offers a suitable field for investigation.

(2.) The potato fungus does not usually attack the foliage of the potato until an advanced period in the growth of the plant; and it has been confidently asserted by several essayists, as well as previously in the public press, that certain sorts of potatoes are what may be termed "disease proof," on one or other of the following grounds: (a.) That the haulm dies down (and the potatoes arrive at maturity) before the period at which the potato fungus commonly makes its appearance. (b.) That certain late kinds also are, as the result of experience, believed capable of resisting the attacks of the potato fungus. (c.) That certain new varieties are also able to resist the attack of the fungus.

The judges therefore recommend:

(1.) That a sum of money (say £100) be granted for the purpose of inducing a competent mycologist to undertake the investigation of the life-history of the potato fungus (*Peronospora infestans*) in the interval between the injury to the potato plant and the re-appearance of the fungus in the following year.

(2.) That valuable prizes be offered for (a.) The best disease-proof early potato. (b.) The best disease-proof late potato. The judges appointed to award these prizes should be allowed three years to experiment with the competing potatoes, and with the produce of those kinds which may be found to resist disease, in reference to their cropping, keeping, and cooking qualities.

(3.) That in order to encourage in the meantime the production of new varieties, which may have the qualities already indicated, the Council should offer prizes for disease-proof potatoes of new varieties, to be sent in for competition in the year 1878, on terms and conditions similar to those already recommended.

The judges are of opinion that although all the experimental trials with the competing potatoes should be under the

supervision and control of one and the same committee, yet that the Highland and Agricultural Society of Scotland, the Royal Dublin Society, and the Royal Agricultural Society of Ireland, might be invited to aid in an investigation of such magnitude, on the ground that the interest of Scotland and Ireland in the prevention of the potato disease does not yield in gravity to that of England and Wales.

(Signed) CHARLES WHITEHEAD,
JOHN ALGERNON CLARKE,
WILLIAM CARRUTHERS,
H. M. JENKINS.

BOTANICAL.—Mr. J. Dent Dent, M.P., reported that the committee had met twice, and made two reports. He also presented the following report of the consulting botanist for 1873:

The principal work of the Consulting Botanist during the past year has consisted in the examination of seeds, chiefly with the view of determining their germinating qualities, and their freedom from impurities. By his advice, some members of the Society have been prevented from introducing the baneful dodder into their fields.

The report on the present state of scientific knowledge in regard to the potato disease was published in the *Journal* for the year, as well as an account of the nature of dodder, and of its injurious action on plants, in connection with its attacking a crop of Swedish turnips.

The Consulting Botanist is at present engaged in investigating, in its botanical aspects, the injurious effects produced by grasses affected by ergot on brood-mares belonging to a member of the Society, and he proposes to publish the results in the next volume of the *Journal*.

(Signed) WILLIAM CARRUTHERS.

This report was adopted.

HOUSE.—Major-General Viscount Bridport reported that the committee had met twice and made two reports. They recommend that the front of the house should be re-painted in the spring.—This report was adopted.

IMPLEMENT.—Mr. T. C. Booth reported that the committee had met seven times and made six reports. He also presented the following recommendations of the committee: 1. That fines for the non-exhibition of implements be abolished, as the exhibitors are now charged for all show-yard accommodation and for the entries in the catalogue. 2. That a fine of 2s. 6d. per reference card be imposed on exhibitors who do not comply with the general regulations concerning them. 3. That the trials of implements at Bedford commence on Monday, July 6, 1874. 4. That roots, hay, and straw be provided for the trial of carts and waggons at Bedford. 5. That 50 acres of old sward and 15 acres of clover be requested for the trials of 1875.—This report was adopted.

STOCK PRIZES.—Mr. Milward (chairman) reported that the committee had revised the Bedford prize sheet, and made several alterations. They had met twice and made two reports to the Council.—This report was adopted, and the following alterations were made in the rules printed in the prize-sheet:

To be omitted.—No 3rd prize will be given unless at least six animals be exhibited, and no 2nd prize will be given unless at least three animals be exhibited, and in Shorthorn classes no 4th prize will be given unless at least ten animals be exhibited, except on the special recommendation of the judges.

To be added.—The Council reserves to itself the right of determining all disputed cases as to qualification, &c., and the decision of the Council shall be final in all respects. The exhibitor of any animal at the Society's country meeting shall be required to prove the correctness of his certificate to the satisfaction of the stewards, if called upon by them to do so. Until the required proof has been furnished, the prize may be withheld, and the exhibitor may, on the recommendation of the stewards, be prohibited by the Council from exhibiting at the Society's country meetings.

A letter was read from Mr. Edward Pease, offering for

the shows of 1871 and 1875 prizes for mules and asses to the same amount and in the same classes as those offered by the same gentleman at the Hull country meeting. After the Earl of Powis and the Hon. Wilbraham Egerton had advocated the expediency of offering prizes for these animals, it was decided to accept Mr. Pease's offer with thanks.

GENERAL BEDFORD.—Lord Kesteven reported that the committee recommended that the agreement with the mayor and town clerk of Bedford be signed and sealed by the secretary; that the special prizes offered by the Bedford local committee be added to the stock prize-sheet; and that Lord Charles Russell's offer of a cup, value £50 with a purse of £50, as a prize for the best farm in the county of Bedford, be accepted, with thanks to his lordship.—This report was adopted, and the Council decided to offer a second prize of £50 to bear the expenses of adjudication, and to arrange the conditions of competition. The Journal Committee were also instructed to appoint the judges and arrange for a report on the competition.

SELECTION.—Colonel Kingscote (Chairman) reported that the committee had met five times and made four reports to the Council.

EDUCATION.—Colonel Kingscote reported that the committee had met six times, and made six reports. A letter from the head-master of the Bedfordshire county school, suggesting alterations in the educational scheme, had been laid before the committee, and they had directed the secretary to communicate with Mr. Morris, in order that the subject may be brought before the congress of head-masters of county and other middle-class schools, to be shortly held in London.—This report was adopted.

SHOWYARD CONTRACTS.—Mr. Randell (chairman) reported that the surveyor had the authority of the local committee for saying that the levelling, draining, and removal of fences would be completed by the end of the present month, and that there is no probability of any difficulty with regard to railway sidings. The Showyard Contracts Committee had met eight times, and made as many reports to the Council.—This report was adopted.

VETERINARY.—Mr. W. Wells, M.P., reported that the committee recommended that the grant of £150 to the Royal Veterinary College be paid for the current year in two instalments, as usual. During the year they had met twice, and made two reports to the Council. They had received from Professor Simonds two reports, one on the parasitic lung disease of lambs, and the other on the health of the animals of the farm, in addition to a previous report on the latter subject already published in the last number of the *Journal*.—This report was adopted.

The following is a summary of Professor Simond's report:

HEALTH OF ANIMALS OF THE FARM.—The chief occurrence of importance since the date of the last report has been the outbreak of some remarkable cases of blood-poisoning in the western counties. In the first case, some sheep died from blood-poisoning as far back as last August. The carcasses were skinned and opened in a field adjacent to the premises, and a considerable portion of the flesh, which was preserved for the dogs, was subsequently eaten in the same pasture. In close proximity to this field and also to the farmstead is a pond of stagnant water, which receives the drainage of the stables and yards, and also the surface-water from the field in question. Eleven horses were on the farm at this time; and on Aug. 23 a four-year-old, which was at pasture in the field already mentioned, was taken suddenly ill, and died in about 24 hours. The carcass was opened in the straw-yard, about 10 yards from the pond, and the viscera were buried in close proximity to it. On October 3 a five-year-old horse was attacked, and died in about three hours, the carcass being similarly dealt with as in the preceding case. This death was followed by others; so that by October 27—the day on which the matter

was brought to the notice of the College—four horses were dead, and others reported to be rapidly sinking. Two pigs, a dog, a cat, and two ferrets, which had eaten of the same flesh, were also dead; and a labourer, who had removed the carcass of the horse which died on October 3 to an adjacent village, to be boiled down for pigs' food, died under circumstances so peculiar as to lead his medical attendant to believe that his death was a consequence of that proceeding. By November 1 seven horses had died, and it was shown unmistakably that death, in the last case, had resulted from blood-poisoning. All the horses which had died had drunk regularly of the pond water, but only one of the four which escaped. The facts of the case all pointed to the pond water as the source of the mischief, and steps were at once taken to prevent any further injury being done. Professor Simonds also describes three other cases (one of which is still under investigation) and a number of experiments; but at present no conclusions can be safely arrived at, beyond the deadly nature and easy transmissibility of blood diseases from animal to animal of different species.

PARASITIC LUNG DISEASE OF LAMBS.—A list of questions was issued last year to members of the Lincolnshire Agricultural Society, with a view of ascertaining under what conditions this disease is most prevalent, and various experiments have been had recourse to for the purpose of throwing further light on the development of the worm or worms which are the cause of the malady. These experiments cannot be said to have been very successful. It is, however, now satisfactorily ascertained that more than one variety of thread-worm finds its way into the air-passages of the lungs of sheep. Of the "long-strangle" of Dr. Cobbold (Gordius of Dr. Crisp) even less is known, with reference to its natural history and development, than of the *Strongylus filaria*, or common lung-worm. Both species are believed to undergo important developmental stages out of the body of the sheep during this time in the soil, or in the plants of ordinary pasturage, or in artificially-cultivated clovers and grasses. On farms on which the disease exists the greatest care ought to be exercised to keep lambs from pastures, and from clover and other layers which had been fed with sheep at an earlier part of the year. Experience has shown that lambs dropped on turnips and allowed to run before the ewes, and later on fed on tares and similar green food, and on cabbages specially cultivated to come in about weaning time, are comparatively free from attacks of the lung-worm. It has also been observed that the disease is kept active when the system of renewing the flock of ewes from lambs bred and reared on the farm is adopted. In Lincolnshire during the summer the ewes are fed on permanent pasture and new seeds, after harvest on the stubbles and clover and other eddishes until they are broken up for wheat, when they go on turnips, following the hoggets; in many instances the tups are put to the ewes while they are feeding on new seeds. Ewes and lambs are soon removed from turnips to the new seeds and pastures, where they remain until weaning time, when the lambs are put on the pastures "until they become settled," when they are removed to the clover eddishes, or to the clovers grazed previously with the ewes and lambs, or occasionally to white clovers grazed two years in succession. The young animals are thus, during the most dangerous periods of their lives, kept on land and on food the most likely to infest them with the parasites, which having, in the form of ova or embryonic worms, been coughed up by infected sheep, have undergone a further development fitting them for dwelling within the respiratory organs, the habitat in which they become sexually mature, and give rise to organic diseases of the lungs by their enormous multiplications. It also appears that the lambs, which are diseased to a serious extent, are changed about from pasture to pasture, both natural and artificial, and thus distribute broadcast myriads of ova and immature worms over the whole farm, to become in due time the cause of disease in lambs which are yet unborn.

The standing committees for the year 1874 were appointed. A letter was read from the editor of the *Norfolk and Suffolk Red-poll'd Herdbook*, asking the Council to adopt a "standard description" of that breed; and the secretary was instructed to reply that it was a question for the judges at the country meetings to decide whether the animals exhibited were duly qualified for competition in the classes in which they were entered,

A letter was read from the Belgian Minister, enclosing a copy of the prize-sheet of the International Exhibition of Breeding Animals and Agricultural Implements to be held next year at Brussels, commencing on June 27. Communications from intending exhibitors should be addressed to the secretary, M. Parisel, Rue Verte, No. 66, Bruxelles.

The report of the Council to the general meeting was prepared.

On the motion of Mr. Wells, M.P., the usual Christmas holidays were granted to the secretary and clerks, and the Council adjourned until Wednesday, February 4, 1871.

At a special Council meeting, held at the rising of the monthly Council, in accordance with the bye-laws, the report of the Stock prizes Committee was received and the prize-sheet for the Bedford meeting was adopted and ordered to be printed.

THE ROYAL AGRICULTURAL COLLEGE CLUB.

The annual dinner was held at "The London," on Tuesday in the show week, when a large party of old Cirencester collegians assembled under the presidency of Mr. Jacob Wilson, the vice-chair being occupied by the honorary secretary, Mr. C. G. Roberts. The same subject, "What are the conditions which render it desirable to lay down Arable Land to Grass?" which had been partially discussed at the meeting of the Club in Hull last July, was now resumed. In his opening remarks the Chairman dwelt upon the increasing demand for animal food and the scarcity of labour in this country as reasons for converting from arable to pasture much of our poorer clay land.

Mr. T. ARKELL spoke of the subject as connected with the increased use of steam cultivation. Mr. RANDELL held that light land should never be laid down, that a greater amount of meat would be obtained by a proper succession of green crops even on heavy land, and that in the midland counties of England the laying down land to grass is often an unprofitable work. Mr. FINLAY DUNN pointed out that although the cost of labour might be reduced from 10s. to 5s. an acre by the substitution of grass for arable land, yet with energetic management the return of profit would be greater on well-farmed land under the plough. Mr. J. COLEMAN considered high farming as much more common upon arable than on grass land; that in the comparison of profits the latter often is unfairly depreciated. The aspects of the question as affected by temperature, latitude, and rainfall were next considered by Messrs. Booth, Jenkins, and others.

After the customary loyal toasts, the CHAIRMAN proposed

Prosperity to the Royal Agricultural College Club, and gave a short sketch of its first formation at the Warwick meeting in 1858. Since that time it had seen some vicissitudes, but was now in a very flourishing condition. Its members, by their associated and individual efforts, had been able to much for the advancement of agricultural science.

In replying to the toast Mr. ROBERTS referred to the pleasures of maintaining college friendships in after-life, and hoped that the younger members would carry on with vigour the series of field experiments that have now been conducted by a succession of members for many years.

Mr. J. COLEMAN proposed The Royal Agricultural Society, and Mr. RANDELL replied; Mr. FINLAY DUNN, The Royal Agricultural College, and Mr. E. BOWLY replied for the College, and gave the health of the Chairman, a most valuable member of the Council of the Royal Agricultural Society, and an illustrious example of the value of the college system of mental culture.

Mr. Edward Holland's health was proposed by the CHAIRMAN, with much regret and sympathy for the domestic trial that caused his absence from the board.

The health of the visitors was proposed by Mr. BOWSTEAD, and responded to by Mr. JABEZ TURNER and Mr. JENKINS, who acknowledged the many contributions to the *Journal* of the Royal Agricultural Society received from members of the Club.

Professor Wrightson was appointed President of the Club for the year 1874.

MR. GEORGE HOPE'S PORTRAIT.

A number of gentlemen connected with East Lothian assembled last week in the Corn Exchange, Haddington, for the purpose of presenting Mr. George Hope, late of Fentonbarns, with his portrait, as a testimony of their appreciation of the services which he has rendered to the cause of agriculture throughout the country. It will be remembered that in May last, when it became known that Mr. Hope was quitting Fentonbarns, a feeling was generally expressed in the county that some practical proof should be given of the admiration which the gentlemen and farmers of the district felt for Mr. Hope's high qualities, as well as of sympathy for him in the circumstances in which he was placed. A committee was formed, consisting of the leading proprietors and farmers in East Lothian, and steps were taken for the purpose of presenting Mr. Hope with his portrait, and also of inviting him to a public dinner, at which the presentation could be made. Mr. George Reid, of Aberdeen, was the artist into whose hands the commission was placed, whose prior engagements, however prevented him from completing the painting until the end of the year, and accordingly, at a public banquet to which Mr. Hope was invited in April last, the chairman—Mr. A. Kinloch, of Gilmerton—intimated that it was the intention of the gentlemen of the county to present him with his portrait as soon as it was executed. A few weeks ago Mr. Reid completed the painting, and the subscribers accordingly met for the purpose of formally presenting it to Mr. Hope. As the meeting took place immediately after the market had been held, there was a very large attendance of the farmers of the district.

Mr. GEORGE HARVEY, Whitfinghame Mains, the chairman

said: They had met to do honour to an agricultural friend, who for many a day was one of the most respected gentlemen in the county, and one who had added honour and dignity to the profession of farming. When he presided at the displeasing sale at Fentonbarns,—one of the largest and most unprecedented that had ever taken place in East Lothian—he said about all he had to say regarding Mr. Hope; and they would perhaps excuse him for not making another speech at this time. He would only, therefore, express the very great pleasure it gave him to be the instrument in conveying to Mr. Hope the presentation portrait which had been subscribed for by his friends and neighbours of the county. Mr. Hope was as well known to the most of them as he was to himself. He was glad to see such a most respectable body of the subscribers present, and he hoped they would consider the portrait a faithful likeness, which would do credit alike to the artist and the gentlemen who had selected the artist to execute the work. The portrait having been unveiled, the chairman said he thought it looked remarkably well, and they might congratulate Mr. Hope upon the striking likeness which the artist had succeeded in providing. He hoped Mr. Hope and his family would be long spared to each other. He begged to propose "Long life, health, and happiness to Mr. Hope." The toast was cordially responded to.

Mr. HOPE, who on rising to respond, was loudly applauded, said he could assure them that it was not a mere figure of speech when he said that he was at a loss for words adequately to express his great sense of their kindness. For a private person to receive a portrait of himself from his friends and neighbours was a very great honour indeed; and to be in that

position was very pleasing to him at this time, when he was leaving East Lothian. His friends assured him that it was a very faithful likeness, and he had been informed by gentlemen well capable of judging that it was an excellent piece of art altogether. He should take it with him as a certificate of character from them, and it was known that such was coming, he believed it had had some influence in making his reception by his friends and neighbours in Peebleshire remarkably kind. He need not tell them how sorry he was to leave this county. He believed it was in human nature to cling to places and to associate places with persons; and that was peculiarly the case with himself. He admired East-Lothian more than any other county in Scotland, and he liked the parish of Drem and Fentonbarns in particular. He should long retain a warm interest in this district. Notwithstanding this, he was daily acquiring a liking for his new home. It had, to be sure, a different soil and climate from East-Lothian, and wheat could not be grown there so thoroughly as it could here; but they were to be engaged in rearing stock, which promised to pay tolerably well. After a rather cold and sunless summer they had a very fair harvest last season. It might not have been altogether up to the mark, but it was very much superior indeed to the harvest of 1872, which was the worst in all his experience. He trusted there were better times in store for them as well as for others. If tenants did not thrive in East-Lothian, he did not know where they would. The labour question was generally considered to be a rock-a-head, and that might be so to a certain extent; but if adequately met, he for one would not be at all frightened about it. A very great deal could yet be done in the way of farming; but in the first place the tenants required to get greater freedom.

He believed, if they had the privilege of cropping their land pretty much as they might find it to be their interest to do so, it would be the better for both landlords and tenants. It required a large amount of capital to farm well so as to make it pay at all; and they must have security for their capital. He trusted they would speedily obtain that; and if they did so, it would perhaps enable them to meet the increased rate of wages which they might be called upon to pay. He was glad that his friend Mr. Harvey was in the chair on this occasion; he had been a friend in need; and such a one as they knew was a friend indeed. He begged again to thank them most kindly for such a valuable portrait; and he could assure them it would be highly treasured by himself and his family.

The CHAIRMAN then proposed the "Health of Mrs. Hope and Family," a toast which was cordially pledged.

Mr. PETERKIN HOPE thanked them most sincerely for the kind manner in which they had remembered his mother on this occasion. The great kindness which had been shown to the family to-day would long be remembered by her and by them all. It was, perhaps, not for him to criticise the portrait, but he could not help saying that Mr. Reid had not only given them a faithful likeness, but it seemed as if he had taken his father's very soul out of his body and put it upon the canvas.

Mr. HOPE proposed the health of the artist, and Mr. JAS. DOUGLAS, Athelstaneford New Mans, the health of the Chairman.

The cost of the portrait has been over £120. Along with it Mr. Hope receives a gift of silver plate, which was not, however, presented in public. We believe that upwards of £200 was subscribed towards the testimonial.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

The feature of the month, so far as the cattle trade has been concerned, has been the holding of the Annual Christmas Market for the sale of fat stock. Considering the numerous advantages that graziers and breeders have enjoyed during the season, the show cannot be said to have exceeded anticipations, if indeed it came up to them; nevertheless, a full average supply of stock was exhibited, including some good useful animals, the receipts from Scotland being especially fine in quality and condition. In the general course of the trade nothing of interest has transpired. Business has not been brisk, but a fair amount of steadiness has prevailed, and prices have been maintained. For the best Scots and crosses 6s. 8d. per 5 lbs. has been the extreme quotation, 6s. 4d. to 6s. 6d. being the general top quotation. The receipts of foreign stock, now that the Tanning season is closed, have been extremely small, and have been confined to a few arrivals from Spain and Holland, which although they have not attracted active competition, have been disposed of at full prices. Ireland has contributed a rather large supply, but a considerable proportion has consisted of old cows. From our own grazing districts a moderate supply has come to hand, but the general condition can hardly be said to have come up to the average. This is a matter of some surprise as the abundant hay crop, the plentiful supply of grass in the pastures, and the large yield of roots have been of great benefit to the breeder and grazier in rearing and fattening his stock.

The sheep market has been only moderately supplied. The show of choice home breeds has been limited, but the condition of the Downs has been very good. Form abroad a fair number of German animals has come to hand. The trade has not been active, but it has been tolerably steady, and the best Downs and Half-breeds have occasionally made 7s., the general top quotations being 6s. 8d. to 6s. 10d. per 8lbs.

Calves, of which a moderate supply has been on offer, have changed hands to a fair extent, but prices have been irregular.

The pig trade has been dull, and prices have been without change of importance.

The following table shows the imports of cattle into London during December, 1872 and 1873:

	1872.	1873.
Beasts	2,248	2,590
Sheep	22,970	19,111
Calves	1,284	1,551
Pigs	175	1,405

The following table shows the arrival of beasts from our own grazing districts, as well as from Scotland and Ireland, during December:

	1872	1873
Norfolk and Suffolk.....	1,800	800
Lincolnshire, Leicestershire, and Northamptonshire	4,100	7,560
Other parts of England.....	6,000	3,960
Scotland	1,700	1,441
Ireland.....	2,500	2,100

The annexed figures show the total supplies of stock exhibited and disposed of at the Metropolitan Cattle Market during the month:

	1872.	1873.
Beasts	24,185	22,340
Sheep	73,080	76,506
Calves.....	1,630	1,540
Pigs	530	885

Beasts have sold at 4s. 4d. to 6s. 8d., sheep at 4s. 5d. to 7s., calves at 5s. to 6s. 4d., and pigs at 3s. 10d. to 5s. 4d. per 8lbs. sinking the offal.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

After considerable changes in the aspect and temperature of the last month we are brought to the close of the year under very favourable circumstances. There were dense fogs for about a week, and a frost of 12 degrees on the second week, but it soon gave place to very mild weather, which has continued, and the principal feature of the season has been the comparative absence of rain. To this humid country, where a strong soil predominates, this has been a great good. Vegetables have continued their growth, and been plentiful. The potatoes have kept better than expected. The cattle have been saved from severe exposure in the meadows, which have helped to keep them. Wheat has been abundantly planted, and the earliest sown almost everywhere looks well, excepting some local damage by wireworm and slugs. In France, where the soil is lighter, the want of rain has been somewhat complained of, as endangering the young plants in the event of severe frosts, as it would serve to settle them more firmly in the soil. In Germany the rain has been more abundant, but not excessive; and in Hungary the prospects for the young corn have improved. It is of no small importance that we thus commence the season after a generally short yield of wheat; for whatever stocks may be gathered it is pretty certain every bushel will be wanted. A good yield in 1874 is most desirable. The range of prices being high, with a short period of double discount from the want of gold for the Prussian coinage and the financial difficulties of the United States, there was little room for increase during the month which has come and gone, with only a steady consumptive trade, at the previous rates. But as these are early times yet, they are no test of the ability of foreign lands to make up the heavy deficiency in this country, which is everywhere acknowledged as not likely to prove less than 13,000,000 quarters in wheat and flour. As so much was actually provided for last season's wants, so let us hope that the same supply will not fail us. Some expect 9,000,000 quarters from America alone, and should it come, the remaining four need not be a matter of uneasiness, especially as we now find a change much for the better in Southern Australia, whence they hope to be able to send 600,000 quarters. This season we have had no inconsiderable supplies from India; but with a probable famine in those vast regions, it will be vain to expect much corn, or even rice. But all the nations are the servants of Providence, and while we would not take a crust from the famished Hindoo, let us hope that He who makes the corn to revive, so that every heart is filled with gladness, will remember how Israel was fed in Egypt, and satisfy the wants of every living thing. The following rates were recently paid at the several places noted: Best white wheat at Paris 70s., red 66s.; white at Bordeaux 67s.; white Spanish at Marseilles 69s. 6d.; winter American at Havre 66s. 6d., spring 64s. 6d. Wheat at Liege 66s., at Louvain 68s., Rostock wheat at Hambro' 64s., fine high-mixed at Danzig 71s. c, f, and i.; red at Berlin 57s., at Cologne 62s. Fine heavy wheat at Pesth 65s., at Valladolid 50s., Barletta at Naples 52s., at San Francisco 67s. c, f, and i.; at Adelaide 50s. f. o. b.; red spring at New York 53s. per 480lbs.

The first Monday in Mark Lane opened on very small supplies of English wheat, but there was a heavy arrival

of foreign, chiefly from America. The show of fresh samples on the Essex and Kentish stands was moderate, and the condition generally poor. The samples that were really fine and dry went off pretty freely, at an improvement of 1s. per qr., but there was no advance on inferior sorts, and only a dull sale. The heavy arrivals of foreign, however, found the trade rather in favour of sellers; and American spring sorts, notwithstanding their plentifulness, were quite 1s. higher. With liberal arrivals off the coast, prices were also 1s. dearer, and a ready sale. The London advance of 1s. was followed in several places, as at Alford, Gainsborough, Louth, Leeds, Rotherham, Sheffield, &c.; but in the majority of instances no change of value was noted, and Barnsley was rather lower, and though Liverpool gained 1d. to 3d. on Tuesday, 2d. was lost on the following Friday. Edinburgh and Leith were without change, but Glasgow improved 1s. per qr. At Dublin home-grown wheat was dull, and foreign only firm.

On the second Monday there was but a small supply of English wheat, but the foreign arrivals exceeded the abundance of the previous week, mostly from America and Russia. The show of fresh samples from the near counties was limited, and again generally in bad condition. The driest lots about maintained the previous prices, but low sorts were cheaper to sell. The foreign trade, affected by the continued heavy arrivals, was generally dull, and American sorts lost the advance of the previous week, but fine Australian were rather dearer, from a foreign inquiry. Cargoes afloat being also plentiful, there was less briskness in the sales at 1s. decline. The wheat trade this week in the country was dull, St. Ives and a few other places noting a decline of 1s. per qr., but an upward tendency was evinced in some localities. Liverpool gave way 2d. per cental on Tuesday, and subsequently recovered. At Edinburgh, Leith, and Glasgow no change of value was noted. Irish wheat remained dull at Dublin, and foreign was very firm.

On the third Monday there was the usual small supply of home-growth, with a great falling-off in the foreign arrivals—say to one-fifth of their previous magnitude. There having been a sharp frost, samples of English were much improved in condition, and sold more readily at full prices, in some instances obtaining rather more money. But the foreign trade was more decidedly improved for all qualities, more especially red American spring, to the extent of 1s. per qr. Floating cargoes also were improved as much. Business in the country this week was quiet from the near approach of the Christmas holidays; but wheat, though a slow sale, was generally without any change, and in a few instances a rise of 1s. took place. At Liverpool the former rates were maintained on Tuesday, but on Friday prices were 1s. per cental lower. At Edinburgh the wheat trade was dull, but firm at Leith, Glasgow being 6d. to 1s. per qr. dearer. Dublin had but a small attendance, with a quiet trade, not only for wheat, but all kinds of grain.

On the fourth Monday there was a short English supply, but plenty of foreign, more than half being from New York. The show of fresh samples on the Essex and Kentish stands was limited, varying in condition. Such samples as were dry and fine were held at the pre-

vious rates; the others were extremely difficult to clear off. The market, so near Christmas, being thinly attended, and of a holiday character, very little was done in foreign, but holders generally were firm in maintaining the prices of the previous week. The floating trade was dull, with prices rather easier. With a sudden change to very mild weather in the country, and the arrival of Christmas, the wheat trade was generally quiet, but without reduction in prices. Liverpool was unaltered on Tuesday. The Scotch markets were in calm. The price both of native and foreign wheat at Dublin was fully maintained.

On the fifth Monday the supply of English was very scanty, and the foreign arrivals good. The number of fresh English samples exhibited was small, the condition still showing some variety. The best lots were slowly taken at the rates of the previous week. In foreign business was firm, and the prices realised were fully equal to the previous quotations, and rather exceeded in Australian white and American red sorts.

The arrivals for five weeks into London were 18,836 qrs. English, 211,667 qrs. foreign, against 22,529 qrs. English, 168,237 qrs. foreign for the same time last year. The exports were 18,892 qrs. The London averages commenced at 62s. 10d., and closed at 63s. 11d. The imports into the kingdom for five weeks ending 20th December were 5,421,650 cwt. wheat, 637,535 cwt. flour, against 5,281,253 cwt. wheat, 815,451 cwt. flour last year. The general averages commenced at 61s. 1d., and closed at 61s. 7d.

The flour trade throughout the month has been remarkably steady, having exhibited no change either in town made, country, or foreign qualities, thus answering to the state of the wheat market. The top price has continued 57s., country households 47s., and the best barrels 32s. to 33s., stocks being low before the late increased arrivals from America. The arrivals for five weeks into London were 81,869 sacks English, 18,314 sacks, 96,874 barrels foreign, against 99,914 sacks English, 26,850 sacks 75,405 barrels foreign for the same time last year.

The arrivals of maize being much less than anticipated, and all spring corn having improved in value, this grain has further advanced, say fully 1s. per qr.; good fresh yellow, small or large, being now worth 37s., and extra white 3s. to 4s. Prices being still high in Italy, Hungary, and the Principalities, from the shortness of the crop in these countries, there is no prospect of lower rates for some time. The receipts into London for five weeks have been 52,584 qrs. against 67,828 qrs. for the same period in 1872.

The barley trade has shown very little change as respects malting sorts, the best of which have fully maintained their value; while secondary qualities have been dull, and medium about 1s. lower, but for grinding qualities prices have rather hardened, fresh being worth 31s. to 33s. per qr. Saale barley at Hambro' has continued dear and so scarce that they have been obliged to use Danish instead. The receipts in London for five weeks were 27,686 qrs. British, 58,929 qrs. foreign, against 14,768 qrs. British, 129,713 qrs. foreign for the same period in 1872.

Fine malt has also maintained its value, but the sale of inferior had become more difficult, with a downward tendency in prices. The London exports were 4,950 qrs.

Oats have slightly varied with the foreign supplies, which for the five weeks have been good. On the second week there was a decline of 6d. per qr. for soft, new Swedes; this was nearly recovered on the third week, and again lost on the heaviest arrival of the fourth week, leaving the value of old and fresh corn unchanged all through. Prices, therefore, continue at a high range, say 26s. per

qr. for 38lbs. Russian in granary, and 28s for 40lbs., while 38lbs. new Swedes were worth 25s. to 25s. 6d., and higher weights in proportion. The increased consumption of this grain makes it very probable that its value will be maintained till the ports of the Baltic are all open in spring. The receipts into London for five weeks were 2,539 qrs. English, 17,024 qrs. from Scotland (including foreign shipped thence), 5,760 qrs. Irish, 264,198 qrs. foreign, against 6,133 qrs. English, 100 qrs. Scotch, 222,403 qrs. foreign in 1872.

Beans, having been more in demand, have rather advanced—say 1s. to 1s. 6d. on the entire month. Egypt, our principal source of supply, having as yet sent nothing, with very little prospect of doing so to any extent, rough Barbary beans have thus become worth 42s. 6d., harrows 47s., and small 50s., and as maize is no longer very cheap their value seems likely to be maintained. The arrivals into London have been 6,004 qrs. English, 9,973 qrs. foreign, against 4,749 qrs. English, 14,089 qrs. foreign in 1872.

Peas have only been firm, though during the temporary frost white boilers began to improve, but lost their position on the return of unusually mild weather. Fine boilers are still worth 45s. to 46s., Canadian 44s., duns 38s. Should there be no frost white sorts will come into use for horse feed, as they are now cheaper than beans. The imports for London were 3,740 qrs. English, 10,708 qrs. foreign, against 3,136 qrs. English, 10,167 qrs. foreign in 1872.

Linseed, with only moderate supplies, has been fully as dear; and cakes found a brisk demand, at full rates. Supplies 31,730 qrs., against 48,619 qrs. in 1872.

But little has been passing in cloverseed, but prices have been gradually hardening, till they are 2s. dearer than at the commencement of the month, the first arrivals from America not being followed up, and but little as yet coming from France.

CORN IMPORTED AND EXPORTED

FOR THE WEEK ENDING DEC. 20.

	Imported into			Exported.	
	Engl'd.	Scot'l'd.	Ireland.	British.	Foreign
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Wheat.....	651949	51128	395171	17924	12653
Barley.....	154392	5195	12121	1341	30
Oats.....	227259	...	...	111	827
Rye.....	...	...	...	879	1310
Peas.....	16030	98	...	266	2
Beans.....	21521	31668	...	31	110
Indian Corn.....	143973	...	117457	...	5525
Buckwheat.....	3990	29	...	...	...
Total.....	1224251	88118	434749	20585	20557
Wheat Flour.....	123871	48629	...	1615	2772
Oat Meal.....	20	...	...	417	...
Rye Meal.....	...	3	...	...	...
Indian Corn Meal.....	7	...	...	...	...
Total.....	123898	48632	...	2032	2772
Grand Total.....	1348152	136750	134749	22617	23329
Malt.....qrs.	...	...	...	1955	...

IMPERIAL AVERAGES

For the week ended Dec. 20, 1873.

Wheat.....	56,610	qrs.	61s.	7d.
Barley.....	88,744	..	44s.	7d.
Oats.....	3,642	..	26s.	3d.

COMPARATIVE AVERAGES.

Years.	WHEAT.				BARLEY.				OATS.			
	Qrs.	s.	d.	...	Qrs.	s.	d.	...	Qrs.	s.	d.	...
1869...	49,921	...	43	5	74,153	...	35	11	3,946	...	21	6
1870...	67,006	...	52	7	69,179	...	31	11	5,836	...	23	6
1871...	69,214	...	55	8	87,623	...	36	9	6,612	...	23	0
1872...	53,276	...	56	3	71,277	...	41	2	5,769	...	23	2
1873...	56,610	...	61	7	88,744	...	44	7	3,642	...	26	3

IMPORTANT TO FLOCKMASTERS.

THOMAS BIGG, Agricultural and Veterinary
Chemist, by Appointment to his late Royal Highness
The Prince Consort, K.G., Leicester House, Great Dover
Street, Borough, London, begs to call the attention of
Farmers and Graziers to his valuable SHEEP and LAMB
DIPPING COMPOSITION, which requires no Boiling, and
may be used with Warm or Cold Water, for effectually
destroying the Tick, Lice, and all other insects injurious to
the Flock, preventing the alarming attacks of Fly and Shab,
and cleansing and purifying the Skin, thereby greatly im-
proving the Wool, both in quantity and quality, and highly
contributing to the general health of the animal.

Prepared only by Thomas Bigg, Chemist, &c., at his Man-
factory as above, and sold as follows, although any other
quantity may be had, if required:—

1 lb. for 20 sheep, price, jar included.....	£0	2	0
6 lb. 30 " " " " " " " " " " " " " " " "	0	3	0
8 lb. 40 " " " " " " " " " " " " " " " "	0	4	0
10 lb. 50 " " " " " " " " " " " " " " " "	0	5	0
20 lb. 100 " " " (Cask and measure 0 10 0			
30 lb. 150 " " " included)	0	15	0
40 lb. 200 " " " " " " " " " " " " " " " "	1	0	0
50 lb. 250 " " " " " " " " " " " " " " " "	1	3	6
60 lb. 300 " " " " " " " " " " " " " " " "	1	7	6
80 lb. 400 " " " " " " " " " " " " " " " "	1	17	6
100 lb. 500 " " " " " " " " " " " " " " " "	2	5	0

Should any Flockmaster prefer boiling the Composition, it
will be equally effective.

MOST IMPORTANT CERTIFICATE.

From Mr. HERBATH, the celebrated Analytical Chemist:—
Bristol Laboratory, Old Park, January 18th, 1861.

Sir,—I have submitted your Sheep Dipping Composition to
analysis, and find that the ingredients are well blended, and
the mixture neutral. If it is used according to the directions
given, I feel satisfied, that while it effectually destroys vermin,
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fleece, or the carcase. I think it deserves the numerous
testimonials published. I am, Sir, yours respectfully,

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To Mr. Thomas Bigg, Professor of Chemistry,
Leicester House, Great Dover-street, Borough, London.

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or LOTION, for the SCAB or SHAB, which will be found
a certain remedy for eradicating that loathsome and ruinous
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climates, and at all seasons of the year, and of all descriptions
of sheep, even ewes in lamb. Price FIVE SHILLINGS per
gallon—sufficient on an average for thirty Sheep (according
to the virulence of the disease); also in wine quart bottles,
1s. 3d. each.

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the weather was most severe in February during the dressing,
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three weeks the Sheep were quite cured; and I am happy to
say the young lambs are doing remarkably well at present.
In conclusion, I believe it to be the safest and best remedy
now in use. I remain, dear Sir,

"For JOHN TINGEY, Esq.,
"R. RENNEY,
"To Mr. Thomas Bigg."

"Beware of such pre-
parations as "Non-poisonous Compositions;" it is only
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THE

INTEREST.

MARK LANE EXPRESS

AND

AGRICULTURAL JOURNAL

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No. 2, Vol. XLV.]

FEBRUARY, 1874.

[THIRD SERIES.

Per

F2254

THE

FARMER'S MAGAZINE,

AND

MONTHLY JOURNAL

OF

THE AGRICULTURAL INTEREST.

Dedicated

TO THE

FARMERS OF THE UNITED KINGDOM.

LONDON :

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10 lb.	50 "	" "	0	5	0
20 lb.	100 "	" (Cask and measure	0	10	0
30 lb.	150 "	" included)	0	15	0
40 lb.	200 "	" "	1	0	0
50 lb.	250 "	" "	1	3	6
60 lb.	300 "	" "	1	7	6
80 lb.	400 "	" "	1	17	6
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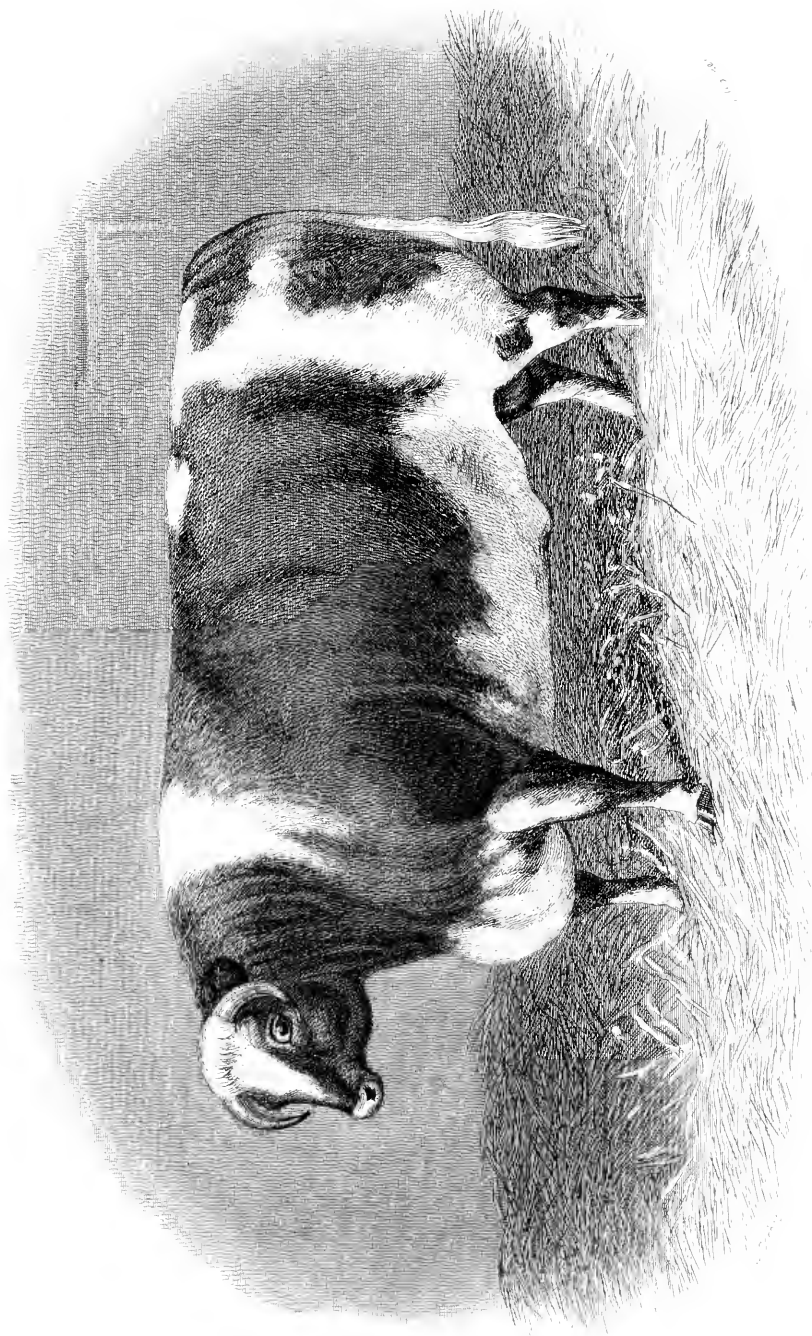
"I remain, dear Sir,

"For JOHN TINGEY, Esq.,
"R. RENNEY.

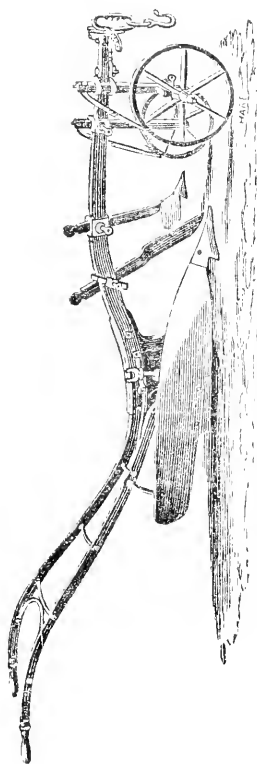
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J. S. Burdett Co.



BALL AND SONS' GENERAL PURPOSE PLOUGH.

Mr. Walter Fiser Esq. was awarded at the Hort. Exhibition, the Royal Agricultural Society, July 1877.

THE FARMER'S MAGAZINE.

C O N T E N T S.

FEBRUARY, 1874.

PLATE I.—A SHORTHORN OX : THE PROPERTY OF MR. J. S. BULT, OF DODHILL HOUSE, KINGSTON, TAUNTON.

PLATE II.—BALL AND SONS' GENERAL PURPOSE PLOUGH.

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THE FARMER'S MAGAZINE.

FEBRUARY, 1874.

PLATE I.

A SHORTHORN OX;

THE PROPERTY OF MR. J. S. BULT, OF DODHILL HOUSE, KINGSTON, TAUNTON, AND THE BEST OF ALL THE STEERS AND OXEN AT THE SMITHFIELD CLUB SHOW, 1873.

This ox, bred and fed by Mr. Bult, was 4 years and 2 months old when exhibited at Islington. He was by Earl of Fife (26062), out of Bertha Bernice, by Augustus Windsor—Anemone, by 2nd Duke of Cambridge (12740)—Anemone, by Allan-a-dale (7778).

At the Smithfield Club Show, this ox took the first prize of £30 in the aged class, a very strong one, and the cup of £40, as the best ox or steer in any of the classes, together with a medal for the breeder.

We thus wrote on the opening morning: "There were sixty-five Shorthorns entered beyond those sent into the extra classes, and from the time he first came out many

good judges outside went for Mr. Bult's really grand ox as the best in the yard, uniting, as he does, size and weight with a frame very levelly covered, and presenting altogether a very handsome appearance." His live weight was 24 cwt. 2lb., and the three Shorthorn judges would have made him not only the best ox, but the best beast in the yard, but they were outvoted on a poll being demanded. At the Plymouth fat stock show of the previous year he had been declared the best of all, though they would not go quite so far at Islington; and he also took prizes in 1873 at Taunton, Yeovil, and Sherborne.

PLATE II.

BALL AND SONS' GENERAL-PURPOSE PLOUGH;

FOR WHICH A FIRST PRIZE WAS AWARDED AT THE HULL MEETING OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND, 1873.

At Hull, Messrs. Ball and Sons, whose works are at Rothwell, near Kettering, took the first prize for wheel-ploughs not exceeding 2½ cwt., the first prize for wheel-ploughs not exceeding 3 cwt., and the second prize for wheel-ploughs not exceeding 2 cwt.; as well as a first prize for iron plough and subsoiler combined; another first prize for double mouldboard ploughs, and a second prize for swing-ploughs. In fact, the success of the Rothwell firm was very signal, but by no means unexpected;

for, as the *Journal* report puts it, this is not the first time the well-known Criterion ploughs have appeared on the prize-lists of the Royal Agricultural Society of England. From the same authority, we hear that "these ploughs are admirably made, combining strength with quality of workmanship and simplicity"—the very character for a general-purpose plough. Our own report spoke at the time to the admirable work done by the Balls at Hull.

THE FARMER'S INTEREST IN THE ELECTIONS.

"The subjects for this year are the best we have had for a long time;" so said a member of the Farmers' Club in our last week's number; while on the Friday afternoon an ex-M.P., when again saying so much, added, "but the election question will come too late, as there will be a dissolution almost immediately on the meeting of Parliament." And on Saturday morning the dissolution was announced. Still, there can be no doubt but this step has taken both sides of the House by surprise, the common opinion being that the Government would endeavour to tide over the Session, and go to the country in the autumn. Moreover, we are inclined to think that the determination was a very sudden one on the part of those who made it, and in reality a move for a move. It had got out that the Opposition intended to court a great battle on the first opportunity, with the hope of sending the Ministry to the country under the shadow of a defeat; and that the Premier's title for Greenwich would be at once attacked. As a counter-move, Mr. Gladstone preferred to make the appeal on the success of a Surplus, which is, in truth, the leading feature of his address.

However, in any case, something of the sting has been taken out of The Farmers' Club card, for in a few days' time every farmer will have to decide for himself what his interest really is in the next election; while Mr. Gladstone is good enough to point out something of the line which the agriculturist should take. Thus: "The laws respecting the transfer, the descent, and the occupation of land; the laws respecting game; the laws respecting the sale of spirituous liquors; the laws affecting the relations between employer and employed; the laws of rating and of local government are among the subjects likely to come in turn under the notice of the new Parliament. In some of these matters there is, in my judgment, room for extensive improvement." This sentence or so very pertinently embodies almost every point which just now commands the attention of occupiers of land: the cumbersome system of transfer, the law of entail, the tenancy of land, the game abuse, the excise laws, the relations between the employer and the employed, the adjustment and administration of local rates are all matters about which the farmers have been saying for years past, just as Mr. Gladstone says now, how *there is room for extensive improvement*. Surely this should be the very watchword of the election—*improvement* in the ownership and occupation of land, in the game-laws, in local taxation as a farmer's question, and in the land-laws.

Only last week we showed the line of action which the Scotch farmers have resolved to take. They are going to put a series of resolutions to every candidate as to Game, Hypothec, Entail, and Tenant-Right; and if the English farmer is in earnest he must follow their example. But we would warn him in the outset that he must not be content with resolutions. It has been too much the fashion, particularly of late, for farmers to centralise their efforts; that is to say, they will come up to London and arrange a circular or two, and then go home again with the idea that they have done all required. But no battle was ever won in this way. A member of Parliament who receives a printed letter signed by a chairman or secretary, whose name he scarcely knows, will barely read, much less be influenced by such an agency. But let the man who has helped to pass the resolution in London follow up his would-be representative at home on market-day, and put directly to him such straightforward questions as these: Are you in favour of the Tenant-Right Bill and the 12th Clause? Do you agree with us that the tenants should have the control of the hares and rabbits? And, despite Sir Michael Hicks Beach, what are your views as to the repeal of the Malt-tax?

These questions must be put, or The Farmer's Interest at the next Election will, as heretofore, be as nought. From all they did say during the autumn the addresses of the county members pretty generally will be designedly swamped with Local Taxation, while they will touch as gingerly as possible on Tenant-Right, Game, the Malt-tax, or Land Laws and Customs. No circulars will move such gentlemen as these, but they must be met in the market-place, and a bargain struck on the plain terms that "If I vote for you, you will vote for me." If the English farmer cannot "afford" to follow the Scotchman so far, he had better not trouble himself over any more "resolutions." Perhaps the very worst thing which has happened of late was when the Central Chamber of Agriculture agreed that it would be "improper" to put questions to members, or, as they now are, candidates. Whereas, everything at this moment depends upon individuals, as it is impossible to say with which Party Mr. Gladstone's enumerated "improvements" will rest; and it would be well if farmers would throw over the consideration of all politics but their own. Mr. Sewell Read was first returned to Parliament by a majority composed of all shades and sects, and it is in this way that farmers should combine to carry their own men.

THE USES OF INDIAN CORN.

The prediction made by Mr. Cobbett that Indian corn would come to be one of the principal crops of this country has not been, nor is it likely to be, verified. Much of the ease and happiness of the people of the United States attributed by him to the absence of taxation was without doubt true in those days, but in spite of all such advantages in the absence of the maize the United States would never have become the great and powerful nation it was. This corn was the great blessing of the country, and having these convictions strongly implanted in his mind by personal observation, he soon placed his ideas before his fellow-countrymen, and the result was that vigorous treatise, called "Cobbett's corn." "Am I to be told," he says, "that the people of Eng-

land, and especially those who have not enough of any thing at all to eat, will not use the flour of corn? If they cannot get it they will not; but if they can they will, and the porridge, and the mush, and the cakes, and the puddings, will soon banish the villainous potato from the land. Oh! only let us get the corn, and the result will be no difficulty in getting the flour." It is rather remarkable that, although the experience of the people of the entire American continent bears uniform testimony in favour of the palatableness, the healthfulness, and the economy of Indian corn, it is but little known to the people of Europe to whom cheap food is the great desideratum. "Will it make bread, Mr. Cobbett?" asked a lady visitor, when looking at the tall

stalks and their wavy leaves in the experimental gardens of the essayist. And very much the same kind of inquiry is still making if we may judge from the correspondence that has taken place between a merchant in Cincinnati and Mr. Bright. Upon Mr. Buckmaster, our culinary instructor at South Kensington, has devolved the responsibility of elaborating a compound that will prove acceptable to the masses. There are, it seems, ample resources of this food always at our disposal, and we as a nation are not inconsiderable purchasers of the grain to which attention has been thus publicly called. By botanists the plant is described as a native of America, where it seems to flourish in the greatest abundance. In favourable situations it has a very considerable growth, attaining to the height of seven to ten feet, while in some cases it has acquired the gigantic height of fourteen feet, without in any way impairing its productive power. In the Mexican States there are very few spots where it is not successfully cultivated, and its productiveness may well excite the wonder of European agriculturists. Some particularly favourable spots have been known to yield an increase of eight hundred for one, and it is common in situations, where artificial irrigation is practised, to gather from three hundred and fifty to four hundred measures of grain for every one that has been sown. In other cases it is rare for the cultivator to realise less than from forty to sixty bushels for each one sown. In the United States the corn is planted about the middle of May, so as to avoid the mischance of its experiencing frost after it is once out of the ground. The proportionate produce from a given measure of seed, or a certain breadth of land, is smaller, however, than that realised in Mexico. As compared with the yielding of other kinds of grain, maize cultivation is, nevertheless, highly productive. In Pennsylvania, where the average crop of wheat does not exceed from fourteen to seventeen bushels, that of maize amounts to from twenty to thirty bushels to the acre. The American farmers find this advantage to attend the partial culture of maize upon their farms, that the time of harvesting is some weeks later than that of wheat, and that, consequently the general operations of the harvest may be conducted without great bustle or a temporary advance of wages, to be followed by a season of inaction, and consequently of idleness to the labourers. The extent cultivated in the States amounts to 34,000,000 acres, and the produce to 992,000,000 bushels.

Although America appears to be the stronghold of the maize, its cultivation has extended over many parts of Europe. In France the production is stated to be 30 million bushels, and the grain is grown and used chiefly for poultry, which, in the sub-divided condition of the soil, is one of the mainstays of the peasant farmer, as in England, so far, one of its chief uses is for feeding pheasants, who thrive very fast upon it. In Italy it is an important part of the cereal crop, and the produce has been given at 45 million bushels. How largely it enters into the agricultural economy of the country may be seen from the fact that in certain parts, the province of Turin for instance, the labourer is allowed to share the produce of the Indian corn with the master. In other parts of Lombardy, besides a money payment for wages, he receives a proportion also, which when mixed with rye and millet flour is made into a coarse bread. Amongst the better paid a "polenta" of corn-meal is principally eaten: this, mixed with vegetables, and flavoured with a little bacon, is a favourite dish. In Austria there are about 700,000 acres sown, with a yield of 11 million bushels: in Hungary there are 3,466,000 acres with a yield of 66 million bushels. We have been informed that one of the advantages arising from the improved navigation at the mouth of the Danube which

was undertaken at the termination of the Crimean war has been the shipments direct of Indian corn to Great Britain, and her valuable custom for this article has greatly encouraged the production of this description of grain, for which the soil and climate of the country are particularly suited. In Greece, where it shares with wheat, barley, and rice, the production amounts to about 3 million bushels. In some localities where the land can be irrigated and the soil is particularly good, maize is planted after the barley has been cut in the month of May. The principal food of the peasantry consists of a coarse brown bread, called "keramedopita," made of a mixture of barley and corn-flour, or "bobota," being a bread made of maize. In Portugal Indian corn is the staple cultivation of the northern part, and the produce amounts to about 15 million bushels. The proportion that it bears to that of all other corn crops throughout the country is one-half in respect to quantity and value and one-third in respect to the portion of the cultivated area devoted to cereals. The universal bread food is "broa," a strong, wholesome, and not impalatable mixture of maize and rye. To the use of this bread food is ascribed the well-being of the Portuguese peasant. His choice of a double corn-food almost ensures him against periodical famine, with its many disastrous consequences, such as have followed rice famines in India, the great potato failure in Ireland, or even such as accompany a wheat scarcity in England. An entire failure of the maize crop is almost impossible in Portugal: when maize, however, is scarce and dear, less in proportion to the rye can be used in the loaf, and vice versa. So far, therefore, as we possess any tolerably reliable data to follow, there are about 43 million acres cultivated with Indian corn, and the produce amounts to about 1,160,575,000 bushels.

It was not, however, until the famine, when the potato denounced by Mr. Cobbett had failed the people of Ireland, that the maize had found any favour in the United Kingdom. In the year 1845 the supplies imported were insignificant, being only 241,000 cwt., but in 1847, the imports were 15,464,000 cwt. Since then the following have been the averages:

	Cwts.		Cwts.
1848-52.....	7,162,000	1864-68.....	9,543,000
1853-58.....	6,376,000	1869-73.....	18,915,000
1859-63.....	10,249,000		

Our largest supplies have always been drawn from the United States and British North America. These amounted in 1872 to 20,549,000 cwt.; and from the countries bordering the Danube to 2,744,000 cwt., leaving only a small residue derived from all other sources. The consumption throughout the United Kingdom at the present time is chiefly confined to horses, cattle, and poultry, but in Ireland, where the bulk of the imports are directed, the peasantry have adopted Indian corn in place of the long-cherished potato.

THE TENANT-RIGHT MEMBERS.—Mr. James Howard and Mr. Whitbread, the late members, will be opposed by Captain Polhill Turner, a Conservative, at Bedford; but so far there is no opposition to Mr. Sewell Read and Sir R. Buxton in North Norfolk. Amongst other "agricultural members," as so distinguished, Mr. Pell will have again to encounter Mr. Paget in Leicestershire, and there are rumours of opposition to Sir George Jenkinson in North Wilts; while Sir P. Dyke Acland's seat for North Devon is also threatened with an attack.

LAND LAWS AND LAWYERS.

Eheu fugaces! And many a year has slipped away since we joined a pic-nic in the Park, or viewed a fox cross a ride at Nuneham; for the Vernon Harcourts are good county people, and threw open their gates and their grounds to their neighbours and the 'Varsity long before one of their family was a member for the City, or an officer of the Government. It will thus be seen that the new Solicitor-General is not the mere offspring of the Courts, a very lawyer by habit as well as profession, but the rather one who should have the instincts of a country life, and of a country gentleman strongly developed. However this may be, there can be no question but that when a man speaks of home topics about home, he carries more weight and impression than if he were addressing a company of comparative strangers. It so happened that at Oxford, on New Year's Day, Sir William Harcourt talked far more like a Squire of Nuneham or a Knight of the Shire than as a learned gentleman whose business was more directly with the citizens or Dons of Oxford. The simple elucidation of this is, that the land is becoming more and more a subject for general discussion; as, if landowners themselves seek to avoid going very much into such a matter, it is one which is tolerably sure to be taken up in other or "outside" circles. The Aldermen, the Rectors, and the Druids followed their representative with every attention, appreciating most of his points, and giving him altogether a very flattering reception. But a Solicitor-General, when he really goes into an important question at a semi-private meeting, must be regarded as speaking far over the heads of those who sit beside him, and his utterances be interpreted as something of a manifesto.

The speech of Mr. Vernon Harcourt at the Druids' dinner on the 1st of January, in 1873, and the speech of Sir William Harcourt at the Druids' dinner on the 1st of January, in 1874, may serve to show how the world is educating itself over such as have hitherto been regarded as merely class questions. Just a year since we wrote that "Mr. Harcourt is very hazy as to any alteration in the law of entail," and that "Mr. Harcourt is unwilling to call in the interposition of the Legislature with regard to Tenant-Right." Sir William Harcourt now connects these two matters, and so far as we can follow him, insists upon the necessity for alteration or reform: "Much had been done of late years in this country for the development of the soil, but a vast deal more remained to be accomplished. As to the law of primogeniture, he had no wish to prevent any man from disposing of his property as he wished—the right of doing so was one of the greatest stimulants to industry and prudence—a matter in which the State was deeply interested. He would make the right still more absolute than it now was. When a man was so unwise as to die intestate, the law, in the case of his goods, made for him such a will as a just and fair man might be expected to make; but in the case of land the law made a will which no conscientious man in his sound mind would make. It accumulated on one child the whole of the estate, without regard to the interests of those for whom any good man would feel bound to provide. Surely to reform such a law would be a just and wise policy. Then, as to the transfer of land, the present system of conveying and charging was costly, dilatory, and vexatious. Who would object to an amendment of that state of things? Not, he supposed, the

proprietary class. Every man who bought or dealt with land wished to get as much as he could for it and pay as little as he could. If a reform of that character was opposed it would not be by the landed interest, but by a class of men far more influential—by solicitors in particular." Let us bear in mind that these abuses are denounced by one who, from the position he holds as a law officer of the Crown, must be accepted as the very highest authority; and the Solicitor-General tells us that for the land the law makes rules and provisions which no man in his senses would think of making. And, again, that the reforms so imperatively required will be opposed by the lawyers and not by the owners, although we fear that we cannot go thus far. No doubt "solicitors in particular" and solicitors in Parliament will do all they can to uphold the present cumbrous system of land transfer, but at the same time they will have much of the landed interest with them—landlords who live in a kind of blind dread that any alterations in land laws would bring about their utter destruction. It is for this reason—if reason it can be called—that such matters are so tenderly touched on or hastily passed over at county meetings or agricultural gatherings. Naturally enough any alteration in the law of entail, or proposal for facilitating the sale of land, must lead up to the public's—the Druids', the Rectors', and the Citizens' interest in such matters; and accordingly Sir William Harcourt goes on to show how "The great want in the case of land was more capital to be applied to the cultivation of the soil. It was only by the increase of capital that they could increase that fund which would yield a larger rent to the owner, a larger profit to the farmer, larger wages to the labourer, and which at the same time would give more abundant and cheaper food to the people. Surely that was not a dangerous or a mischievous object. What was wanted for the community was that land should not be artificially kept in the hands of persons who were so impoverished that they could not do justice to the soil, or to those who lived upon it. Any law which prevented land passing freely from those who could not to those who could do well by it was economically a bad law." This reads like an extract from the preamble to Mr. Howard's Tenant-Right Bill: "Whereas it is expedient for the greater improvement of land, and the consequent increased production of food therefrom, to amend the law relating to the occupation and ownership of land." There is nothing "hazy" here, but the atmosphere is clearing, so that all must see what is advancing, but those who thrust their heads into the sand and will not see.

Sir William Harcourt looks, like everyone else, to a great surplus at the close of the financial year, and wonders, like everyone else, what the Chancellor of the Exchequer will do with it—"will he commit it to the chaotic abyss of Local Taxation?" Palpably here is a chance for the Malt-Tax repealers; and Colonel Barttelot, notwithstanding the curious reticence observed by him with regard to this question in his many and lengthy speeches of late, will now "be prepared to bring it forward in such a form and at such a time as those interested in the matter in the House of Commons agree to, should the answer of Mr. Gladstone to the deputation not be favourable." This is something, but Colonel Barttelot commits himself to thus much at the instance of Sir Michael Beach, who has forbidden the farmers from ascertaining how far their own "representatives" will be prepared to support the movement! Is there anything to be done at the next election?

THE CROPS OF 1873.

Bad weather and bad harvests travel in cycles, and it is now some years since the growers of wheat have been able to speak to a moderately fair crop. 1870 was capricious, with decidedly under an average in most parts; 1871 was altogether bad, and in 1872 it was thought that we had reached to the minimum of production in bread-corn. A comparison, however, of the figures for the two years will show that, under the several headings of good, bad, and indifferent, 1873 is not more favourable. Thus:

	Advices.	Average.	Over.	Under.
In 1872.....	454	78	22	354
In 1873.....	445	84	17	344

With some smaller growths not taken into account, and a few more advices collected in 1872, the totals of under-average returns come to almost the same; while in 1873 there is but a trifling variance either as regards an average or over-average when compared with 1872, and indeed, when proved by these tables, the two years come to tally in very noticeable degree. On the other hand the barleys show far better, the under-average being very small; and although the Western Counties have suffered, the condition and colour in places is much more satisfactory than the trade had been led to anticipate. From Norfolk, for instance, we read how the sample is *nearly all malting*, how it is *good malting*, and it is of *good quality*; though in other barley districts, no doubt, much of the crop was damaged and stained in harvesting. Of oats there has been, taking the country through, a fair average crop; but the beans will not rank with the great growth of 1872, when, at all points, for yield, condition, and quality, this was the crop of the year. Peas show better in the returns, as much better than last year, and the balance might be struck at an average.

The following is a summary of the Returns for 1873:

	Wheat.	Barley.	Oats.	Beans.	Peas.
Over average.....	17	86	71	47	39
Average.....	84	266	233	169	206
Under average.....	344	74	109	97	91
Smaller growths, &c.....	7	26	39	139	116

We also subjoin, to facilitate the comparison, a similar Summary for 1872:

	Wheat.	Barley.	Oats.	Beans.	Peas.
Over average.....	22	41	103	72	48
Average.....	78	185	226	166	146
Under average.....	354	211	101	85	158
Smaller growths, &c.....	7	24	31	138	109

As regards the chief crop we can only repeat that which we said at this time last year: viz., whether from the experience of some seasons past a fresh *average* should not be struck for the growth of wheat in this country. Taking years like 1869 with 295 returns under, 1871 with 328 under, 1872 with 354 under, and 1873 with 344 under, it certainly looks as if we were unable to maintain our previous standard of production. Moreover, we not only grow less wheat, but in the graphic description of one correspondent have commonly *very plain crops*; and a bad yield and a bad quality have of late often gone together. As Mr. Mechi tells us in the *Tiptree* balances, "the hailstorms and bad weather of 1872, and the blight of 1873, affected injuriously the main crop of the farm;" while much of the ingathering in 1871 was so bad in condition as to be for a time unsaleable. However, after so good a seed-time there may be a turn in the

tide, as there is every promise at present; although it will take time to forget a run of indifferent seasons, and Great Britain may have still to look more or less anxiously to her neighbours, her friends in America or her relatives in Australia.—The *Mark Lane Express* of January 13,

In our Supplement of this day we give the companion returns on the Turnip, Mangold, Potato, and Hay crops in 1873, of which the following is an abstract:

1873.	Turnips.	Mangolds	Hay.
Over average.....	126	62	56
Average.....	252	250	289
Under average.....	64	85	107
Smaller growths, &c.....	14	59	4
Total.....	456	456	456

POTATOES.—Estimated extent of disease:

Free from disease.....	8
One-eighth diseased.....	57
One-fourth diseased.....	90
Three-eighths diseased.....	89
One-half diseased.....	117
Five-eighths diseased.....	47
Three-fourths diseased.....	15
Seven-eighths diseased.....	1
Failure.....	0
Returns in which no allusion is made to the disease.....	14
Smaller growths, &c.....	18
Total.....	456

It may be useful to compare this epitome with those of the two preceding years:

1872.	Turnips.	Mangolds	Hay.
Over average.....	54	65	323
Average.....	223	230	143
Under average.....	176	117	3
Smaller growths, &c.....	20	61	4
Total.....	473	473	473

POTATOES.—Estimated extent of disease:

Free from disease.....	6
One-eighth diseased.....	33
One-fourth diseased.....	62
Three-eighths diseased.....	27
One-half diseased.....	126
Five-eighths diseased.....	60
Three-fourths diseased.....	77
Seven-eighths diseased.....	42
Failure.....	12
Returns in which no allusion is made to the disease.....	19
Smaller growths, &c.....	9
Total.....	473

1871.	Turnips.	Mangolds	Hay.
Over average.....	231	115	181
Average.....	217	287	265
Under average.....	33	43	42
Smaller growths, &c.....	9	45	2
Total.....	490	490	490

POTATOES.—Estimated extent of disease :

Free from disease	12
One-eighth diseased	61
One-fourth diseased	88
One-third diseased	46
One-half diseased	148
Two-thirds diseased	46
Three-fourths diseased	30

Seven-eighths diseased	9
Failure	2
Returns in which no allusion is made to the disease.....	37
Smaller growths, &c.....	11
<hr/>	
Total	490

—*Mark Lane Express*, Jan. 26th, 1874.

FARMERS' CLUBS AND "POLITICAL QUESTIONS."

Mr. Grey, of Dilston, has tendered his resignation as Chairman of the Hexham Farmers' Club. In doing so he said he "had filled the office for several years, and it was only fair that other people should take their share of the responsibility, duties, and also the honours which they were pleased to award; these things should be divided, and not be monopolised." So far we go altogether with Mr. Grey. A man who holds a leading position in a district may, when continuing for any length of time to conduct certain class meetings, almost unwittingly imbue these occasions with an idiosyncrasy never quite wholesome, and rarely desirable. With such a lease of office and power, a man gradually grows from a Tribune to a Dictator, and the people to suffer under the rule of a tyrant of their own creation. In all societies, and more especially agricultural societies, nothing is more politic than a periodical change of President. It is very doubtful, however, whether any reason like this was the actual cause which determined Mr. Grey to throw up his appointment. On the contrary, from all which he went on to say at the dinner, it would seem that his main objection centred on the fact that the members in meeting could not invariably be tutored to think with the Chairman: "There were men of extreme opinions who did not represent the feelings of the Club, and who so entirely differed from his views on many subjects, that he had thought it consistent with his own feelings of honesty and his own dignity, for he thought he held a position in the county, to retire from the presidency of the Club. He did not think it consistent on his part to act as Chairman, and to be put forth as the mouthpiece, and have to endorse such extreme and improper views as had been entertained. He wished to say fairly to the general members of the Club that unless subjects were discussed in which farmers could take part without bringing mischief to the Club, without causing the Club to be looked upon by the landowners as a nest of agitators, the Club would cease to be useful as a farmers' club. It might exist and might be useful as an organisation for agitating political questions, but that was not the object for which it was first started." Mr. Grey gives as a collateral reason that the meetings of the Club are not well attended, or, in other words, that "the agitators" have generally been of late in a majority. But the discussions at Hexham have always struck us as having been sustained with much spirit and intelligence; and, as we find further that the Club has a good working balance in the bank, we see no evidence of that decline which Mr. Grey would insinuate. Mr. Grey, indeed, is by no means sufficiently distinct when stating the causes which have conducted to his retirement, or when making the charges he does against his brother members. What does he intend to infer by "improper views," and what does he mean by "a nest of agitators"? Mr. Trotter, the Vice-Chairman at the dinner, as well as the Secretary and Treasurer of the Club, who had been congratulated on the attendance there that day, "most strongly object"—as well he might—"to have his name branded in a censorious manner with those of poli-

tical agitators"—a remark followed, as we read, by *loud applause*.

But, surely, such dust as is here raised again should have been swept clean out of the Hexham Club dining-room long ago. Is a farmer to have no politics? or is he never to agitate, like other classes, in the State when he wishes to get his "rights" or to get rid of his wrongs? The ex-Chairman, again somewhat indistinct, does not go quite so far as to say so much, but he does say that the Farmers' Club was "not started for agitating political questions"—that is of course political questions affecting the interests of farmers. But here we must join issue with Mr. Grey. At the close of a long paper on the Irish Land Act—about as "political a question" as could well be imagined and a ceaseless source of "agitation"—which Mr. Grey read from the chair at this very dinner, he quoted and thoroughly endorsed an opinion delivered at the Hexham Farmers' Club five-and-twenty years since by his father, the late Mr. John Grey, in answer to a letter from the London Farmers' Club, which it appears was "agitating" for Tenant-Right. Mr. Grey, senior, then said: "I do not think this by any means a fair subject for legislation. A tenant's rights are just those which he can establish by law;" although, with curious contradiction, he goes on to say, "he must look to himself, not to the Legislature." These were Mr. John Grey's opinions a quarter of a century since, as they still appear to be those of his son. But the point is that, whether started with this object or not, the Hexham Farmers' Club, five-and-twenty years back, did take up "political questions," for there was a Tenant-Right bill before Parliament at the time, just as there is now; and, no doubt, so far as the best interests of the occupier are concerned, English Tenant-Right is as political, but not a bit more so, than the Irish Land Act.

The ex-Chairman of the Hexham Farmers' Club, when he goes five-and-twenty years back, does not go with the times. At the meeting of another long-established agricultural body in the North, also held within the last few days, the Chairman, who, like Mr. Grey, delivered the opening address—on Tenant-Right—at the dinner, and who is, moreover, a member of Parliament, said, in his reply that he "was not alarmed at the bugbear of doing away with freedom of contract." The ex-Chairman, Mr. Jacob Smith, a practical farmer, living on the borders of Lincolnshire, said, "Without the 12th clause, the Tenant-Right Bill would be absolutely worthless;" Mr. Lomas that, "if the 12th clause were expunged, the Bill would be a dead letter;" Mr. Brogden, that "Tenant-Right could not be had except by compulsory legislation;" and so forth, all in direct contradiction to Mr. John Grey's opinion of many years since. But according to Mr. Grey's son, farmers are not to "agitate political questions," when they get together amongst themselves, that is. Then what good can they ever hope to do for themselves? An East Essex farmer, in our Journal of this day, says, "Farmers in England might almost as well be without the franchise

for all the real representation which they get. I say *in England*, because both Scotch and Irish farmers are far in advance of English farmers in political energy and intelligence." This is all very well, but then political energy and intelligence are crimes which it is highly "improper" to display, as people who do so are "nests of agitators," and so on. However, The Farmers' Club here in London is going to face the next election, the Hexham Club to look to agricultural matters before Parliament, and the farmers of Stirlingshire to put the following resolutions to the candidates in those parts at the next election: "(1) That ground game should be excluded from the Game-laws, and that it should be declared illegal for a landlord, when entering into a lease of land with a tenant, to make any stipulation for the preservation of ground game. (2) That the law of hypothec, as applied to all agricultural subjects, should be abolished. (3) That the law of entail should be abolished. (4) That a law should be passed requiring landlords to give compensation to outgoing tenants for unexhausted manures and permanent improvements, and *vice versa*, requiring the tenant to give compensation to the landlord when the tenant has depreciated the farm. (5) That tolls and statute labour assessment in Scotland should be abolished, and that a general county rate be established in lieu thereof. (6) That the tax on dogs, when used exclusively for tending sheep or cattle, should be abolished." These are all "political questions," no doubt, but what use can come of farmers meeting if they do not "agitate" them? If they do not—despite even the withdrawal in disgust of Mr. Grey, of Dilston—they will continue as they long have been, as our Essex Correspondent says, "mere political non-entities."

TENANT-RIGHT AND THE NEXT ELECTION.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Allow me to make a few remarks upon a letter under the above heading which appeared in your columns on Jan. 5th. Your correspondent, "A Somerset Farmer," thinks that what farmers need is political organization, and I quite agree with him. Farmers in England might almost as well be without the franchise for all the real representation which they get. I say *in England*, because both Scotch and Irish farmers are far in advance of English farmers in political energy and intelligence. It seems as if the farmers here can only grumble, and lack either the sense or the courage to act. If they would put their grumbings into their notes, they could soon get their real grievances redressed. They have been grumbling about the lack of Tenant-Right and the Game-laws for more than twenty years, and I question whether they ever intentionally returned a member to represent their views on those important questions until they sent Mr. Read to the House of Commons. Now as they have the power to turn nearly every county election, and have influence in many boroughs, they might if they chose be amply represented in Parliament. But either they are afraid to take the necessary steps, or they do not care to take the trouble, and so they are voiceless in the House of Commons, and consequently are treated with the contempt which they deserve. Their rights are trampled upon, and their interests neglected, as if they were mere political nonentities,

I am, sir, yours truly,

AN EAST ESSEX FARMER.

THE MOLE,

The mole is amongst the many animals which in former times were looked upon and treated as unquestionable enemies, not only to the farmer by the destruction of his crops, but also to good farming, by throwing up little hillocks of earth all over the fields when in search of their provisions, by which the surface was greatly disfigured, especially the light soils, where their favourite and most plentiful food—the earth-worms—is to be found. Under these circumstances the mole-catcher was considered an almost constant part of the establishment of a light-land farmer, who declared a war of nothing less than extermination, only modified by the desire of the mole-catcher to leave a reserve kept for breeding purposes, so that the regular stock should be kept up. In other respects, the poor mole was a proscribed and doomed outlaw.

We have written the above in the past tense, because, of late years, new light has been thrown in upon the subject by science and by a closer examination into the habits and mode of existence of the mole. It was always supposed, for instance, that the mole subsisted upon the roots of plants—in fact, that it was omnivorous, preying indiscriminately upon both animal and vegetable food, taking the roots of the latter and leaving the other portion above ground to wither, or be eaten by such insects as usually feed upon them. There are many farmers who, even to this day, ascribe the destruction of crops, where the mole works, to that animal, whereas it has been demonstrated that all the poor mole has had to answer for is, his vigorous and successful raid upon the real delinquents—the earth-worms, beetles, larvae of all kinds, upon which he indiscriminately subsists. The farmers admit that the mole destroys the worms; but they

also believe that he likewise eats the roots of plants, which, as has been shown by experiment, is a vulgar error. Under this misapprehension, they urge the war of extermination against the mole as being guilty of effecting more harm than good. A knowledge of the habits, modes of life, and instincts of this animal proves the fallacy of this decision. The fact is, the mischief he is supposed to effect is palpable to the eye; the good which results from his labours is executed in the dark and underground, and therefore is left to conjecture.

The food of the mole is chiefly found near the surface of the soil, and his conformation consequently is in accordance with the necessity of seeking his food in the dark. His eyes are very small, and are furnished with a film which he can close over them at pleasure. On the other hand, his sense of smelling is sufficiently strong to direct him to his food, whatever it may be. Thus, a small piece of meat was placed on the surface near the run of a mole. The run was five inches from the surface, but soon the earth was seen to move, and the snout of the mole to appear at the very spot where the meat was placed, which it presently seized and devoured.

M. Flourens, in the *Memoires du Muséum d'Histoire Naturelles*, relates the following experiment: Wishing to know if the mole preferred animal to vegetable food, he placed in a vase full of mould two moles, with a root of horse-radish. The next day the root was intact, but of one of the two moles there was left nothing but the skin; the one having been eaten by the other. The surviving mole was transferred to an empty vase. She appeared agitated, uneasy, and evidently tormented with hunger. They gave her cabbage, salad, roots, carrots, but these

she would not touch. They then gave her a house-sparrow, the wings of which had been cut off. She approached it, received some blows with its beak, which made her at first draw back. Pressed by hunger she returned to the assault, threw herself upon the bird, devoured the belly, enlarged the opening with her claws, and rapidly devoured half of the victim except the skin and feathers. They gave in a glass of water, before which it erected itself and drank eagerly. It then set about eating the rest of the sparrow, and at length appeared satisfied. They took away the water and the food. But that satiety was not of long duration. The mole again appeared uneasy and hungry, and smelled about with its snout in all directions. They gave it a second living sparrow; she threw herself upon it, opened its belly, and devoured half of it, drank eagerly, and again resumed her tranquillity. The next day she ate the rest of the sparrow and a frog. For a night repast they offered her a toad, which she smelt of, but drew away, with evident repugnance. The following day they found her dead, without having touched either the toad, the carrots, the cabbage, or the salad which had been given her.

Many similar experiments were tried by Flourens and others of the French *savans*, all tending to prove that the mole is carnivorous only, and that whilst nothing of animal life (except the toad, as has been stated) comes amiss, it will die if shut up with nothing but vegetables, whether roots or leaves. Its voracity is so great, and its digestive powers so strong that it eats its own weight of food per day. Earth-worms are its standing dish, but with these, of which there are generally an abundant supply, they will devour, indiscriminately, snails, insects, larvae, crystalides, caterpillars, flesh of birds, of mammals, reptiles (adders, slow-worms, lizards), in short, almost everything that has animal life. On the other hand, nothing—even the extreme of hunger—can induce the mole to eat vegetable food of any kind: thus affording ample proof of its carnivorous nature. It would die of hunger rather than devour a root or a plant of vegetable.

These experiments are quite sufficient to exonerate this poor and useful animal from the charge of destroying root and branch of any kind of vegetable, either of the farm or other kinds: it is purely and simply a carnivorous animal, and, even in that capacity, the friend rather than the enemy of the farmer, or of good farming. It is admitted beyond dispute that occasionally, however beneficial the object of its work may be, in regard to the enormous destruction of hurtful creatures of all kinds infesting the fields, whether sown or unsown, eases have occurred in which works of art and science have been endangered by the operation of the mole. Thus, in the construction of a canal at Caen, the moles had mined the banks of the new works to such an extent that there was every fear of an inundation. This was only prevented by an ingenious device of Henri Lecourt, who built a strong wall for the destruction of the moles.

Still, no one can calculate the good effected by this animal, because it is done in the dark. The only visible signs of its presence is the ugly appearance of the little hillocks, and the subterranean passages, in which, when near the surface, the worms and other insects are plainly visible; but the good effected is still unknown to the farmer, who charges the mole with eating the roots of his plants, besides disfiguring his fields by his earthworks, and for those delinquencies he wages war. M. Carl Vogt relates the history of a proprietor who caused every mole on his property to be destroyed. The next season all his fields were so ravaged by white worms and other insects that he was compelled to procure moles with which to re-people those same fields where he had so sedulously repulsed those whom he was compelled to acknowledge were his best friends. The fact is, the multiplication of the real enemies of the farmer—the insect and reptile tribes—is so enormous that had not Providence ordained their destruction, all the art of man could not have kept them within any safe bounds.

THE HERDS AND FLOCKS OF SOUTH DEVON.

The Plymouth Judges ask directly for the "patronage"—a bad word—not only of Devonshire, but other counties, for this really beautiful breed of stock (the North Devons); while they go on to infer that any improvement in the South Hams must be traced to a cross with the North Devon. This, though, I have strong reason to believe would never be admitted; and tenaciously as South Devon clings to its own sort, I have made it my business to ascertain from the most reliable authorities the use and value of a breed of animals which some consider shows so indifferently, but which butchers maintain "proves" so well. One of my correspondents—and I must here take the opportunity of publicly thanking them for the readiness with which they answered the points put in my letters—says: "South Devon cattle have not been long known far from their native district, but none answer so well in the south of Devon. In the time when oxen were worked, they were bred a large size, with coarse bone, and kept from six to eight years old, when they would weigh from eight to ten cwt. Since then they are much improved in quality, brought to maturity at an earlier age, steers generally weighing 8 cwt. at three years old. The bone has also become much smaller, not more now in proportion to their weight than that of the Devon, and they are far more profitable to the breeder, the grazier, and the public generally. The butchers prefer them to the little Devon, as they come heavier than expected, while the Devon is lighter; they also carry much more rough fat. Many farmers in the neighbourhood, for an experiment, have tried other breeds, but, finding them not answering their purpose, have returned again to their old sort." It would so appear that the comparison suggested in 1853 really has been made,

probably enough with Shorthorns, as well as other breeds. Another correspondent, and old friend of mine, writes forcibly in this fashion: "South Hams cattle, as a breed, cannot be truly said to have been kept distinct. Legend has their origin from the Guernsey cow and North Devon bull, and with every appearance of probability, for great numbers of Guernseys, Jerseys, and Alderneys have always been, and are, kept for dairy purposes; but it is quite an exception to meet with any Channel Islands bull. Facility of communication between the port of Plymouth and the islands has always favoured the importation of heifers in calf as a regular branch of the cattle trade. The produce of these, after the second and third application of South Hams bulls, are generally the best and most profitable animals for the dairy feeder and butcher. The Shorthorn has been crossed with South Hams cows; the first cross wonderfully good, but the following up with Shorthorn sires has not succeeded, generally ending in coarse, bony beasts, with small middles. Instances of the first cross only, and then going back to South Hams sires, have given the shape of the Shorthorn, and an improvement to the herd for many generations. The North Devon sire put on the South Hams cow gives beautiful steers and butchers' animals, but stops the profit of the dairy. The Somerset Devon has given the same result. The cross of the West HIGHLAND with the South Hams has given an admirable animal for Dartmoor, handsome and hardy. Herefords and South Hams brought much the same sort which the Shorthorns did. The South Devons give great quantities of rich milk and butter; they feed into great good beasts, although flat-sided, and are universally butchers' favourites. The Guernsey dash on the mother's side always shows itself

beneficially, and the breed is most suitable to the district where it is found. Except only any cross with the Sussex, everything has been tried to effect what imagination may have supposed likely to improve them, but the original old South Hammer has, in the long run, pulled through the trial in triumph as 'the good old sort,' long after the improvers and improved have been by-gones. What the Sussex might do if tried, is an experiment yet to come, as they have many points of similarity. One point is a certainty—there will always be South Hammers, and the natives will always swear by them. All the cattle shows that ever will be held, and all the prize-lists that can ever be framed, will never drive them away from the fertile valleys of South Devon, nor wean them from the affections of the farmers and the butchers—the secret of the whole matter being that *they pay*." I was told immediately after the meeting that some of the Sussex bulls had been purchased to remain in the district, and probably as a cross for the South Hams, as they certainly already seem to be "more of a family" than the North Devons, neighbours though these may be. A third correspondent—and I place great value on all these communications, knowing that they come from the fountain-head—gives me his experience in this way: "The South Hams cattle have for more than a century been celebrated for great milking properties, and fast growers in their warm neighbourhood, being much sought after for grazing purposes on strong, rich pasture land. It is supposed that originally they had a dash of Guernsey, with, at times, a little mixture of North Devon, although the true South Ham breeder will not care to admit it. No doubt they are fast improving, as it was remarked at the Plymouth show, and if breeders will with care select their neatest and best-formed bulls, they will get rid of the ungainly and flat-sided appearance they frequently now possess. The colour most liked is yellow; some are brindle, but the dark reds are always looked on with suspicion as a cross with the North Devon. A South Ham breeder has no sympathy for the symmetrical and neatly-formed Devons, believing them too small for his purpose. Nor will the North Devon do as well in the South Hams, each being well adapted for its own particular neighbourhood; and so large is the population on the south coast and Plymouth that a great demand presents itself for the butter and milk, for the production of which the South Hams cow is so well suited. They graze very heavy weights, 14 or 15 cwt. not being unusual for a four-year-old ox or steer. They are also good butchers' bullocks, generally carry plenty of loose fat, and they die well."

One of the Long-wool judges, Mr. Newton, especially called my attention to the native breeds, and in company with him we judged the Dartmoors "to be shown in their wool" over again, having out some of the prize and commended sheep. And they certainly proved capitally, what with their firm flesh, broad backs, heavy fleeces, and fine character. Then, the whole class of South Ham ewes was commended, and as here evidently centred the speciality of the show, I have made it my business to learn something more of the sheep of the country than can be gathered from the official papers sent in. Here is really a graphic history of the Dartmoors: "Dartmoor sheep, in their wildest form, locally known as 'Moorgads,' or 'Gads,' are active as deer; no five-bar gate or six-foot wall will stop them when in search of food; nothing but a fence of brambles or furze makes an effective bar against their roving, predatory habits. Their specialities comprise a coarse hairy fleece, an impossibility to fatten, horns, and any amount of scab. This is the type of the animal of the past, which may be said to have nearly disappeared, but not altogether. The South Ham rams have been put on these flocks, and resulted in a most useful animal, full of constitution, wool, and lean flesh, with sufficient aptitude for fattening the wethers at from one to two years old. They are chiefly wintered on the in-country turnips and pasture fields, which the farmers on the outskirts of Dartmoor take for the purpose, much as the Cheviots are wintered in the lowlands of Scotland. In the summer an occasional change to an in-country pasture is considered essential by the best flock-masters, as the grass of the Dartmoor Forest is poor in quality, though abundant in quantity. The draft ewes of the present Dartmoor flocks, being excellent mothers, are much sought after in autumn for putting to ram for fat lambs, and the feeding off as soon as the lambs are gone. There is no better rent-paying sheep than the improved Dartmoor, and many well-known excellent in-country flocks have been bred up from Dartmoor ewes and South Ham rams, combining long, heavy, strong wool, with plenty of lean flesh

in their mutton. For feeding, fat lambs, the finest highly-bred Leicester ram has the most success, but for flock purposes it is found that crossing up from the Moorgad by gradual steps gives a more regular and permanent improvement than too sudden an attempt, which has frequently ended by getting an animal with the head of one sort and the tail of the other." The impolicy of any sudden or very violent cross is well put, as it scarcely ever tells with any kind of animal, race-horse and cart-horse, Devon and South Ham, or white boar and black sow. Another of my correspondents, and himself a Moor flock-master, thus writes: "The Dartmoor sheep, which I have now for many years been trying to improve—as I have been successful in winning many prizes—are a very valuable breed in the west of Devon, and are suitable for all high-lying lands. Their great merit consists in their heavy fleeces and strong constitutions. Their mutton is excellent, from their carrying so much lean flesh. They do not fatten so rapidly as young sheep, but when three years old—and many are kept to that age, and also to four years old—they are very easily fattened, and make from 30 to 35 lbs. per quarter; but the usual weight, if sold earlier, say as two-year-olds, would be 20 to 25 lbs. per quarter. There are many flocks where they keep on their wethers for the sake of their wool, drawing a portion of their number every year to sell as stores; or in some instances they fatten them. These sheep are often sought after—the ewes being such good milkers—by persons who do not keep a standing flock; and the ewes are put to either a Leicester, Southdown, or Hampshire Down ram, when they get very splendid fat lambs. In some instances a breed introduced by Lord Western, a kind of horned Merino, carrying no wool, is used for getting fat lambs, with a very good result. Many persons keep the Dartmoor sheep on their farms adjacent to the Moor, but do not put them on the Moor, and yet find they can make more return with them than any more delicate sort. The old Dartmoor sheep was a very coarse and inferior animal. We now try to get the best and richest quality of wool, as long as it is heavy enough, and are getting the sheep better formed. We sell our rams to dash in with flocks which have become too high and delicate. The rams cut from 18 to 24 lbs. each; ewes often average from 10 to 13 lbs. of unwashed wool—it depends on keep—and some 15 lbs. The requirements which I consider a true type of a Dartmoor sheep should possess are, a large neck and tail; short ear, not too thin; plenty of bone, a good curly and rich coat, long face, large nostrils, and good mouth—a great thing when sheep are kept, as the general moor flock are kept, to be four or five years old. They were not treated at all fairly at Plymouth by the small paltry prizes, so different from the other breeds, and there are at least 100 kept to 50 of many other sorts." Of the South Hams sheep another of my correspondents says: "The South Hams get heavy at an early age, weighing 25 lbs. per quarter at 18 months old; they also cut long wool with heavy fleeces, averaging through the whole flock 11 lbs. each. The butchers prefer the South Hams to the Leicesters, as they carry much more lean meat in proportion to fat, which at the present price of mutton is of great importance; for where 1 lb. of fat from the South Hams goes for tallow, there are 4 lbs. from the Leicesters: the difference in price between tallow and mutton is 4d. per lb. Of late years the South Hams rams have been much sought after by farmers in different counties, and at the public sales have fetched high prices. It is now the opinion of many persons that the breed will become more general."—From Henry Corbet's 'Plymouth Stock Show' in *Both and West of England Journal*.

THE ROYAL AGRICULTURAL SOCIETY'S MEETING IN 1875.—At a meeting in Salisbury on Tuesday it was resolved that: "Looking to the fact that in 1866 and 1867 the Bath and West of England Society held its meetings in Salisbury, and that so recently as 1857 the Royal Agricultural Society held a very successful gathering here, it is not desirable to send an invitation to the Royal Agricultural Society to visit Salisbury in 1875."

THE AGRICULTURAL RETURNS OF GREAT BRITAIN IN 1873.

[We take the following introduction from the tabled statistics just issued by the Board of Trade.]

To the Right Honourable the Lords of the Committee of Privy Council for Trade: The general Summary of the Returns was published in the London newspapers upon the 16th of September, a few days earlier than usual, but not so soon as was generally desired, in consequence of the anxiety to ascertain the acreage of the wheat crop in 1873. The unfavourableness of the autumn and spring sowing seasons for the wheat crop of 1873 led to the publication of estimates of a large falling off in the acreage under wheat in 1873, to the extent in some instances of as much as 20 per cent. Such anticipations, coupled with an expected deficiency in the yield, were calculated to affect opinions very materially as to the probable supply of home grown wheat. The summary of the agricultural returns, however, showed that the actual decrease of the acreage under wheat in Great Britain in 1873, as compared with 1872, was not more than 3 per cent. It was not the fault of the public departments charged with the collection and publication of the Returns that this fact was not made public at an earlier date. The statement has been repeatedly made in these reports that the total acreage of the chief crops, and the total number of each kind of live stock could be published three or four weeks earlier, were it not for the indisposition of farmers in some parts of England to furnish the collecting officers with the necessary particulars. Time would be gained and some public money saved could this obstacle to the more expeditious collection of the agricultural returns be removed.

Until the present year only a summary of the returns for the whole country has been published in anticipation of the complete returns, but owing to representations that similar information for each county would be of great use locally, your Lordships were pleased to direct the preparation and issue of county summaries, showing the comparative results of the returns in 1872 and 1873. In future the county summaries will be issued for local publication shortly after the completion of the general summary. The total number of returns of separate holdings of agricultural land, exclusive of allotments obtained in 1873, amounted to 422,655 for England, 57,517 for Wales, and 80,557 for Scotland, or to 561,029 for the whole of Great Britain. Besides this number there were 2,288 for the Isle of Man and 3,870 for the Channel Island. For Ireland the total number of holdings may be taken at 600,000. The total acreage under crop, fallow, and grass in 1873, divided by the total number of returns obtained, shows that the average extent of land for each holding was 56 acres in England, 46 acres in Wales, 56 acres in Scotland, 39 acres in the Isle of Man, 9 acres in Jersey, 6 acres in Guernsey, and 26 acres in Ireland. A reference to table No. 3 will show to what extent the average size of holdings in each county differs from the general average for each division of Great Britain. There is not any special classification of holdings according to size in the returns for 1873, but various details upon this subject will be found in the returns for the years 1870, 1871, and 1872. The appendix to the report upon the returns for 1872 contained a table relating to holdings of from one-fourth of an acre to one acre, and from one to five acres. In the former class allotments held by labourers were distinguished, and the number of such allotments amounted to 50,000 in Great Britain, or it may be said in England, as there were so few in Wales and Scotland. It was mentioned, however, in that report that the number of allotments must be understood to be much below the total of all the allotments in England, as there were so many of less than a quarter of an acre in extent. As the prevalence of allotments is a subject of interest in connection with questions relating to the condition of agricultural labourers and artisans, the inquiry as to allotments was renewed in the present year, and made, as far as practicable to extend to all garden allotments detached from the houses of agricultural labourers and artisans.

The return shows there were in 1873 as many as 246,000 allotments of land in Great Britain, of which 242,000 were in England, 1,700 in Wales, and 2,100 in Scotland. The practice of letting land in small allotments detached from

cottages is not nearly so common in Wales and Scotland as in England, and even in England, as will be seen by the table of allotments in each county, allotments are comparatively few in the northern districts. Differences in rates of wages and of local agricultural customs affecting the support of the labourers, as well as in the number of small holdings above the size of allotments, are no doubt some of the causes that make garden allotments more or less numerous in different parts of the country. The total extent of land let in garden allotments in Great Britain in 1873 was 59,631 acres, which shows almost exactly an average of one quarter of an acre for each allotment, and the average for England is the same. The average size of allotments varies, however, in the different English counties. In 24 counties, in which there were altogether 122,000 allotments, the average size may be said to vary from one-eighth to one-quarter of an acre. In 18 counties, in which there were altogether 120,000 allotments, the average size may be said to vary from one-quarter to one-half of an acre. One eighth of an acre is the quantity of land usually considered as much as can be thoroughly cultivated by an employed agricultural labourer in his spare time. The number of garden allotments is not included with the number of holdings in the general agricultural returns, but it represents a portion of the total number of separate holdings of land in the country, and an important portion of the small class of holdings. The agricultural returns for 1872 contained particulars of holdings of from one-quarter to one acre, and of from one to five acres. Of these two classes of holdings, omitting the allotments returned in 1872, there were in England 111,000. If to this number be added the number of allotments returned in England in 1873, a total would be shown of 353,000 separate holdings of land not exceeding five acres in extent; and that number would be exclusive of gardens attached to all classes of dwelling houses, including the cottages of labouring men, which, as mentioned in the report upon the returns for 1872, generally have gardens attached to them.

The total number of acres of cultivated land returned in 1873 was 31,102,600 in Great Britain, 15,704,300 in Ireland, 89,700 in the Isle of Man, 18,436 in Jersey, and 11,830 in Guernsey, &c., making altogether for the whole of the United Kingdom 46,926,900 acres. Of the 31,102,600 acres returned as under crops, fallow, and grass in Great Britain in 1873, the total of arable land was represented by 18,186,700 acres, and of permanent pasture by 12,915,900 acres. The difference between the total superficial area and the cultivated area in Great Britain is no doubt large, as may be seen by the figures in table No. 1; but the mountainous character of the North of England and of large portions of Wales and Scotland accounts for a very considerable extent of the uncultivated area. The total uncultivated area in England, reckoning woods with the cultivated area, amounts to 7,378,000 acres, but of this as many as 2,745,000 acres, or more than one-third, will be found to occur in six counties, the five northern counties of Northumberland, Cumberland, Westmoreland, and the North and West Ridings of York, and in the hilly county of Devon. In the remainder of England there would be not more than 4,600,000 uncultivated acres, including the acreage occupied by houses and gardens in towns and villages, by roads and railways, rivers and canals. As to the additions annually or periodically made to the cultivated area of the country, or as to the relative variations in the extent of arable or grass farming, the agricultural returns do not as yet afford any very decided evidence. The returns must extend over a longer period of years than they yet do before marked proofs of changes in these respects can be expected. The total acreage returned for crops, fallow, and grass has increased from 30,339,300 acres in 1869 to 31,102,600 acres in 1873. But more complete collections of the returns, and more careful attention to returning the particulars required, have caused a large part of this increase. There is, nevertheless, according to the reports of the collecting officers, an addition annually made to the cultivated acreage of the country by the reclamation of land, which is necessarily a rather slow and expensive work in most parts of the country.

The larger part of the increase in the total quantity of land is for permanent pasture; and here a large allowance must be made for additions due to more accurate returns under that head. But some portion of the increase in permanent pasture, especially in 1873, when less arable land was returned, is to be attributed to changes from arable to grass cultivation, owing to the recent rise in agricultural wages, and to the rearing of more cattle and sheep. Both of these causes are reported to have operated in such a manner. In Ireland also more pasture land was returned in 1873, and Mr. Donnelly, the Registrar-General, states that this increase was chiefly caused by the rise in agricultural wages, and the keeping of a greater number of live stock.

The arable land in Great Britain in 1873 was apportioned for the chief classes of crops and for bare fallow in the following manner: For corn crops (including peas and beans), 9,459,000 acres, or 52.0 per cent.; for green crops (including potatoes), 3,576,500 acres, or 19.7 per cent.; for clover and other grasses under rotation, 4,366,800 acres, or 24.0 per cent.; for the more special crops of hops and flax, 63,278 and 14,683 acres respectively; and for bare fallow, 706,500 acres, or 3.9 per cent. In Ireland in 1873, 1,930,800 acres, or 36.5 per cent., were devoted to corn crops; 1,372,500 acres, or 26.0 per cent., to green crops, including potatoes; 1,837,500 acres, or 34.8 per cent., to grass under rotation; 129,432 acres, or 2.4 per cent., to flax; and 13,471 acres, or 0.3 per cent., to bare fallow. In the Isle of Man more of the arable land is under corn than green crops, but in the Channel Islands there is a larger acreage under green than under corn crops.

The abstract Table No. 2 shows how the acreage under corn crops in 1873 was divided between the separate crops. In Great Britain of a total of 9,459,000 acres, 3,490,000 acres, or 36.9 per cent., were under wheat; 2,336,000 acres, or 24.7 per cent., were under barley; 2,676,000 acres, or 28.3 per cent., were under oats; and the remaining 956,000 acres, or 10.1 per cent., were under rye, peas, and beans. In Ireland in 1873, of the total of 1,930,800 acres under corn, 168,000 acres, or 8.7 per cent., were under wheat; 231,000 acres, or 12.0 per cent., were under barley; 1,510,000 acres, or 78.2 per cent., were under oats; and 21,000 acres, or 1.1 per cent., were under rye, peas, and beans. For the whole of the United Kingdom, including the islands, the total acreage under the chief corn crops in 1873 was 3,670,000 acres under wheat, 2,575,000 acres under barley, and 4,198,000 acres under oats.

The several kinds of green crops in 1873 occupied the following number of acres, and show the following per-centage proportions to the total acreage under green crops: In Great Britain, potatoes 515,000 acres, or 14.4 per cent.; turnips and swedes 2,122,000 acres, or 59.3 per cent.; mangold 326,000 acres, or 9.1 per cent.; carrots 15,000 acres, or .4 per cent.; cabbage, kohlrabi, and rape 175,000 acres, or 4.9 per cent.; and vetches, lucerne, and other green crops (except grass under rotation) 424 acres, or 11.9 per cent. In Ireland in 1873, of the total acreage under green crops 903,000 acres, or 65.8 per cent., were under potatoes, and 348,000 acres, or 25.3 per cent., under turnips and swedes. The total quantity of land under potatoes in the United Kingdom in 1873 was 1,426,000 acres.

The extent of arable or grass land used for fruit-trees of any kind in Great Britain in 1873 was returned as 148,221 acres. This is a smaller acreage than was returned in 1872, but the decrease has chiefly occurred in consequence of incorrect returns under this head in previous years, in those parts of England where fruit-trees are not extensively planted, and in Wales. The land returned as under fruit-trees does not constitute a separate portion of the cultivated area of the country, as the greater part of the land so employed is also returned as under green crops or grass. The extent of market-gardens in Great Britain in 1873 was 37,884 acres. Of this number 34,743 acres were in England—the counties of Middlesex, Essex, Kent, and Surrey, containing 15,542 acres, or 44.7 per cent. of the market-garden land in England. The land under woods and plantations is not considered to vary sufficiently to require a new return to be taken annually. The total of 2,187,078 acres for Great Britain, as ascertained in 1872, is again given for 1873.

The total number of horses in the United Kingdom in 1873 was about 2,733,000. This total includes 1,817,831 horses as enumerated in the agricultural returns of Great Britain and of Ireland; 865,000 subject to licence duty; and 50,000 the probable number exempt from licence and the

number which belonged to the army at home. Of other kinds of live stock the United Kingdom possessed in 1873, 10,153,700 cattle, 33,982,400 sheep, and 3,563,500 pigs (exclusive of the pigs kept by cottagers and in towns in Great Britain). Of the total number of horses about 2,191,000 were in Great Britain (exclusive of the Islands) and 531,700 in Ireland; of cattle 5,964,500 were in Great Britain, and 4,151,600 in Ireland; of sheep 29,427,600 were in Great Britain, and 4,486,500 in Ireland; and of pigs 2,500,000 were in Great Britain, and 1,044,200 in Ireland.

The relative number of live stock to the extent of land cultivated is a matter of interest and importance to agriculturists. In table No. 3, the proportionate number of each kind of live stock upon 24th June, 1873, to every 100 acres of land under crops, bare fallow, and grass, is given for each county in England, Wales, and Scotland. The variations in the agricultural condition and circumstances of many counties will necessitate differences in the proportionate number of acres and live stock; but if the proportions in counties commonly grouped as grazing, and counties commonly grouped as corn counties are respectively compared, considerable differences will be found. The proportionate number of live stock upon 25th June, 1873, to every 100 acres cultivated, ranged in the grazing counties, for horses from 2.7 in Northumberland to 5.3 in Cornwall; for cattle from 12.2 in Wilts to 32.0 in Lancaster and Chester; for sheep from 24.2 in Chester to 151.1 in Westmoreland. In the corn districts the range was for horses from 3.3 in Rutland to 5.1 in the East Riding of York; for cattle from 8.7 in Hants to 22.2 in Middlesex; and for sheep from 34.7 in Surrey to 133.2 in Kent. Proportionate numbers like these may assist agriculturists in ascertaining how far the live stock they had at a given date was below or above the average for their own counties.

The total acreage under wheat in the United Kingdom was smaller in 1873 than in 1872 by 169,000 acres or 4.4 per cent. The decrease in Great Britain amounted to 108,000, or about 3 per cent. In Ireland the falling off was 59,000 acres, as much as 26 per cent., or one-fourth of the total acreage under wheat in 1872. The acreage of the wheat crop in Great Britain in 1873, although not very much below what it was in 1872, is the lowest acreage returned for wheat in the six years from 1868 to 1873.

The barley crop in 1873, as compared with 1872, showed an increase of 19,000 acres in Great Britain and 11,000 acres in Ireland. The acreage of this crop in Great Britain in 1873 was not equal to what it was in 1870 and 1871, which may be attributed no doubt to the badness of the season for sowing.

The acreage under oats was less in 1873 than in 1872 by 29,000 acres in Great Britain, and by as much as 111,000 acres in Ireland. Compared with other years the acreage of this crop in 1873 was below that of 1869 in Great Britain by 106,000 acres, and below what it was in Ireland in 1868 by 189,000 acres. These figures indicate that annually less land is sown with oats both in Great Britain and Ireland.

For beans the acreage in Great Britain in 1873 was larger than in 1872 by 62,000 acres, and above that which it was in any year from 1868.

For peas the acreage in Great Britain was smaller in 1873 than in 1872 by 43,000 acres.

Less land was planted with potatoes in the United Kingdom in 1873 than in 1872 by 138,000 acres, or about 9 per cent. The decrease in Great Britain was 49,000 acres, and in Ireland 88,000 acres. The general failure of the crop in 1872 tended to diminish the cultivation of the potato in 1873.

There was more land under turnips and swedes in Great Britain in 1873 than in 1872 by 38,000 acres, but the acreage of these crops was not equal to what it was in the years from 1868 to 1871. For mangold the acreage in Great Britain was less in 1873 than in 1872 by 3,000 acres, but compared with 1871 the decrease was as much as 35,000 acres. Other kinds of green crops were also less grown in Great Britain in 1873 than in 1872. Cabbage, kohlrabi and rape together decreased by 3,000 acres, and vetches, lucerne, &c., by 21,000 acres. The separate acreage of the green crops as grouped above will be found at the foot of Table No. 2.

The flax crop still occupies but a small acreage in Great Britain. Although less in the total number of acres in 1873 than in 1872, the cultivation is rather steady in the counties of York and Lincoln, where flax is principally grown. In Ireland the flax crop was larger by 7,000 acres in 1873 than in 1872. The cultivation of hops in Great Britain,

although fluctuating to some extent, appears to be well maintained. The land so planted in 1873 exceeded that in 1872 by 1,300 acres, but it was not quite equal to the acreage of 1868.

The land returned in Great Britain as under bare fallow, or without any crop, upon the 25th of June, was more by 58,000 acres in 1873 than in 1872. The wetness of the sowing season obliged a good deal of land to be left uncropped at that date.

Since the year 1870 the returns of the acreage of grass under rotation and of permanent pasture have shown the portions reserved for hay and for grazing only. The results indicate great fluctuations from year to year in the management of grass lands for hay. The short crops of hay in 1870 and 1871 were followed by a greatly increased acreage for hay in 1872, when the crops were generally good. In 1873 the acreage for hay was largely reduced, and the yield was not abundant.

Taking the rotation grasses and permanent pasture together, the total decrease in Great Britain in the acreage for hay in 1873, as compared with 1872, was as much as 323,000 acres. Of this decrease, 161,000 acres were clover and other rotation grasses, and 162,000 acres were permanent pasture, representing respectively a fall from 1871 of 7 and $4\frac{1}{2}$ per cent. On the other hand, in 1872 the acreage of hay from rotation and permanent grass was larger by 223,000 acres than in 1871.

The total quantity of land under clover and other rotation grasses in Great Britain in 1873 was 4,366,000 acres, against 4,513,000 in 1872. The total extent of permanent pasture in Great Britain was returned as 12,915,000 acres, against 12,575,000 acres in 1872, showing an increase in 1873 of 340,000 acres. In Ireland, 10,420,000 acres of permanent pasture were returned in 1873, against 10,241,000 acres in 1872, showing an increase of 179,000 acres.

It is satisfactory to state that in 1873 a larger number of horses were returned in Great Britain, and a larger number of cattle and sheep, both in Great Britain and Ireland. The increase in the number of horses in Great Britain in 1873 was chiefly in the class of unbroken horses and mares solely for breeding, of which there were 16,000 more than in 1872, and 34,000, or 11 per cent., more than in the year 1870. This class of horses numbered altogether 335,000 in 1873, against 319,000 in 1872, and 301,000 in 1870. The number of horses used solely for agriculture in Great Britain was larger by about 3,000 in 1873 than in 1872; and the number of licensed horses is estimated at 865,000 in 1873, against 857,000 in 1872. The total number of horses returned in Ireland shows a decrease of 9,000 in 1873 as compared with 1872, but this was chiefly caused by a larger export of horses to Great Britain. The importation of foreign horses into the United Kingdom is increasing. In 1873, 17,600 horses were imported, against 12,600 in 1872, and 3,400 in 1871. On the other hand, the export of English horses was smaller in 1873 than in 1872.

The total number of cattle in Great Britain in 1873 was above what it was in 1872 by 339,000, and by 627,000 (or nearly 12 per cent.) what it was in 1871. The chief part of this increase has been in young cattle under two years of age, of which in 1873 there were 269,000 more than in 1872, and 418,000 more than in 1871. Dairy stock, or cows and heifers in milk or in calf, advanced in 1873 by 72,000 over 1872, and by 146,000 over 1871. The supply of other kinds of cattle of 2 years of age and above, or the butchers' meat stock, was slightly overtaken by the demands of the markets, and was in 1873 about 2,000 below what it was in 1872. The stock of cattle has also increased in Ireland, but in a smaller ratio than in Great Britain. The total number of cattle in Ireland in 1873 was larger by 94,000 than in 1872, and by 178,000, or $\frac{1}{2}$ per cent., than in 1871.

The stock of sheep in Great Britain, although considerably increased in 1873, is still a little lower than it was in 1869; the reduction of nearly two and a-half million head, or about one-twelfth of the entire stock, caused by the two dry seasons of 1870 and 1871 not having been yet quite made up. In 1873 there were 1,506,000 more sheep in Great Britain than in 1872, and 2,308,000, or $3\frac{1}{2}$ per cent., more than in 1871. Although the total stock of sheep in 1873 was not quite equal to what it was in 1869, there were about 100,000 more lambs, or sheep under 1 year of age, in 1873 than in 1869, due in some degree, perhaps, to high prices causing more lambs to be kept to increase the supply of mutton. The number of lambs, it may be added, would have been still

larger in Great Britain in 1873 but for the occurrence of bad weather in the spring, which was unfavourable to the rearing of lambs in the more hilly parts of the country. Sheep were more numerous in Ireland in 1873 than in 1872 by 224,000, but were fewer than they were before 1870.

The number of pigs, so far as returned in Great Britain, was smaller by 271,000 in 1873 than in 1872. This decrease is attributed to various causes, such as the dearth of potatoes and grain for the feeding of pigs, disease amongst young pigs, and the greater popularity of butchers' meat among the labouring classes. There was a decrease in the number of pigs in Ireland in 1870, as compared with 1872, to the extent of 341,000.

The usual table distinguishing the chief results of the returns for the English counties grouped into grazing and corn districts has been prepared for 1873, and is given in this part of the report. The grazing or western division of counties includes Northumberland, Cumberland, Durham, Westmoreland, York (North and West Ridings), Lancaster, Chester, Derby, Stafford, Leicester, Salop, Worcester, Hereford, Monmouth, Gloucester, Wilts, Dorset, Somerset, Devon, and Cornwall. The eastern or corn division of counties includes York (East Riding), Lincoln, Nottingham, Rutland, Huntingdon, Warwick, Northampton, Cambridge, Norfolk, Suffolk, Bedford, Bucks, Oxford, Berks, Hants, Hertford, Essex, Middlesex, Surrey, Kent, and Sussex. The comparative figures given in the table show the differences that occur in the agriculture of the two divisions, occasioned chiefly by the greater dryness or wetness of climate. To ascertain the relative effect of the wet weather of the last autumn and spring upon farming in the grazing and corn districts the table for 1873 must be compared with that for 1872 given with the returns for that year. Such a comparison shows that in 1873 there was a decrease of acreage under corn crops of 2.2 per cent. in the grazing counties against 0.2 per cent. in the corn counties, and the acreage under green crops was smaller by 1.3 per cent. in the grazing counties against 0.9 in the corn counties. As regards the acreage for hay, whilst that from clover and the rotation grasses decrease more in the grazing than in the corn counties, or 9 per cent. against 7.6 per cent., the falling off in the acreage of hay from permanent pasture was greater in the corn than in the grazing counties, or 8 per cent. as compared with 3.5 per cent.

The acreage of permanent pasture not for hay was larger in 1873 than in 1872, both in the grazing and corn counties, to the extent of 5.7 and 6.7 per cent. respectively. By extending the comparison to live stock, it appears that the number of unbroken horses and breeding mares increased in 1873 more in the grazing than in the corn counties, or as 6 to 3 per cent. Cattle, on the other hand, show an increase of 8 per cent. in the corn against 6 per cent. in the grazing counties. Sheep increased in about the same ratio in the two divisions.

The tables that follow those for Great Britain contain all the recent agricultural statistics that have reached this department for the several colonies. Statistics relating to the agriculture of British India, especially of Bengal, would have been read with much interest at the present time, but, unfortunately, complete returns of this description have not yet been obtained for any of the provinces of our Indian Empire. There is also almost a blank in the colonial tables for that important colony the Dominion of Canada, for which the most recent statistics received only relate to the production of corn in 1868. Information for a later year has not arrived from the colonies of Victoria and Queensland. In the other Australian colonies the acreage under cultivation for corn crops in the year ended 31st March 1873, as compared with the previous year, shows an increase in New South Wales and South Australia, and a slight decrease in Western Australia, Tasmania, and New Zealand. The acreage under corn crops is considerably larger in South Australia than in any other of the Australian colonies, and it is almost entirely devoted to the growth of Wheat. Thus, in 1872-73, of 779,000 acres under corn crops, 759,000 acres were under wheat, which exceeded the wheat acreage of the preceding year by 67,000 acres. The average yield of wheat is, however, low in South Australia, and is liable to great variations. In 1872-73, which was generally a favourable year for wheat in Australia, the average yield per acre was not more than 11 bushels in South Australia, compared with 18 in New South Wales and Tasmania and 24 in New Zealand.

For the different kinds of live-stock the want of later information for Victoria and Queensland prevents the giving of a more recent aggregate return than that published last year. It was then shown that for the year ended 31st March 1872, there were in Australia, including Tasmania and New Zealand, a total stock of 782,000 horses; 4,713,000 cattle; and 49,773,000 sheep. But judging by the increase shown in the colonies for which returns for 1872-73 have been received, that year will probably show an addition over the previous year of from 400,000 to 500,000 head of cattle, and of from 3,000,000 to 4,000,000 sheep. In the report upon the agricultural returns for 1872, the largeness of the imports into this country of preserved meat from Australia was mentioned. According to the trade accounts of the United Kingdom the supply was not so large in 1873 as in 1872, although above what it was in 1871.

The chief officers of the statistical departments in foreign countries have with their usual courtesy caused the forms circulated by this department to be filled in with the latest statistics of agriculture for the respective countries. The information thus obtained will be found in the tables that follow those relating to the British possessions. There are not any

available statistics of the capabilities of Russia to furnish supplies of grain and live-stock to other countries. The large quantities usually exported from Russia are well known, but details as to the different crops cultivated and the number of live-stock in that country are not furnished periodically as they are in the great producing country of the West, the United States. For some other countries, such as Germany, further particulars would be interesting, but they cannot be obtained at present. Unfortunately, on account of the different years for which the statistics are furnished, no very exact comparison can be made of the agricultural condition and resources of the several countries. But the information is nevertheless of interest and value so far as it relates to the agriculture of the individual countries, and the publication of tables indicating the variations in statistics compiled in different countries may promote the adoption of greater uniformity in national statistics.

I have the honour to be, my Lords,
Your Lordships' most obedient Servant,
Statistical and Commercial Department, R. VALPY.
Board of Trade,
Whitehall Gardens, December, 1873.

THE COUNTY FRANCHISE.

A deputation, consisting of representatives of the Associated Federal Union of Agricultural and General Labourers, the Northern Reform League of Northumberland and Durham, the West Riding Miners, the National Association of Miners, the Scottish Miners, and the North Warwickshire, Leicestershire and Derbyshire Miners, representing altogether 400,000 organised men, waited upon Mr. Gladstone, at Downing-street, to urge upon him the desirability of extending the county franchise. Mr. Joseph Cowen, M.P., and Mr. Lambert, M.P., introduced the deputation.

Mr. SHIPPON, stated that large meetings had been held all over the country, at which resolutions had been passed not only in favour of the assimilation or equalisation of the franchise, but for universal adult suffrage.

Mr. GLADSTONE pointed out that those were two distinct questions. He understood the present subject was the equalisation of the borough and county franchise.

Mr. TAYLOR, as the representative of the Agricultural Labourers' Union, spoke of the great desire shown of late by agricultural labourers to have the franchise. He said that agricultural labourers would not be treated harshly in courts of justice, as they were at present, if they had political power given to them.

Mr. BURT, the Miners' candidate for Morpeth, spoke of the anomalous position of the miners in Northumberland. Out of 16,000 adult miners only 4,000 had votes, and with regard to the latter it was owing to their residing in a borough, the rest of the men with whom they were working shoulder to shoulder having no political power.

Mr. ARCH, in supporting the proposed enfranchisement of agricultural labourers, said that they as a body had been taunted with their ignorance, but he felt bound to say that they would use their political power as conscientiously and intelligently as any other class. The agricultural labourers ask, as their right, for the franchise, irrespective of any particular party.

Mr. GLADSTONE: I should say that there are a great many agricultural men who are anxious to have the franchise and who would afterwards give stout Conservative votes. I think this is very likely to happen, but I do not know whether it is so. I only wish to know whether this desire is very generally and widely entertained, and whether it is apart from political controversy, because I should wish this question to remain outside of that. It has been pointed out by one of the members of the deputation that the counties do not get perfect justice in the share of representation they possess, as compared with the boroughs of the country—not with the large boroughs, but as compared with the mass of the boroughs of the country. It is quite evident that if there be a strong county feeling in the matter, it would appear that the counties have some interest in it; and the extension of the county constituencies would naturally associate itself with some direct county influence in Parliament. I do not think, if we wish to look fairly at the

question, that we can conceal from ourselves the probability of that result. I do not think that it is my duty on this occasion to make any speech on the subject of the merits of the suffrage. If I had any new opinions to declare in the same sense as yourselves, I should think it more manly and agreeable to my duty to declare those opinions elsewhere than here. My opinions on this subject are perfectly well known to you. I have nothing to add to or detract from them, or to recall from that concise summary you have read, or from the intelligible declaration which from time to time, since first the question of household suffrage was raised in this country, I have not scrupled to make. But I must, however, say—for I will speak thus freely—that I think it my duty to remind you of the mode in which questions of this kind are generally allowed to make their progress in this country. What we require for the satisfactory settlement of such a subject is, above all, a certain maturity of the general public mind. I am extremely glad that you have come here to-day. I think that this question has not been before the general public of the country, because, large as is the portion of the public which the agricultural and county labourers form, they are not the whole public, nor can they be said to be the general public, inasmuch as they are of a single class. At the same time, I am extremely glad of having given you the opportunity which you have used so moderately, kindly, and considerately to myself, of directing the public attention to what may be fairly called rather an intelligent and emphatic expression of your wishes. But you will observe that in this country I am unfortunately from day to day under the necessity of pointing out the obstacles to great rapidity of proceeding. We have material difficulties to contend with—the limited time of the House of Commons, and the vast concerns and relations of the country, and an amount of public business, such as no assembled beings ever in the whole history of the world undertook or were called upon to transact. You must consider, in truth, many things in regard to the precise hour and moment when your wishes may be attained. You must consider the state of public business—the maturity or immaturity of public opinion—the sufficient or insufficient time that the public mind has had for calmly considering this question. You must consider the immense importance of keeping it out of the vortex of political agitation. You must even consider the youth or age of the Parliament; and I am bound honestly to say that you must also be content to consider the strength or weakness of the Government. This is not a question which should be lightly undertaken by any Government. No Government should undertake it to play with it. It should be undertaken by a Government only when it is able, and reasonably believes itself and is determined to be able, to carry it out with a satisfactory result. I need not add to this that it must also be done in a manner conducive to the harmony of the whole community. These points to which I have referred must be kept in view. In what I have said I

have spoken of my own individual opinions, and must reserve to myself and colleagues the opportunity and time of considering the circumstances of the country and what our duty is with regard to this question. It is only within the last year or two that this matter has at all come to the front. I shall be delighted to witness its rapid progress, but I desire above all things its peaceful progress. I feel that it is most important to avoid arousing the jealousies of class. If we speak of the question of agricultural wages, for my part I do not believe that that increase (which, to my great satisfaction, has really occurred in agricultural wages) is hostile to the permanent prosperity of the farmers of this country. I believe with better wages we shall get better labour; and I observe that down to the present day, in those counties in which the wages have been best, there the labour has been best, and there the farmers have been most independent. And, therefore, anxious as I am for the attainment of your object, I am equally anxious for keeping, if we can, this question apart from political and party controversy. Subject to these considerations I shall always be glad to use any efforts of mine for the purpose of giving effect to the opinions which I have from time to time expressed, not believing that there is on the part of any class a hostile feeling towards the labourers resident in counties any more than towards the labourers resident in the towns, but impressed with the conscientious conviction that this extension of the franchise will afford great additional strength to the Throne and to the laws and institutions of the country.

ON MARK LANE.—Let us go along Lombard-street and plunge into Fenchurch-street, what a world of commercial enterprise opens on us! Let us explore the mysteries of Mark-lane. Not a farmer in the land but has heard of Mark-lane. In agricultural circles one of the most popular papers of the day is the *Mark Lane Express*. Far away under the Atlantic and across continents, where men speak not in our tongue nor believe in our creeds, nor worship our heroes, men are sad or joyful, feel themselves rich or poor, as the telegraph brings to them the latest quotations from Mark-lane. There are tradesmen's shops in Mark-lane, wine merchants and printers and stationers do business there, but to the farmers and millers and corn merchants and maltsters Mark-lane only represents one idea, and that is the trade in grain. The history of Mark-lane may soon be told. Originally the corn dealers of the metropolis assembled at a place called Bear Quay, where now the Custom House stands. There they met in a coffee-house (the Ship, I believe). Thence they moved to the Corn Exchange in Mark-lane, which was erected in 1749. The building is private property, and the money was raised in eighty £100 shares, each share in time being worth as much as £2,000. A year or two since an Act of Parliament was obtained, and the market is now held by 800 owners of £200 shares. Old Mark-lane consists of an open Doric colonnade, within which the factors have their stands. At this time there are about seventy-two stands, and more than two hundred subscribers of five guineas each. For the stands a rental is paid of from thirty to sixty pounds a-year. At one time the place was a close borough; there were more factors than there was room for, and when a stand was vacant it was given to some proprietor. The excluded were of course indignant; they planted themselves in Mark-lane; they did business in the street outside the Exchange; they vied in respectability with the privileged, and determined not to be left out in the cold. Accordingly they went to Parliament, and got leave to erect a second Exchange, side by side with the old one. This second erection was completed in 1826. In the partition are a couple of arches, in order that if at any time the Exchanges were amalgamated, the whole may be formed into one capacious market. The new Exchange has a central Grecian-Doric portico, surmounted by imperial arms and agricultural emblems. Now the great merchants stick to the old market, the smaller buyers patronise the new. At the further end of this building is a seed market. Attached to the new Exchange is an hotel, and in an upper room of which there are auctions of damaged cargoes. In the old Exchange, or rather above it, is a subscription refreshment room, known as Jack's, where all the flour is sold. At four o'clock on a Monday afternoon the place is crammed with millers and bakers. In these days of free trade foreigners abound in the market

especially Greeks, who all do business together in the neighbourhood of Finsbury-square, and seem to be getting all the foreign trade of the country into their hands. I suppose they make a great deal of money these pale-faced foreigners? If you go into their church in London-wall on a Sunday morning you will see their women folk all dressed like duchesses, and as decorously and genteely devout. It is the Greeks, not the English, who buy up the corn shipped from the ports of the Black Sea, and pour it into the English markets. Many sea-faring men are also to be met with waiting to hear if their cargoes are sold, and where they are to be landed. The destination of some of these ships may be Leith, or Glasgow, or Liverpool, or Dublin, or Belfast. In London itself there is a pretty fair demand for bread stuff all the year round, and most of it is brought to London by water, and if the Londoner eats he drinks as much, and it is at Mark-lane that the malt of which his beer and porter is made is chiefly sold. London is also renowned for its horsemen, and it is at Mark-lane that the large dealer gets his oats. Monday, Wednesday, and Friday are market days. It is, however, on Mondays that Mark-lane is in all its glory, and that you rub shoulders with distinguished representatives of the agricultural districts in general and of East Anglia in particular. As you enter you find each factor at his stand, and before him are specimens of his wares, such as wheat, malt, barley, oats, Indian corn, oil-cake, &c. The buyer comes up, selects a few seeds, shakes them in his hand, puts a few in his mouth, and asks the price. If he declines, he passes on to repeat the operation elsewhere. Mostly, few words are wasted; but I observed no one, whether buyer or seller, can pass a stand without helping himself to a few grains and putting them in his mouth, while he scatters the rest on the floor; the result is, that by the time the market is over, the place is literally covered with grain, and the sweepings bring in a very handsome sum in the course of the year, which sum is devoted to the Corn Exchange Benevolent Society. A good deal of chaff goes on, and people dart hither and thither, in and out the crowd, as they may see a friend, or some one with whom they may wish to do business. There is a peculiar physiology about all the London markets. In Mark-lane you may fancy yourself almost in Arcadia. It is the Suffolk drawl that is chiefly conspicuous. Many of the men are fat and red-faced, as if they had plenty of good air and food and exercise; they always complain, of course, but nevertheless they don't seem to take much harm. The London factors are of the town towny, but they are but a drop in the bucket of humanity toiling around, black swans, rare aves, or what you will. The men of Essex and Kent have peculiar privileges. It is said they continued to supply the city when it was ravaged by the plague, and London people are grateful, and are rich in their manifestations of it. A farthing is paid by the city to the captain of every Kent or Essex barge that brings up flour.—*The City Press*.

THE LOCAL CHAMBERS OF AGRICULTURE.—At the general meeting of the Essex Chamber Colonel Brise, M.P., said it was certainly said out of doors that the Chamber was not the success which had been anticipated. It was said that they as a Chamber did not carry the influence which they ought; that they had not effected those "immense services" which were spoken of in the report. It was also said that they were not a representative assembly. It was said, too, that a great many members of the Chamber were indifferent, and took no interest in their proceedings; and that their business very often devolved upon a few earnest, energetic men—men perhaps of extreme views in some things—a little restless and dissatisfied. Well, that might be so, or it might not, but he took it that the object of the Chamber was that every ratepayer, every tenant-farmer, and every member of the community in the county might have the opportunity, if he wished it, of ventilating any grievance under which he might labour. They could not expect their meetings to be very fully attended by persons to hear grievances, and it was hardly to be expected that men would come from a long distance to vote against those who had a grievance, and landlords and tenants, whose interests in the main were identical, had thus an opportunity of expressing their views. He had pleasure in attending whenever he could, and it was of great value to representatives to hear the independent opinions expressed by gentlemen who supported that and kindred institutions.

FRAMLINGHAM FARMERS' CLUB.

LIGHT AND HEAVY SOILS.

At the first monthly discussion meeting for the present season, the lecturer was Mr. J. E. Taylor, the curator of the Ipswich Museum and lecturer on Natural Science at the Albert Memorial College, Framlingham. The chair was taken by Mr. Goodwyn-Goodwyn, a vice-president of the Club.

Mr. TAYLOR said the subject was one of the most important, geologically speaking, in the world. It was one involving a large amount of geological knowledge, and he was sure that those who were best up in that department of modern science would forgive him if he endeavoured to make the subject as simple as possible to those who knew nothing about geology. He should endeavour to show them the opinions of local geologists as to the character of the subsoils of Norfolk and Suffolk. These were now pretty well known, for the whole of the subsoils of Norfolk had been mapped out on the Eastern side by Harmer and Wood, two well-known geologists; and the county of Suffolk was now in the hands of the gentlemen of the Geological Survey of London, who were mapping out the geological strata, although it might be years before the whole of the county was mapped out. Still those who had worked, as he had, on every bed of sand, gravel, and clay which cropped out in Norfolk and Suffolk, could tell what was known as well as if they had the map in their hands. The literature of Suffolk geology alone would fill thirty volumes, for there were few formations in England that attracted more interest than these Norfolk and Suffolk formations. We had in Suffolk the remains of at least half-a-dozen creations of animals distinct from each other. We had on the one hand evidences of tropical climate, and on the other of arctic climate, and sometimes they were so commingled that only a trained eye could tell where one ended and the other began. But in other places they had the rest of the series; yet they were nowhere more complete than in this county. He should show them that these very features gave to Norfolk and Suffolk their pre-eminence in agriculture. They had made our agriculture so famous all over the world had, in fact, made these counties the nursing and foster-mother of the agriculture of the whole civilised world. The chalk formation which he would mention—though if time permitted, he could show that we had underneath the chalk, in Norfolk and Suffolk, an older formation than the chalk in a land surface, with a chain of mountains crossing from the West of England right away to the Boulonnais in Belgium; a mountain chain which cropped up in the county of Somerset, and again in the Ardennes, and was buried under our chalk formations. If ever we got coal in Suffolk, we should get it along that mountain chain, whose slopes were covered by our chalk formation. At Harwich this mountain chain had been struck upon at a depth of 1,200 feet, formed of rocks, which had been found to be coal-bearing rocks. The formation of this strata was in a basin-shaped trough, containing the London clay, the depression of the basin extending from Suffolk to Kent, where it cropped out again in the Woolwich beds. London clay formed the lower heavy lands of Essex, and it gave to the marsh lands of that county their character. It contained ingredients which made it a valuable top-dressing. By itself it was too close and tenacious, and it required lime and sand to make it more porous for general treatment. It was, undoubtedly, a marine deposit, and in some parts of Suffolk it formed the basis of the gravel of the valleys. At Bentley, near Ipswich, it was so near the surface that the dikes were cut into it, but it was generally left along the banks, when it might be made very valuable as a top-dressing. The London clay also cropped out at Brook's Hall brick-yard, near Ipswich, where there was a bed of it, in which could be seen innumerable remains of fossil plants, trees, and fruits, now changed into sulphate of iron, or iron pyrites. London clay was also found in the peninsula between the Orwell and the Stour. Here it was intersected with bands of cement stone; carbonate of lime was the base of this. The origin of these bands of nodules was undoubtedly caused in the same way as the flint nodules in the chalk, by chemical segregation, or a running together when the matter was in an oozy condition. The London clay, was in fact, when formed the bottom

of a sea, and at the time it was formed the dry land in this part of the world was enjoying a tropical climate. Enormous fishes existed in the sea, and the sharks with teeth six inches long and four inches wide at the base, so that their mouths must have been eighteen feet round them. The London clay was exceedingly rich marine habitat. All sorts of shell fishes lived in the sea, and when they died the harder parts went into the mud, and the softer parts which were rich in phosphorus, sulphur, and nitrogen were also deposited, and were now to be found in the coprolites which were so abundant in Suffolk. These represented the segregation of the organic matter of the creatures, who lived at the bottom of this ancient sea, just as the cement stone nodules represented the segregation of the carbonate of lime in their inorganic parts. Mr. Taylor also showed the composition of the red crag of Suffolk, and said that the red colour was due to the presence of the iron in the phosphatic nodules, which, when the sea bottom was raised became dry land, were subjected to the influence of the atmosphere and the wear and tear of rivers. The red colour was in fact due to the chemical changes produced by the action of the water and the atmosphere on the sulphate of iron. The surface of London clay was covered with the remains of animals which were now extinct in England, such as elephants, lions, tigers, tapirs. On the flint nodules or boulders found here were barnacles on the upper side, which showed that the sea in which they were deposited must have been a quiet one, and other signs showed that the conditions must have been similar to those of our shallow seas in the present day. The coralline was the oldest of the cragbeds, and was so called because it contained over 60 different kinds of fossil corals. There were about 320 different and distinct species of shells found in the coralline crag. The bed, originally deposited as a continuous sheet, was broken up by marine action, and in its re-disposition the shells were broken up, so that the crag in some places resembled bran, or the husk of wheat, and in others, as at Aldeburgh, it was re-cemented, or run together in blocks, in which form it was used as building materials. The red crag came over the coralline crag, and there were evidences that the red crag sea was a turbulent one. Of the 324 species of shell found in the coralline crag less than one-third were found which were still living, but of the 250 species in the red crag more than half were living. This, he argued, showed a gradual drawing on the present condition of things. The existing specimens were also some of them in British seas and some of them still further North, showing that the climate was getting colder as the red crag was formed. Mr. Taylor then described the Norwich crag as a later formation, and gave examples of its being found near Aldeburgh and Leiston. In this there were 120 species of shell, many of which were living off the coast of Greenland, and were also found in the Dogger Bank. A very small proportion of these shells were extinct. These facts proved that a colder climate was coming over this region; and the crags were the connecting links between the warmer and tropical period of the London clay and the colder or arctic period which followed the crags. The formation of the Chillesford clay was also alluded to. It extended to Wroxham, nine miles on the other side of Norwich. It was a very valuable clay for brick-making, and was worth more than a gold mine wherever it was found for brick-making. There were shells found in connection with the Chillesford clay, which cropped out in a stackyard close to Chillesford Church, of the same kind as were now found in Arctic seas, showing that the climate was still colder when this clay was formed than it had been in any of the previous formations. Overlying this was the Weybourne crag, which had shells in it which were still to be found in the North seas, and one of them was called the *Tullio Ballina* from its being found in great abundance in the Baltic Sea. In fact, a geologist could tell the age of a deposit by the shells just as well as they could tell the trees of an orchard by looking at the fruit. The Chillesford clay would form a rich loam owing to the ready manner in which the atmosphere would act upon it. About Wroxham there were some of the richest soils in Norfolk; he believed this was simply due to the fact that

this clay cropped out in the sides of the valleys over a large expanse of the country, and was washed down and reduced by the action of the rain and the atmosphere. Mr. Taylor next alluded to the light lands, such as were seen at Westleton Heath, and said that the pebble beds in the sands of the sub-soil there were, in some cases, 40 feet in thickness. These pebbles were small and well rounded, showing how each one must have been worn by the water. Each of these was once a fragment of rock, and as there must have been much waste material in the rounding process, where had that gone? It had gone to form the basis of our light lands. There were no remains of shells in these pebble beds or their accompanying sands. The water found its way through these sands and pebbles so easily that the "iron pan" found at the bottom of them was caused by the action of the water, which so percolated through the beds, carrying with it whatever iron there was, and cementing the lower soils together with a sort of chemical action. The pebble beds were the fore-shore of a sea, which retreated in a Northerly direction. They formed the hungry soils on which, perhaps, the only tree that could be grown with any profit was the Austrian pine. They might possibly be made to pay for growing rabbits, if rabbits sold at London prices, 2s. 6d. each. These "pebble beds," as they were traced into Norfolk, were found to alter their character, until near Cromer they found them passing into a blue clay, in which were large boulders of rock. Enormous masses of rock, some of them 200 feet long, and 40 feet in thickness, had been dropped upon the clay while the latter was in a soft state. The clay was found squeezed up by the weight of these rocks. What agent could have brought those rocks there but ice? Every book of Arctic travel told of icebergs bearing masses of rock with them, and that was how these blocks of chalk had been brought into Norfolk. Singularly enough that chalk was not of the kind found in Norfolk and Suffolk, and it was only to be found in Yorkshire, in the district beyond the Humber. Mr. Taylor next explained the nature of the middle-drift sands, which extended over the Midland Counties to the hills of Cumberland, and to the Welsh mountains, and they, too, had very frequently been worn by ice action. The middle-drift sands also generated light soils. The heavy lands occupied the highest parts of Suffolk and Norfolk, and by the action of the rains they had often been washed down upon the lower soils, and so greatly extended in area as regards their soil development. The heavy soil washed down and acted upon as it had been by the atmosphere in the process, and the mingling with a lighter soil of the middle-drift, they got what they called loam. For this reason the bottoms of the valleys were usually the richest. They were, in fact, sometimes too rich, for they had to be turned back and exposed to the action of the atmosphere before they could be beneficially used. The upper boulder clay, or "heavy land," was marked by the abundance of small pebbles of chalk, many of them not larger than a doctor's pill. These pieces of chalk were always rounded, and they were derived from the Yorkshire chalk. They were ice borne, and not only in this, but in many other ways was the action of the ice seen in the "heavy land," or boulder clays of England. The mountains of Cumberland, Westmoreland, and of Scotland, were scored and scratched in their sides by the ice. The lakes of England and the lochs of Scotland were hollowed by ice action. There was proof in North Wales that the whole country had at one time been 2,000 feet lower than it was now. On the top of a mountain, near Carnarvon, were remains of an ancient beach, in which were found 36 different species of shells, all of which were existing now. This showed the depth to which the whole country had gone down, and the subsequent elevation. England had evidently been connected with the Continent, and it was a remarkable fact that whenever an island was separated from the mainland by a deep sea, there the animals and plants of the island and of the mainland differed; wherever only a shallow sea divided them, there the animals and plants were the same. This proved that the animals and plants of England and Europe were the product of one great tract of land, for we know that the German Ocean was nowhere more than 200 yards deep, and was even now enlarging its area, for it was eating away our cliffs and shores.

Mr. CORRAUE, M.P., thought no one who had listened to the excellent lecture they had had could fail to acknowledge that the lecturer's powers were exceedingly great. It was owing to their want of acquaintance with the subject—perhaps

to their want of intelligence—if they had failed to apprehend what he had said. He felt, in calling upon them to discuss it, that he had a somewhat difficult task to perform. The parts which seemed to him to have the most practical bearing were those relating to the coprolites and to the chalk which lay in those parts. They knew that the application of chalk would be attended with most beneficial results. It was almost their great want, and the not being able to obtain it except at the depth of 24 feet—and even then with great difficulty on account of the water—made it all but unattainable. They were consequently obliged to go to the neighbourhood of Stowmarket. He thought it might have been in Mr. Taylor's power to have pointed out in what direction they could the most readily have obtained a stock of that most valuable material. As to coprolites they knew pretty well their value, and also that their practical value was limited to the power to get them from a depth of about 18 feet. There was another subject that he should have liked to have received enlightenment upon, and that was the possibility of finding coals. They all felt just now very deeply the value of coals. If Mr. Taylor could have enlightened them upon that they would have looked upon him as a benefactor of the race. As it was, we had to look to a greater distance, and there lay between us and the pit's mouth all sorts of—not such difficulties as Mr. Taylor had told them of—but others of a more modern form, such as railway directors, coal merchants, and others. They usually met for the discussion of practical points, and when they could meet, as on that evening, to devote one night pleasantly to matters such as had just engaged their attention there was a profit, not because they could convert them into pounds, shillings, and pence, but because they would go home with their minds filled with new ideas, and he thought, with enlarged views of all they saw. Sometimes they felt disposed to be dissatisfied with their neighbours; but suppose they looked back to the time when there were sharks in the seas of this county with mouths 18 feet wide, they would see that Mr. Taylor had shown them that there was quite as much reason to suppose that there was preying upon neighbours then as now. He would caution them against allowing a first introduction to science to raise doubts in their minds which, if not cleared up, might be productive of very evil effects. The speaker alluded to the melancholy fate of Hugh Miller as an example of what he meant. If they guarded against this and did not allow their faculties to run mad on these subjects, they might give themselves great enjoyment. He would say more than that. To a man of comprehensive mind, such studies might lead him to entertain juster views of the grandeur of the design of the universe, and he did not think they could fail to see the fallacy of the position of those who maintained that there was no God. They would see that besides the greatness of the design in the structure of the world there was also a grandeur and a beneficence in all His works.

Mr. GOODWIN said he did not feel that they could possibly carry on a discussion on the subject. He felt, and no doubt most of his neighbours also felt, that they would be much more likely to expose their ignorance than to bring out any practical points, if they attempted to discuss it. But he had a duty, and a very pleasant one to perform, and one he was sure they would all heartily join in, and that was, to express their sense of obligation to Mr. Taylor for the sensible and kind manner in which he had introduced the subject. To a man of Mr. Taylor's acquirements that was no difficult task, but at the same time they could not expect a man to leave his home, and to come amongst them and give them the benefit of his researches without inconvenience, and, therefore, he deserved their warmest thanks. He might use the words he had heard from several of his friends, that this was one of the most able and interesting scientific lectures they had had in that Club-room for many years. He wished to thank Mr. Taylor personally, and to express a hope that though this was his first appearance amongst them, it would not be his last. They knew that some felt pride when they knew one's subject; but he did not think they could put their finger upon a scientific subject that Mr. Taylor was not at home in. He also thanked his friend, Mr. Bird, for having been the means of introducing so valuable a lecture to the Club. On behalf of his brother members of the Club, he begged to thank Mr. Taylor for the great treat he had given them.

Mr. J. E. TAYLOR trusted that he had not been too technical. As to the wish expressed by Mr. Corraue, that he

might have pointed out where they could find coals, he could only say that he should be glad to do so, for he should be on the high road to making a fortune if he could do so. He would, however, just point out to the tenant-farmers, that supposing coals were to be found, their rents would rise. As to chalk, it cropped out near Ipswich, and he had often been surprised that it had not been worked, as it evidently would require very little uncovering. After noticing one or two more points, Mr. Taylor expressed his willingness to give another lecture next winter if the Club would accept it.

THE MIDLAND FARMERS' CLUB.

POULTRY AS A FARM PRODUCT.

At the last meeting Mr. J. K. Fowler, of Aylesbury, read a paper on this subject.

Mr. FOWLER, after noticing that it was now nearly seven years since he had the honour of reading a paper for discussion before that club, said he should begin by saying he felt sure that with the resources we had in the United Kingdom for the production of poultry and eggs, not more than a fourth was produced that the country was capable of, and if from his paper should arise a determination to try and remedy the evil the Midland Farmers' Club would have achieved a great amount of good. There were a great many persons who made light of this subject, and who were in the habit of sneering at the attempts of poultry fanciers to succeed in their pet hobby, and farmers, as a rule, objected to the smallest outlay on the poultry stock on their farms, grudging even the most minute offal corn to their wives and daughters if they should show a disposition to produce more than the commonest specimen. Yet he had generally found those gentry the most laborious with their knife and fork on the delicate spring chicken, or the delicious Aylesbury duckling in the summer, and glorying in the perfumes of the well-seasoned Michaelmas goose, and culminating with all their vigour on the well-fed noble turkey at Christmas (Laughter.) Yet many of these were notorious for the purity of their breeds of cattle, sheep, and pigs, and for the careful cultivation of their farms. He begged of his brother farmers to be generous to the denizens of the poultry yard, and to give a small portion of their care and attention, so well bestowed on the other departments of the farm, and he could promise them a great, or even greater, proportionate return from the despised poultry yard than any other part of their farms. There was no doubt that the poultry yard supplied one of the most delicate and popular of all foods for the table, and independently of its value as such, the immense quantity consumed in this country, with the vast amount of eggs imported as well as produced here, showed that it was a valuable adjunct to the food of our teeming millions; and he had no hesitation in saying, as he had before remarked, that the quantity of poultry and eggs produced in this country could with some extra care and attention be increased threefold. Let any of his hearers look around him, and first take his farmyard and appliances, and then cast their eyes round his own district, and the isolated cottages by the roadsides and the village greens, and see how very few heads of poultry were kept, and then say if he did not feel, as he did, that the quantity reared was miserably small to what his neighbourhood was capable of. He was not recommending large establishments to be set up for this purpose, but, knowing how generally neglected this subject was, he did not see why some of our waste lands, hill sides, and downs might not be utilised, and made more profitable than a hundred acres devoted to the rearing of those pests to the farmers—rabbits; although he was not insensible, in many districts, to their value as food producers. Most farm steadings had some suitable place for a fowl-house, and if it were kept clean and well-ventilated, and littered with clean straw, or deal sawdust, once or twice a week, and in early spring and autumn be well whitewashed, and a little slak lime occasionally thrown on the floor, it was all that was necessary. The perches should not be too high from the ground—fir poles sawn in half were the best, which should not cross each other. When these houses were cleaned out the litter and droppings made the most valuable manures for mangolds and swedes, and was scarcely inferior to Peruvian guano. A piece of glass let into the roof, as also the door, was useful, and towards the apex of the roof some louver boards, for ventilation in hot weather were desirable. A small door for ingress and egress, should be near the bottom, not too large. He fore-bore going into exhibition premises, but he thought

it advisable for every farmer who felt interested in the subject to have three or four portable fowl-houses, made in a simple and inexpensive manner. These should be 6ft. by 3ft., 3ft. 6in. to the eaves, and about 4ft. 6in. to the apex of the roof, and put on wheels, and a floor of moveable boards, about 5in. from the ground. There should be a door in front to fall down, to make a sloping walk up for the birds. The cost of these would be about 25s. or 30s., and they would hold eight or ten fowls, or about twenty chickens. These he placed in his corn fields, after harvest, and filled them with chickens or ducks, which ate up a large quantity of the wasted or "shed" corn, but more particularly were useful in destroying the myriads of slugs and grubs, and assisted him wonderfully in protecting his crops from the ravages of insects. Inside the ordinary fowl house in the yard should be the nests; they should always be on the ground. They should be gathered in daily. The place for sitting hens should be away from the laying place—many a clutch of eggs had been spoiled by sitting hens being disturbed by "quarrelsome old hags" under pretence of laying (Laughter.) It would weary them were he to go into all the details of a well-managed fowl-house, but he must strongly impress upon them the necessity for a good supply of clear water. Old iron pig troughs were good things. The rust in the water was a good medicine, especially during the moulting season; or a good earthen pan; but these should be well cleaned daily. He strongly deprecated costly houses for poultry. Most fowls, if left to themselves, selected for their roosting places the highest beams of an out-house, and loved a dry, dusty floor. As to food, there was on all arable farms a considerable quantity of tailing corn after the marketable portion was taken away, and this should be well mixed together—wheat, barley, and oats—and given moderately to the poultry, thrown down to them on the ground. But if early laying and early chickens were required, some good barley and small round maize, with a little buckwheat and hempseed, given three or four times a week, would be very conducive to early eggs. It was rather difficult to estimate the cost of a fowl's keep per week; but most authorities agreed that from a penny to three halfpence a head per week was a fair price, and this would keep them in a good state; ducks would cost about twopenny, and geese and turkeys about fourpenny; but the latter varieties ought mostly to get their own living. He was speaking of their cost when shut up for feeding purposes. If a hen cost about 5s. per annum she would lay a hundred eggs, which, at a penny each, would be 8s. 4d., and would hatch, on an average, five chickens, which, at 2s. 6d. each, would be 12s. 6d.; but as the chickens would cost about 1s. 6d. each in food, each hen would make a profit of 8s. 4d.; and he believed forty hens and four cocks could be kept on every 100 acres, so that the fowls would pay £16 13s. 4d. per annum. To this should be added the produce of three ducks and a drake, each duck laying about forty eggs, and rearing under hens about eight each, giving twenty-four ducks at 3s. each £3 12s., besides the sale of a score of eggs at 2d. each, and, after deducting the keep, would leave a profit of about £2 2s. 4d., or a total of £5 15s. 8d., or nearly 4s. per acre. He was giving here what on an ordinary farm with common management could be effected, saying nothing about geese and turkeys, which required special conditions, but a considerable addition would have to be made if they were also calculated. But, when the value of poultry in keeping down insects, grubs, slugs, &c., was also considered, he was not wrong in putting the profit, with good fair management, at about 6s. per acre. If early chickens were desired, a great deal of skill and attention were required. They should be hatched in January or February, and crammed for a fortnight before killing. The cost of cramming would be about 9d. per head for the time.

and the chickens would make from 3s. 6d. to 5s. 6d. each in the months of April and May in London. This, the speaker said, brought him to that part of the subject for which his native town was so celebrated—Aylesbury—for the rearing of Aylesbury ducklings. He would not, however, recommend farmers to go into duck breeding, as it was made a regular trade, and but few farmers could or did practise it. But the enormous number of these birds reared in the town and vicinity of Aylesbury almost exceeded belief. He must refer his hearers to his paper "On the Influence of Railways on Agriculture," read at the Central Farmers' Club in London, for some curious facts about the quantities raised for food. The London and North-Western Railway carried from the Aylesbury station tons upon tons of ducklings during the London season, and it had been computed that upwards of £30,000 per annum was paid into the town and neighbourhood for this early delicacy. Throughout March and April, and part of May, the ordinary price was from 12s. to 18s. per couple, and it was not an uncommon thing to see at least two or three thousand ducklings all hatched under hens in one establishment. They rarely saw the water, and were fed on barley-meal and tallow-greaves boiled down, with occasionally a bullock's liver boiled and chopped up and mixed with the meal. They were ready for the table in about six or seven weeks from the time of hatching. In choosing the breeds to be kept on a farm soil and climate must be taken into consideration, as also if they were to be carefully attended to, or allowed to forage for themselves in a rough way. The most hardy he had found to be the Brahmas, both light and dark, and all the varieties of the Cochins. Both Brahmas and Cochins laid and set well, and reared their chickens; and although they were considered coarse for the table, he did not think so. These breeds might be advantageously crossed by the Dorkings, and famous table birds were the result, with great size and quality. Game fowls were very hardy and good foragers, fairly good layers of delicious eggs, and were juicy and excellent for the table; but their pugnacity rendered them dangerous with other fowls. Where eggs only were required, Spanish, Houdons, and Crève-cœurs were most excellent, as also were the white Leghorns. These all laid fine eggs, and were non-sitters. The Houdons were good layers, but their eggs were so small that, for market purposes, they did not make so much as the larger varieties. Where the farmyard was dry and thrashing was constantly going on, Dorkings were the best, but he had found them difficult to rear and rather delicate in constitution; but, when they could be reared easily, nothing made more money in the London market than the Surrey or Dorking fowl. The French varieties which had lately been introduced into this country were most valuable, and, he had no doubt, would shortly be found very prevalent in the hanolets and road-side residences of our rural population, as they were hardy, good scavengers, and better egg layers throughout the year than any others. The Houdons and Crève-cœurs were both admirable; they were non-sitters, and so it would be useful to have a few Cochin hens as mothers to rear their young. Spanish fowls were fine layers of splendid eggs, and were white and juicy birds for the table. He had during the year imported from America some of the white Leghorns, extremely pretty birds, wonderful layers, and very hardy. Mr. Fowler then referred to ducks, the Aylesbury variety of which he conceived without a rival. He had sent his to all parts of the world—to Australia, New Zealand, the Cape, Demerara, great numbers to America and Canada, Sweden, North Germany, Belgium, France, and Austria; and in all these countries he heard good reports of them. They were "the Shorthorns" of the poultry world, adapting themselves to all countries and climates, and, as an Aylesbury bard facetiously wrote—

But of the ducks—the Aylesbury ducks,
There is no need to tell;
Through England broad their fame has spread,
And they themselves as well.
And there's no man throughout the land,
Nor yet beyond the seas,
That loveth not the Aylesbury duck,
When served with early peas.

The Rouens were scarcely second to the Aylesbury; their fine plumage, hardihood, and great size eminently fitted them for any poultry-yard. Later in the season than the Aylesbury ducks, they made fine firm flesh in the autumn, and for his own part he preferred them to the Aylesbury ducks when on

the table. The little black East Indian was a delicious bird, and when killed in the winter, and dressed like a wild duck, nothing could surpass it. He was too small to be reared to make a profit. But he had imported this year a remarkably large fine breed of black ducks from Lake Cayuga, in North America, which bade fair to rival the East Indian, and in size it quadrupled it; and he anticipated establishing in England a breed of black ducks of surpassing beauty and value. Speaking of geese, the speaker said the best were the grey Toulouse for general use. He had shown a gander (first prize at Birmingham and elsewhere) weighing 37lb., and a goose 26lb.; but the ordinary size of a well-fed and well-bred bird of this breed was from 16lb. to 20lb. The white Embden were excellent and very prolific. He had shown the heaviest geese ever exhibited of this breed, viz., 61lb.—a gander and a goose; they foraged well for their living. He used his geese, as he did his pigs, for stubbling and picking up shedded corn. The best way to fatten geese was to shut them up in a dark place and to feed them on oats and barley thrown into a small trough of water. The speaker then went on to refer to the breeding and feeding of turkeys, the American variety of which he had known 35lb. in weight; and also to guinea-fowls and pigeons, none of which, however, he considered so profitable as fowls, geese, and turkeys. He concluded by observing: "A poor man's pleasure in victory is at least as great as that of his richer brother. Let him have the field wherein to fight for it. Encourage village poultry shows, not only by your patronage, but by your presence. A taste for such may save many from dissipation and much evil. No man can win poultry honours and haunt the tap-room too." He had foreborne entering into the subject of exhibiting poultry, as his paper was simply one attempting to call attention to the subject of Poultry as a Farm Produce.

Mr. BOWEN JONES proposed a vote of thanks to Mr. Fowler for his paper, which was seconded by Mr. SABIN.

Mr. TYNDALL said on ordinary farms it was impossible to keep the different breeds of fowls distinct. He kept Brahmas, Cochins, and Dorkings, and he asked whether he could cross the breeds so as to improve the flesh, and increase the number of eggs. Then, again, during the last season his hens were constantly sitting. Do what he would he could not prevent them from sitting. Could Mr. Fowler give him any information on these two points?

The CHAIRMAN asked Mr. Fowler whether he had any experience with Malays. He kept them himself, and he considered them one of the most useful breeds of farm poultry. When they were put upon the table they had good round breasts, and as to the meat it was second to none which was to be found in the poultry yard. He would advise any one about to keep fowls to consider the questions of situation and climate. Many persons kept a few head of poultry in a limited space, and those were, perhaps, of a breed which required a more extended run. For instance, Hamburgs required a long run, but Brahmas, Cochins, and Spanish fowls could be kept in a more confined space, if they were supplied with plenty of grit—which was, in fact, their teeth—lime, green food, and a certain amount of animal food.

The motion was unanimously passed.

Mr. FOWLER, in reply, said, with respect to Mr. Tyndall's question, he could not undertake such a subject as that of keeping distinct breeds, as it would have worn out their patience. He would, however, tell them what he had done. He had a large portion of one of the fields attached to his farm buildings partitioned off in a rough but serviceable way, with boarding about three feet high—just high enough to prevent the cocks pecking each other. These places were about forty feet long, and twenty feet wide, and this confined space was one of his poultry houses. These houses were removed to the corn fields after harvest time; but during the breeding season, when it was necessary to keep the varieties distinct, the fowls were placed in these confined spaces. At the top of the boarding was a framework about eight feet high, which supported galvanised wire netting. It was very amusing to possess birds which would sit when they liked. He had two farms, and his own plan was to send his broody hens clean away from one farm to the other; the change of scene curing them in a short time. The custom of dipping hens in water was a barbarous one, and, instead of doing any good, it generally created a fever, which killed them. There was no extra labour involved in keeping fowls beyond seeing they were attended to at the same time as the other farm stock. He forbore to recommend high strains of blood in speaking of

farm produce. He did not want gentlemen to give twenty or thirty guineas for a bird; as they could obtain very good fowls at more reasonable prices. Poultry had always failed when large quantities were kept together. In cases where forty fowl were kept it was found that if the number was doubled it did not follow that the produce would be doubled too. All fowls required a certain amount of animal food in the shape of slugs, insects, and worms, and if they doubled the number of fowls they must increase the area, or they would pine away and die. He was

not a breeder of Malays, but he had heard a great deal of their value as farm poultry. He regretted he was unable to allude to the particular breed which Mr. Adkins was so justly celebrated as the breeder of—namely, silver-spangled Polish. In confinement they were elegant birds and useful layers, but their top-knots unfitted them for farm fowls. The same objection applied to Creve Coeurs. He believed there was no better cross than that between Dorkings and Cochins.

A vote of thanks to the Chairman for presiding terminated the proceedings.

AGRICULTURAL GEOLOGY.

The following paper by Mr. E. P. SQUAREY, was read at a meeting of the Institution of Surveyors.

The title of this paper will doubtless raise expectations which may, perhaps, remain unsatisfied; but I venture to think that the relations existing between the agricultural capacity of land, and its geological character may interest, and possibly instruct, the young members of this Institution.

do not intend in this paper to trespass on your patience by any speculations on the causes of the existing varied distribution of soils, nor to recount the fossils and special characteristics by which each formation is recognised; nor shall I detail the minute sub-divisions of the more important strata which have been arrived at by the close observation and attention which, of late years they have received. I abstain from these points because I am not thoroughly informed upon them, and because such special knowledge (however important and interesting) would scarcely connect itself with the objects of this Institution. I propose to myself the pleasant duty of placing before you the results of my own observation and experience of the agricultural character and products of the chief distinctive geological formations of England and Wales, modified as such character and conditions are by climate, elevation, and locality. I will commence with the most recent formation, which the geological ordnance maps describe as "alluvium." Alluvium is of the most varied character, depending for its fertility, or otherwise, upon the strata from the disintegration of which it has been formed, or is now forming; thus, the mud brought down by the Severn is now, probably, producing in the Bristol channel a soil of the same character as the rich marsh land surrounding Bridgewater; whilst the wash from the sands and gravels of the New Forest is, comparatively speaking, as unproductive as the forest itself. The richest alluvial soils may be looked for in the wash of the older formations. The marsh lands of the northern and southern shores of the Bristol Channel derive their fertility from the new and old red sandstone and oolites, through which the Severn, the Wye, the Usk, and the Avon flow. The Valley of the Thames near London, again, is composed of the detritus of the oolites, green sand, chalk, and London and plastic clays, ground into a happy mixture, which, under the energy of the market gardeners of the neighbourhood, yields, probably, the largest produce of any land in the world. The banks of the Humber, embracing, geologically, the island of Axholme and the rich lands forming the extreme eastern coast of Lincolnshire, are an alluvium of the highest fertility. — from the limestones, new and old red sandstones, oolite and chalk of Yorkshire, Nottingham, and Lincolnshire. Fringes of alluvium appear all round our coast. Romney Marsh and the Essex marshes, and the rich lands round Wisbech, Spalding, and Boston, are special instances of these conditions. I need scarcely multiply them; but it may be stated that wherever alluvium from the older formations (to which allusion has been made) is found, the soil is almost invariably of a most productive character. Its application is, however modified by climate, and throughout the Somerset marshes, pasture land invariably obtains; on the eastern coast, with a drier air and better corn-ripening conditions, the larger portion is arable land. Its value ranges from 15s. to 80s. per acre. The Tertiary is the upper formation, which, as a definite geological deposit, has received a status in all works on this subject. It is now divided into almost innumerable series, but for our purposes it may be still classed in the deposits of the pliocene, miocene, and eocene periods. The latter comprise the plastic and London clays, and Woolwich and Reading beds resting on the chalk, with the Lower Bagshot sands and gravels and

Bracklesham beds; whilst the latter pliocene series are scarcely distinguishable from the formation which I have classed as alluvium. The Plastic and London clays, and Woolwich beds, are the formations most intimately known in this neighbourhood. Under the good management incident to their vicinity to London, they arrive, after draining, at considerable capacity for arable and meadow purposes, and from them this great city is almost entirely supplied with hay, which, I may remark parenthetically, is better made than in any other part of England. In those localities where the London and Woolwich beds are developed under conditions less favourable to good farming, their reputation is of a moderate character, and their rental (for purely agricultural purposes) may be taken at from 18s. to 28s. per acre. As a rule they contain a large quantity of the red oxide of iron, and, when drained, are considered moderately "proofy" for sheep and cattle. Next in the geological series is the great chalk formation. Stretching from the north-eastern coasts of Yorkshire and Lincolnshire, it runs in a band of fluctuating width to the southern shores of Kent, Sussex, Hampshire, and Dorset. It is divided into the upper and lower chalk, which, agriculturally, have undoubtedly a distinctive character. Speaking broadly, its chemical character may be defined as a carbonate of lime, containing more or less phosphatic matter, with silex in the shape of flints, in stratified or nodular forms. This great series is invariably more or less coated with the wash or natural deposit of the tertiary formation. In some cases the plastic and London clays and gravels rest upon it, with sufficient depth, almost, to justify the exclusion of these soils from the chalk series; whilst in other cases the chalk subsoil is barely coated with a thin, sandy, weak soil of the lowest fertility. As a rule, the upper chalk is the least fertile: it abounds more in flint, and is of a more crystalline, harder nature than the lower series. Where covered with the gravelly clays of the London and Reading beds, and with the thin soils referred to above, an application of the subsoil to the extent of 60 to 70 tons per acre is most beneficial. This is usually accomplished at a cost of from £2 to £3 per acre, and in respect of it a Tenant-Right, which is defined at the end of this paper) is, in the southern counties, usually conceded. The action of the chalk in these cases is partly chemical, partly mechanical. A coherence is given by the decomposing chalk to the thinner soils; whilst, in the heavier classes of land, its action is to render easier the operation of ploughing, &c. In both cases the carbonate of lime is most useful, and the benefit extends over 20 or 30 years. In the comparatively rare cases where the coating of soil, referred to above, is wanting, and where vegetation has to deal with the chalk itself, almost barrenness is the result. Years of exposure are required before the decomposition of the mineral has sufficiently proceeded to enable the lowest forms of vegetation to exist upon it. These cases are very exceptional, and only occur, within my knowledge, on the steepest escarpments of the chalk hills. The lower chalk is of a soapier nature. The soils are superior, generally, to those of the upper chalk. The tertiary series frequently rest on the lower chalk, and some extremely fine land is found under this union of soils. Innumerable varieties of quasi-alluvium are found in the valleys of the chalk series. Gravels and sands from the tertiary series, clays and loams from the Perbeck and oolites, contribute each their quatum to the great fertility of these valleys, in which irrigation of the meadow land produces as early and rich a crop of grass as can be found. The down pastures range from 5s. to 11s. per acre in value, and the arable lands fluctuate from 12s. to 35s. per acre. The irri-

gated meadows of the chalk valleys command prices from 60s. up to 90s. per acre. The green-sand underlies the chalk, and is divided into two formations, the upper and lower green-sand, which are widely separated in character and fertility. The upper green-sand, at its junction with the chalk, forms a marly loam of heavy cultivation, but one of the most productive soils of our country for wheat, barley, beans, and clover. Developed to a limited extent in the south of Dorset, it is exposed in increasing areas near Devizes and Pewsey in Wilts, in the Vale of White Horse in Berks, through Oxfordshire, in the fertile Vale of Aylesbury, and in the rich arable lands of Bedfordshire and Cambridgeshire. Surrey and Kent claim it also at isolated points, and in one favoured locality in the former county, the green-sand largely contributes to the unprecedented fertility of the "Heart" at Farnham. A mixture of chalk, green-sand, gault, London clay, and gravelly alluvium, here, produces hops of pre-eminent quality and quantity. Indeed, nowhere have I seen the growth of this beautiful plant so developed as here, and it is amply represented by rents, which reach £5 per acre. To illustrate the geological identity of application, it may be observed that this same formation affords the best hop farms near Canterbury. When a soil of the green sandstone is formed from its decomposition alone—particularly where the red oxide of iron is united in large quantities with it—there is a rapid decrease of fertility: the turnips are affected with the anbury, or "augers and toes;" the grass land is sour, and the cereals grow less vigorously. The application of about 120 to 150 bushels of lime, or 18 or 20 tons of chalk per acre, acts magically in remedying these conditions. Carrots, mangold wurtzel, and swedes flourish on the soils. The gault, which intervenes between the upper and lower green-sand, is a strong bluish green clay, not largely exposed. It is good for pasture, but stubborn for arable purposes, though fairly productive, and is best represented in the immediate vicinity of the chalk hills in Kent and Sussex. The annual value of the chalk marls, at the junction of the green-sands and chalk, ranges from 33s. to 50s. per acre. The ordinary green-sand, except when applied to quasi-market garden produce, fluctuates in value from 32s. to 42s.: in the latter case it commands 50s. or 60s. per acre. The lower green sand assumes great variety in colour, from a brown ferruginous green to brilliant yellow and reds, which are beautifully shown in the charming, but infertile district, intersected by the London and South Western (Portsmouth direct) Railway, and again in the escarpment of the formation near the Sandy station on the Great Northern Railway. Exceptions to the general barrenness of the lower green-sands of course arise, of which the onion and seed growing districts near Biggleswade are special instances. The existence of coprolites in this formation is of great interest. Found in greater or less quantity on the whole series, and doubtless contributing, by their decomposition, to the fertility of the best of these soils, they are specially numerous in Cambridgeshire. On the plain of the green-sand surrounding Cambridge, upon which rest considerable beds of tertiary sands and gravels of varying fertility, these remains are found at irregular depths, but in marvellous quantities. I venture to hope that some member of the institution who has leased lands for coprolite diggings, will inform the meeting of the terms of working, and the great prices realised thereby. Mindful of my compact, I hesitate to speculate upon the origin and formation of these new mineral elements of wealth. Next in order follows the special feature of the south-eastern portion of England. I mean "the wealden," a vast area of clay alternating with the Hastings sands, upon the origin of which the late Dr. Mantel has written with an eloquence and charm which carries the reader from this ignorant present into the mysterious depths of the past, to dream that he witnesses the slow deposition of the formation in this mighty estuary, where the grim iguanodon and his fellows dwelt through long ages. Few of my audience but know these wealden series, in their passage through Kent and Sussex, by the South Eastern Railway to Dover and Hastings. Dismissing the refined but interesting sub-divisions into which it has lately been separated, it stands out broadly defined, as those rolling hills and valleys of clay, which stretch from the eastern boundary of Surrey through central Sussex and southern Kent. Stubborn of temper, wet and unkind to those who know not how to manage them, these soils yet yield to their patient cultivators an average satisfactory return through the intervention of hops. The pastures are not rich or proofy. I may remark, parenthetically,

that this is a country into which no man ignorant of its special management should venture as a farmer. Its value varies from 20s. to 25s. per acre on the clay soils, and from 12s. to 20s. on the sands. Forming part of the same series is a narrow band in Kent, and a small area in Dorset and Wilts, called the Purbeck beds, from the island of that name on the Dorsetshire coast. It embraces clays, sands, and limestone, the latter full of remains of shells (more or less crystalline, and in the latter condition forming Purbeck marble), which afford exceptionally good hop and fruit lands; the Maidstone district is of this character. The value of the sands and clays ranges from 15s. to 25s. per acre, and the loams, where rock is developed, from 35s. to 40s. For hop and market garden purposes, from £4 to £5 per acre is paid. We now approach one of the largest, and, possibly, the most generally fertile of the great geological series of England. From the coast of Dorsetshire stretches, in a gradually widening band, across the great central plateau of England, to the coast of Lincoln and Yorkshire, the wonderful oolite formation. It is divided into the upper or Portland oolite, the great oolite and the lower oolite. The great or middle oolite is sub-divided into the coral rag, and the lower series so well known as producing the Bath stone. The two first, *i.e.*, the Portland and the coral rag rocks, are separated by the Kimmeridge clay (so called after a small and secluded village on the Dorset coast, where the sections from the chalk to the Kimmeridge clay are beautifully exposed, and which is well worth a visit from a geological student), and between the coral rag and the great oolite the Oxford clay appears. Beneath the Bath and the lower oolite "Faller's earth" is occasionally, but not continuously, found. These stone soils, and intervening clays and sands, have each a general agricultural uniformity; but, as a rule, the stone soils are chiefly applied to arable purposes. The arable lands of the upper oolites are, generally, of a stronger type than those of the great and lower oolite, which latter are more familiarly known as the "corn brash" and coral rags or forest marble. They are, generally, thin loamy lands, resting on the shelly rock, with much broken *débris* of the underlying rocks mixed with them, containing large quantities of the red oxide of iron, which fit them well for stock purposes. The coral rags and lower oolite are generally preferred; but it is obvious that over a series so extensive, great alternation of admixture of clays and sands must occur, and that any description must be general rather than particular. Some of these lands are at considerable elevation, having regard to their application to arable purposes. The Cotswolds are a large instance of this; but as the formation trends north-east, the elevation, with rare exceptions, gradually lessens, and arable lands of the highest fertility are found near Banbury in North Oxfordshire, Buckinghamshire, and Northamptonshire. The Kimmeridge and Oxford clays are almost invariably applied to pasture, and meadow purposes. The rich dairy lands of the Vale of Blackmoor in Dorset, the dairy and grazing lands of North Wilts, intersected by the Great Western Railway from a few miles below Didcot to Bath, the fat pastures of Oxfordshire and Buckinghamshire, and the gradually richer grazing lands of Northampton and Leicestershire, confirm this statement. Doubtless there are occasional varieties and exceptions, but as a whole this great formation is very productive and valuable. The arable lands of the oolite series may be taken to range from 20s. up to 35s. per acre; the meadow and pasture lands of the Kimmeridge and Oxford clays fluctuate from 35s. to 63s. The natural productiveness of the soils of this and the next formation is attributable, probably, to the enormous quantity of animal life existing during the oolitic and liatic periods. The Kimmeridge clays abound with shales, producing oils, which apparently indicate an animal origin; whilst every rock of the oolite is the tomb of innumerable molluscs and corallines. If I have ventured to place high in the catalogue of fertility the oolite series, at least to one particular section of the succeeding strata I may accord nearly the maximum of fertility of lands other than alluvial. The decomposition of the marlstone of the upper lias formation and the underlying liatic sands are equally productive of grass of the most nutritive quality and large quantity, as well as of corn, roots, flax, and elm, oak, and most other timbers. The site of these soils of the best quality is limited. They appear near the south-western extremity of Dorset, expand near Yeovil into a considerable area, of which one point reaches the Bristol Channel, and thence trending irregularly into

Gloucestershire, forming the Vale of Berkeley, they run continuously through Worcestershire, Northamptonshire, Rutland, Leicestershire, to the coast east of Lincoln up to the Humber, with one or two small developments on the Yorkshire side. It must not be understood that all these lands deserve the high position which I have accorded the marlstones and the liatic sands. Below them, and with intervening strata of considerable fertility, are clays of most unsatisfactory character for all agricultural purposes. Chiefly applied as grass land, they invariably need a maximum of drainage, and are generally much benefited by the application of lime, which is found in association with them. The value of the best of the marlstone and liatic sands, under favourable climatic conditions, for purely agricultural purposes, ranges from 50s. to 65s. per acre; whilst the clays, to which reference has been made, scarcely command the value of more than 15s. to 20s. per acre. It is on the admixture of sands and clays of the upper lias that a peculiar disease develops itself in cattle. It is a rapid inflammation of the spleen in animals grazing in the late spring or early summer on the best of these pastures. It is exceptional and confined to special fields, and attacks more frequently cattle in moderate condition than those fed during the preceding winter on cake or other nutritious food. It is invariably fatal; and the contingency (however carefully guarded against) undoubtedly affects the value of these otherwise excellent pastures. The lands on which this disease prevails in Somerset are called the "Teart lands." In one field near Helester, thirty beasts died of this disease in the year 1855. The concurrent feeding of oilcake or corn is a great mitigation of this disease, but does not absolutely prevent it. The next formation, the New Red sandstones and marls, occupies probably the largest area of any one geological series in England. Furnishing some of the richest pastures in the south of Devon, in the neighbourhood of Crediton and Exeter, it runs in a narrowing band by Taunton to the Bristol Channel. Appearing again near Gloucester, it gradually widens through the counties of Worcestershire, Warwickshire, Staffordshire, and thence, flanked on the east by the magnesian limestone, it forms a continuous line to the coast, in the county of Durham, near Hartlepool, while to the west it embraces the chief area of Cheshire and the outlying coast of Lancashire. These soils, in Devon and Somerset, are of exceptional excellence, and (chiefly applied as grass lands) command rentals of from 50s. to 60s. per acre. And in the Vale of Taunton, as arable land, 45s. and 50s. an acre are readily paid. In its development through Gloucestershire and Worcestershire (where, as in the former counties, it is greatly applied for fruit-growing purposes) its quality and value gradually depreciate. Clays take the place of loams, and the whole formation seems to possess less natural fertility. These remarks, as to the decreasing fertility of this formation, must be limited to a line south of Nottingham. Beyond that district my experience is too limited to justify an opinion; but I may remark that I have seen excellent land on this formation in the neighbourhood of Selby and Knaresborough; and, again, near Carlisle, where a large area is exposed. I must now ask you to extend to me your forbearance with respect to certain formations in England lying between the new and the old red sandstone, with which my acquaintance is insufficient to justify any remarks. I trust that some member of this Institution, who has local knowledge hereon, will fill up this interval. My ignorance is special as to the carboniferous limestones and the coal series underlying. The Old Red sandstone, or Devonian series as it is called, occupies the greater part of Devon and Cornwall, the counties of Monmouth, Hereford, and a large portion of Shropshire. It is also developed in Warwick, near Coventry, and again near Birmingham. The land is of most varied quality; some of the wash of the old red sandstone near Modbury and Kingsbridge on the south coast of Devon is of rare excellence for grazing purposes; indeed, we have recently dealt with a small estate in that neighbourhood, of which the rent, exclusive of tithes and rates, was 70s. per acre, for purely agricultural purposes. Favoured portions of the counties of Monmouth, Hereford, and Shropshire have extensive areas of excellent land; but, like its kindred of the new red sandstone, it rapidly degenerates into thin weak clays and sands, which require thorough drainage and liberal treatment to make them productive. To this series belongs the slaty schistose formation, which covers so large an area of the central parts of Devon

and the north of Somerset, through which, in the former county, the granite of Dartmoor is thrust up. The soils are generally of the poorest; but there are occasional conditions under which the valleys that have received the wash of these and limestone rocks, with the admixture of some of the old red formation, are highly productive. These, however, are very limited areas. This formation is described, commonly, as the millstone grit, and is developed generally through Yorkshire and Durham; but I have little knowledge of its characteristics there, except in passing by railway. I have now to address myself to a formation which occupies, in the midland and western counties of Wales, and in Shropshire and Cumberland, a very considerable area. I allude to the Cambrian and Silurian formation which, at the hands of Sir Roderick Murchison, has received an analysis which has most perfectly indicated its character and origin. Composed of rocks in which the earliest traces of animal life are found (and these in limited number), the soils are generally thin and infertile. These conditions, combined with the exceptional elevation of the districts referred to, almost take them out of the category of agricultural application. As sheep walks they are obviously valuable in connection with the farms which are found in the valleys, where the wash of ages has brought down a moderate (indeed, in some cases, a very considerable) depth of useful soil. That these sheep walks may be greatly improved by inclosures, by planting for shelter, and by surface draining, I have no doubt; and with the present high prices of meat and wool, improvement in this direction may be confidently looked for and undertaken. The granite formations of England are too limited in area, and generally too elevated to need more than casual remark in a paper of this kind. Developed in two or three points in Leicestershire, but chiefly on Dartmoor and in Cornwall, their application is simply as runs for cattle; so that, important as they may be geologically, they are of the least value agriculturally. I may not, however, omit to notice the excellence and fertility of the soils of the decomposed basaltic rocks, which rise in isolated points through the granite and overlying formations adjoining, in Devon and Cornwall. Of very limited extent, they are greatly valued for their rich produce of grass and corn. In concluding, I am painfully sensible how inadequately I have dealt with one of the largest and most interesting subsidiary elements of a surveyor's education. The accidentally short period allotted for the completion of this paper has prevented my application to friends on whose judgment I could rely for detailed information as to certain strata not immediately within my own knowledge and experience; but I am fortunate if this institution will accept my remarks of this evening as a short suggestion of what, when amplified and enlarged by an abler hand, may be a most valuable contribution to the surveyor's library. I would press upon the Members of this institution the study of this interesting science, not only as a part of their education, but because a knowledge of it, like virtue, is its own reward. Wherever we are, in our walks or rides or railway journeys, it is an ever present theatre of instruction. As the wise Greek has said, "A temple ever near us;" and if the gain professionally may not be distinctly counted on, at least a source of ever recurring interest and pleasure is secured to the thoughtful observer.

TENANT-RIGHT FOR CHALKING.—When the area and price per acre have been agreed between the landlord and the tenant, the outlay, if made by the tenant, is repaid on the following scale, in the event of his leaving his farm:—1st year, to be allowed the whole cost; 2nd, 17s. 6d. in the £1; 3rd¹ 15s.; 4th, 12s. 6d.; 5th, 9s.; 6th, 5s.; 7th, 2s. 6d.

Mr. J. H. LLOYD proposed a vote of thanks to Mr. Squarey.

Mr. T. SMITH WOOLLEY seconded the vote of thanks. As regarded land situated on the magnesian limestone formation, it might, he thought, be taken, on an average, at the same rental as on the oolite series, the two soils being, on the whole, similar in respect of their agricultural characteristics. As regarded coprolites, he regretted that the great authority on the subject—Mr. Bidwell, of Ely—was not present. So far as his own experience, however, enabled him to say, the presence of coprolites added from £100 to £150 per acre (according to the thickness of the vein and the depth of boring required) to the surface value of the land; that was to say, contractors would give from £100 to £150 per acre for the privilege of extracting them, binding themselves so to restore the land as to leave it in better condition for agricultural purposes than before. He might add that the demand for coprolites was

becoming greater every day, and that the surface value above-stated would also, no doubt, greatly increase.

Mr. H. M. JENKINS said that the subject of Mr. Squirey's paper was one which had attracted his attention, and excited his interest, for a long time past. Until five years ago, he had only considered the subject in relation to geology generally, as he then held the position of assistant-secretary to the Geological Society of London. Since that time his interest in agricultural geology had increased, owing to his connection, in a similar capacity, with the Royal Agricultural Society. He had always found it difficult to define the exact limits to be applied to the term "agricultural geology." By employing the term "surface geology" he had restricted himself to those deposits which were found at the surface, and had rejected, except with reference to the surface indications, anything which might be applied to the land as manure. Mr. Squirey, however, had been so good as to tell them that evening a great deal, not only about surface geology, but about agricultural geology in a broader sense, and had laid before the Institution a mass of facts gathered from his own experience. He (Mr. Jenkins) was not able, at so short a notice, to criticise the paper; but he looked forward with pleasure to its publication; and after reading it, he and others, who like himself, had been attempting to gather together some useful threads of information, might be able to deal more satisfactorily, than at present, with the numerous interesting points for discussion raised by the author. At that moment, he would only say a word or two bearing upon general principles. In the south-eastern half of England, the secondary and tertiary rocks were to a great extent covered by the newer deposits which Mr. Squirey referred to under the terms "diluvial" and "alluvial"; but in that part of England, which was to the greatest extent the corn-growing portion of the country, those accumulations were of immense importance. For instance, wherever chalk was cultivated, and the land was ploughed, it was generally because the chalk which formed the escarpment was covered by these deposits; and, where these deposits did not exist, the chalk would not bear the expense of cultivation, and was left in "down;" but, in many countries, the large chalk escarpments were found covered with the deposit known to surface geologists as "clay with flints." On the other hand, in the case of river-valleys in clay deposits, it was found that where the land was ploughed, it was owing to the fact that certain superficial sands and gravels had rendered the land of comparatively little value for pasture. Where, however, the nature of the soil was such that the detritus had made it richer, and suitable for being put down as pasture, it would be found that the latter form of cultivation prevailed in a favourable climate. Generally speaking, the proposition would hold good, that the relation which stratification bore to regular deposits was the same which what were termed contour lines bore to surface accumulations, but in an inverse sense. In stratified rocks, the oldest were the lowest, in the other case, the newer accumulations were generally the *lowest*. These were some of the general principles which had been worked out, chiefly by Trimmer; and he hoped, now that geological surveyors had been turning their attention more to surface geology in various parts of the country, that some additional generalisations would result, which would be worthy of being regarded as the foundation of a science of agricultural geology.

Mr. T. SMITH WOOLLEY wished to contribute one little fact to the discussion, with respect to the chalk dressing which Mr. Squirey had referred to. On the Lincolnshire Wolds the average dressings of chalk were heavier than in the district to which Mr. Squirey referred, namely, from 100 to 150 cubic yards per acre, at an average cost of from 9d. to 1s. per yard, which of course raised the cost per acre from that mentioned by Mr. Squirey to £5 or £6 per acre; and the same principle of Tenant-Right prevailed, namely, from 6 to 7 years.

Mr. PENFOLD said: With respect to the statement of Mr. Squirey, that hop land at Farnham, Surrey, was worth £8 per acre, he might mention that the father of his friend Mr. Woolley, had, with great pains, some years since, divided the hop land of Farnham into six different qualities for tithe purposes. He (Mr. Penfold) had let land which Mr. Woolley had put in the fourth and fifth classes of quality at £7 per acre. The first quality of hop land was that called "The Heart Ground," close upon the town—in fact, occupying what would otherwise be the gardens and grounds of the houses in the main street. It was difficult to fix the rental value of this, as it was almost always occupied by the owners themselves.

There was a tradition however, that some had been let at £10 per acre. The value of the land did not consist altogether in the fact that in good seasons it produced so much more than surrounding land, but that in bad seasons it produced a fair crop when other land produced next to none at all. It was situated on the gault, and just at the edge of the upper green or Bagshot sand and the chalk.

M. T. SMITH WOOLLEY might mention that in the part of Bedfordshire to which Mr. Squirey had alluded, £7, £8, and £9 per acre was a common rent, even before the railway ran through Biggleswade. He would ask Mr. Squirey whether he knew anything of the history of the fertile lands near Penzance, as he found they were letting at £8, £10, and £12 per acre.

Mr. J. CLUTTON would briefly refer to a few geological facts in connection with the district in which he was born. His friend Mr. Squirey had referred only very slightly to one stratum situated between the chalk and the green-sand—the gault. The gault, as Mr. Penfold was aware, came to the surface at Farnham, disappearing in some places along the valley, and in others extending over considerable areas. Now, in his early days, gault was not understood, and was considered an almost worthless soil. It was difficult to drain, and only very inferior crops could be produced from it; but of late years it had been rendered fertile by intermixture with other soils. He had found, from experience, that many growths, particularly of timber and herbage, flourished much more where the different soils were intermixed than upon any of those soils alone. He thought that Mr. Squirey had rather underestimated the value of the Wealden soils. He believed that under ordinarily fair management the Wealden clay was capable of great improvement, and he did not think it so bad for pasture purposes as his friend Mr. Squirey had led them to suppose. He had no doubt that the paper would have contained, had time permitted, some observations with reference to the effects of climate and elevation on soils—considerations on which the value of land depended in a very important degree. He had himself laid down old ploughed land in pasture, in the Wealden district, and had found that, if it were properly done, it would let at from 40s. to 50s. per acre. In the neighbourhood of Reigate (the scene of his early experiences), land which formerly let at £1 per acre could, by ordinary management, when converted into grass land, be made worth from £2 to £3 per acre—a fact which Mr. Squirey, who had seen the land, could corroborate. Only a part of that increased value was due to the increase of population and other similar causes, and was mainly attributable to improved methods of cultivation, and a better understanding of the capacities and nature of soils. The advantages resulting from an admixture of soils seem to have been, to some extent, appreciated by our forefathers. The Wealden district, it was known, was covered with old marl pits. This was also the case, to a considerable extent, in the counties of Kent and Sussex, and why their use had been discontinued he was at a loss to understand.

Mr. E. J. SMITH said that the father of English geology was a land surveyor, named Smith, who as far back as the first years of the present century published an exceedingly accurate section, extending from Holyhead to the coast of Essex. That section was, he believed, very scarce, at least he had never seen but one copy of it. At a subsequent period (about 1828) Smith predicted that coal would be found under the magnesian limestone of the county of Durham. Certain persons followed his advice, and were ruined in consequence; but others, undeterred by first failure, persevered in the enterprise, and demonstrated the truth of Smith's prediction, adding two-thirds to the previously known coal-producing area of the country. He (the speaker) had been accustomed to connect the successive geological series with the letters of the alphabet, making the first formation correspond with A and the most remote with Z. This plan he would commend to any junior member as an easy method of acquiring and retaining a general knowledge of the science. In an alphabetical series of the kind, the point occupied by London would correspond, say with the letter V; the letters W, X, Y, Z, lying to the east, and reaching to the English channel. At the extreme end, at Z, a large proportion of the shells were found to be identical in character with existing forms; but, on receding from Z, the correspondence gradually decreased until, by the time the point corresponding with L or M was reached, their character was altogether changed, and the shells were found to be of a kind totally different. The

farther upwards they went the more the fossils diverged from the existing forms, until at a certain place, which for distinction he would call B, the signs of animal existence altogether ceased, and the point was reached which he would term the azoic epoch. Taking the position of London as corresponding with that of the letter V in the series, it would be found to hold good, approximately, that a section taken from V, either to Cornwall, to Aberystwith, to Cumberland, or to Scotland, would traverse the whole series of formations, corresponding with the letters of the alphabet, from V to A. The series, moreover, would be found to be constant, with this exception, that it at a particular point any portion, say E, was not found between D and F, E was never found anywhere else. For instance, going from London to Cumberland, the alphabetical series would be unbroken until the point about corresponding with F was reached, but between F and A the continuity was arrested, and several of the remaining formations were absent. The circumstances occasioning the creation of E never happened again in the thousands and thousands of years during which the whole was formed; therefore E was either to be found between D and F, or not at all. Now the admirable paper under discussion dealt with the series, say from V up to H. The author had expressed his unwillingness to go further, but had suggested that some other member of the Society should take up the subject from that point. He (Mr. Smith) begged to say that he would be exceedingly happy, in the absence of a more competent person, to deal with the interval between H and A. So far, however, as regarded the portion of the country stretching westward to Cornwall, the subject could not be in better hands than in those of Mr. W. Sturge, and he hoped in the course of the evening that he would signify his acquiescence in the suggestion. If any other members would kindly take up the remaining ranges of inquiry which he had indicated the result could not fail to be advantageous to the Institution. The subject was so exceedingly extensive that almost any practical surveyor could subscribe something towards filling in the details in particular situations; and he hoped that all who were able, in any form, to assist in getting out a complete story of the agricultural bearings of geology would be disposed to contribute their aid.

Mr. R. B. GRANTHAM said his occupation had led him rather in the direction of structural than of surface or what was termed agricultural geology. What knowledge of surface geology he possessed had been gathered from his experience in draining in every variety of soils, and he had found it very useful in determining when land might or might not be drained with advantage, more especially clay lands where the rainfall was a very important element in considering the question of drainage. He had, at various times, been called upon to deal with questions of agricultural engineering, more especially with marling, on a very extensive scale, and he quite endorsed the opinions which had been expressed with reference to the advantages arising from a judicious admixture of soils. He might refer for a moment to marling as it was carried out in the Forest of Delamere, and of which he had written a descriptive paper, published in the twenty-fifth volume of *The Journal of the Royal Agricultural Society*. The whole of the Forest of Delamere was on the new red sandstone. The surface consisted of different soils, such as sand and gravel, more or less mixed—some better and some worse—and peat. It was marled from the boulder clay, and marl being found in two beds, situated about a mile from each other, and totally differing in consistency and character, one being a slate marl and the other a clay marl. He had given an analysis of these marls in the paper to which he had alluded. In some cases as much as 180 tons to the acre were put upon the land, in others 80 tons, the average being about 100 tons. It was Mr. Clutton's opinion that the operation of marling the land at Delamere might, with more advantage, have been performed at two distinct periods, and that the benefit arising from the process would in that case have been of a more enduring kind; but however that might be there could be no doubt that the financial results had been successful, and that the land had given a good return in the shape of rent. The greater part of the cheese land of Cheshire had, he believed, been reclaimed by the use of that very marl. The pits in almost every field were familiar objects to those who travelled through the county of Chester. The history of this operation was an instance, and he thought a striking one, of the agricultural uses of a knowledge of surface geology. The treatment of the peat lands of Somers-

setshire was interesting in its bearing on the subject of the paper. He might remark, incidentally, that he had reported to the Government on the recent floods in Somersetshire, and his report would be found in the library. On the peat lands he had mentioned, the soil was taken from underneath the peat. It was an alluvium of a character very nearly similar to that deposited by the sea on the banks of tidal rivers, and was enriched by the washing down of the detritus from the high lands surrounding these marshes. He might mention that the Bath brick was made from the deposited warp taken from the banks of the Parrett, in Somersetshire, consisting of a loamy sand. These alluvial deposits were spread over a portion of the peaty surface, and formed a soil of considerable fertility. He had seen, in Ireland, a great deal of the wonderful effects of the washing down from the limestone formation in the production of pastures of extraordinary richness. Indeed, the general fertility of that country was due in a very great degree to this circumstance. Another direction in which a knowledge of geology was likely to be of service to the surveyor, was in enabling him to judge of the likelihood of obtaining water in localities unfavourably situated with regard to rainfall, and in guiding him as to the depths at which the water-bearing strata would probably be reached, and also as to the probable chemical qualities of the water. In reclaiming lands from the sea it was most essential that the surveyor should possess a knowledge of agricultural geology, in order that he might know the nature of the soil which formed the land to be inclosed, and be able to determine whether it would be worth the outlay.

Mr. T. SMITH WOOLLEY said that there could be no doubt of the importance of the scientific services rendered by Smith, who had been rightly styled the father of English geology. Indeed, he occupied the same position here, with regard to that science, as Cuvier among the French. While fully appreciating the uses, to the surveyor, of such a knowledge of geology as was advocated by several speakers, it was, he thought, of little or no utility in the valuation of land for rental. In other respects, however, its possessor would find it of great service. Without its important elements in the value of land, arising from the presence of valuable substrata, were likely to be overlooked by the surveyor. He might not be aware, for instance, that gypsum was likely to be found in the Keuper marls of the new red sandstone; that coprolites might be looked for in the upper green-sand, or iron in the lower oolitic series; and his ignorance of the possibility of their presence beneath the soil might be seriously detrimental to the interests of those who trusted to his knowledge and skill in advising them as to the value of their property. He was acquainted with an estate in North Lincolnshire, which, 10 years ago, was supposed to be one of the poorest in the county, worth perhaps £30 per acre. Almost by accident ironstone had been discovered, and at the present time there were, on that estate, eight or ten blast furnaces. The value of the property was increased seven-fold, and might go on increasing indefinitely. This case, by the way, happened to illustrate the un wisdom of carelessness as to the exercise of manorial rights, under the impression that they were worth nothing. After fighting the question through all the courts, and the House of Lords, A was decided to be the owner of the minerals, because he or his predecessors, by the regular collection of small quit rents, had established their claim to the manor and minerals as against B, who was the original grantee. As he said before, he did not believe that geology would be of any assistance in valuing land for rental purposes, owing to the endless varieties of soil on each formation. It was an art which could not be learned from books, and the "rule of thumb"—or in other words, judgment and experience—was the only serviceable method as regarded that branch of their profession. There was one point on which, if he understood Mr. Squarey rightly, he could not quite agree with him. He understood him to say that the richer alluvial soils were mainly produced from the older rocks; the poor sand of Morecombe Bay, derived chiefly from the silurian rocks, strongly contradicted this view. With respect to the rich wash lands of the east coast, his (Mr. Woolley's) impression was that they were not derived wholly from the rivers, but in great part from the abrasion of the coasts of Norfolk, Yorkshire, and Lincolnshire. He would give a case in point. About 40 years ago a bank was carried across Cross Keys Wash, at the outfall of the Nene, and a very large tract of poor sandy land was recovered. Twenty-

eight years ago a tract of 2,000 acres on the seaward side of that bank was taken in, his father acting as valuer for the allotment, and he (Mr. Woolley) assisting in the work. Between the date of the first bank and the second, the "warp" or alluvium between the two had risen on the average 6 feet. He saw that newly inclosed area a few days since; it was as good corn land as he had ever seen, and a most striking contrast to that inclosed in the first instance. The universal richness of alluvium was alluded to by Mr. Squarey, but there was not, as he seemed to imply, anything like a uniform scale of goodness. In Lincolnshire, and also in Romney Marsh, Pevensy, and elsewhere, it was common to find poor, cold grass land side by side with most magnificent marsh pastures, worth £3 or £4 per acre, the land being on the same level and alike in all external circumstances. He was at a loss to account for it; but it was one of the many difficult problems which occurred in their profession. One other point to which he took exception was the alleged good management of land in the vicinity of London. That remark might apply to a radius of 8 or 10 miles round the metropolis, but the zone lying between that and a 20 mile radius was about as badly managed as any land he knew of in the whole country. Since the last meeting he had verified the figures which he then gave with regard both to the quantity and cost of the chalk marling on the Lincolnshire and Yorkshire wolds, and he found that he rightly stated the former amount at about 150 cubic yards per acre, which, as a cube yard weighed nearly a ton, was a far greater quantity than was applied to the land mentioned by Mr. Squarey, and the average cost was from £4 15s. to £5 15s. per acre. He questioned whether the natural productiveness of the soil, referred to at page 17 of the paper, was attributable to the enormous quantity of animal remains in the underlying rocks. It was due rather, he thought, to the nature and depth of the soil than to the kind of quantity of the fossils in the substrata. Some of the surface soil, indeed, on the formations referred to was among the poorest under cultivation. With reference to a remark which fell from Mr. Smith, he (Mr. Woolley) might observe that he had some knowledge of the coal districts of Staffordshire, Warwickshire, Durham, Derbyshire, and Northumberland. They were chiefly more or less heavy working clay, and his opinion with regard to the surface land was that its rental value ranged from 18s. to 32s. per acre.

Mr. RYDE understood Mr. Woolley to say that a knowledge of this subject for the purpose of valuing land, or rather for fixing the rental value of land, was of little practical use; but surely a knowledge of what was underneath the soil must be very essential indeed in estimating the value of the soil itself. For what, after all, was soil? He might be wrong in his opinion; but, speaking generally, he had always been in the habit of regarding soil as nothing more than decomposed subsoil. How came it there if it was not what he supposed it to be? There was, he believed, a most intimate connection between the soil and the subsoil. He quite agreed with Mr. Woolley in his opinion that the art of valuing land could not be acquired from books; indeed, looking to the startling prices which land occasionally fetched—prices which exceeded all reasonable anticipations—he was sometimes inclined to believe that experience itself was of equally little service as a guide. The author had limited his observations to the geological formation of the subsoil, without reference to the soil which rested on it. He (Mr. Ryde) was of opinion that the soil should not be entirely unnoticed. The soils of England might, he thought, be classified in some such way as this: First, the alluvium. Secondly, the heavy wheat and bean land, the clay land—a soil which was very productive, when certain agricultural conditions were properly observed. Thirdly, what was known most familiarly by the name of barley and turnip land—the light, sandy, and gravelly soils. These soils were very variable in quality, some, however, being extremely good. The sandy loams in this country were amongst the best land to be met with; and if a man wanted to farm for pleasure, and a little profit as well, he could not select better land for his purpose than good sandy loam. Fourthly, the class of land in which lime was predominant, the calcareous soils. These four classes, would, he thought, include the whole of the soils of this country. He would suggest that these four distinct kinds of soil might be associated in the following manner with the various geological formations referred to by the author: 1. The alluvium, as described by the author of the paper. 2. The

clay lands, or adhesive and retentive soils, which would be found overlying the plastic and London clays, the Wealden clay, the gault, and the Oxford clay. 3. Sandy and gravelly soils and light tillage land overlying the old and new red sandstones, the green-sand, the millstone grit, and the granite formations—soils which are friable, porous, and easily cultivated. 4. Calcareous soils, containing lime in considerable quantities overlying the chalk, the oolites, and the carboniferous limestone. It was impossible, he thought, to arrive at anything like a general estimate of the rental value of these lands; and the rental value of the same species of soil fluctuated according to the various degrees of fertility arising from differences of situation and altitude. The opinion of Mr. Clutton was entitled to much greater weight than his own; but he could not agree with him in his idea that Mr. Squarey had put the Wealden clay at too low a rental value. It seemed to him, on the contrary, that Mr. Squarey's error lay rather in the opposite direction. Perhaps the difference of opinion was capable of explanation; for, in another part of his remarks, Mr. Clutton had said in substance: "You can have no idea of the capabilities of the Wealden clay until you have tried it." Mr. Clutton spoke, he fancied, from somewhat exceptional circumstances, as he had two farms—an urban and a suburban; and the crumbs from the richer farm had probably fallen upon the poorer one, and the latter had very much benefited by it. If Mr. Clutton went about five miles further east, in the neighbourhood of Godstone, he would come to that part of the Wealden with which he (Mr. Ryde) had had dealings, on behalf of the South-Eastern Railway. The clay land in that district was some of the poorest land he had ever met with. No man could do any good with such land unless he had a pretty deep pocket, as well as great spirit and enterprise. As a matter of fact, land near Maidstone, taken at a high rent, would be cheaper than land in the Weald at no rent at all. With reference to the remarks which had been made as to the rental paid for the hop land at Farnham, he might mention that in 1846 he surveyed the whole of the hop lands of that parish, the rental value of which was about £20 per acre. The highest rental given for the "heart land," within his personal knowledge, was £25 per acre. It was not always let to farmers, but was often held by tradesmen of the town, who liked to have little pieces of hop land. The more general dealing with that land was the purchase of the fee simple, and he had known as much as £500 per acre paid for it. The best land did not go quite as far north as the Bishop of Winchester's Palace. A little south of that point the green-sand appeared.

Mr. R. C. DRIVER remarked, by way of confirmation of Mr. Clutton's views, that he had recently been over two estates on the Wealden clay. One of them had been undrained and dressed, and a considerable portion laid down with grass. It was now worth 30s. per acre—a very large increase upon its previous rental value. He had recently been over the adjoining estate, with a soil of precisely similar geological character. That was wholly unimproved. The land was saturated with moisture, and was let to impoverished tenants at from 8s. to 12s. per acre. This was strong proof of Mr. Clutton's statement that the Wealden clay would pay for more attention than it had hitherto received.

Mr. H. M. JENKINS said that he had obtained from the Geological Survey of England, the loan of two or three maps (which were exhibited for the inspection of members), showing the relation between the stratified and the superficial geology of the country. Smith, the geologist, had illustrated in the early map which had been referred to what was generally known as geology proper. Mr. E. J. Smith's idea of symbolizing the stratified formations by so many letters of the alphabet was a happy one, and he would ask the institution to carry the idea a little further, and allow him to assume that each of Mr. Smith's big capital letters had become broken up into a number of smaller letters of the same denomination, so that any number of the same letters might be used to signify different portions of the same formation. The superficial accumulations covering the regularly stratified formations indicated by the big letters could then be designated by the smaller letters, and thus indicate the rocks from which they had been derived; but these small letters would not be found arranged regularly as the large ones were. On one of the two maps exhibited, the true geological formations, as referred to by Mr. E. J. Smith, Mr. Squarey, and Mr. Grantham, were seen arranged in parallel lines, running, approximately, north-east,

and north-west, the brown colour covering the whole district known to geologists as the London clay. This map dealt exclusively with the London clay, and showed no superficial deposit, except a spot or two here and there along the channel of the Thames. It would be seen, on the contrary, that the other map, which represented precisely the same country, showed, by the various colours, the deposits which came up close to the surface, and were covered only by the soil. In point of fact, the latter map represented what was known, agriculturally, as the subsoil of the area, whilst the former represented the ordinary geology of the same region. It would be seen that the greater portion of the large area, coloured brown on the first map to represent the London clay, was variously tinted on the second map to show the different superficial deposits which overlie the clay, and leave it exposed in isolated patches only. A large area on the first map was coloured green to represent chalk, while on the second map very little of that colour could be seen, owing to the tints representing the sand, brick-earth, and gravels, which covered the chalk. Probably not one-sixth of the chalk shown as such geologically formed the actual subsoil of the chalk district. These deposits above the chalk varied considerably in thickness. They consisted of gravel or clay, or a mixture of both, the "clay with flints" predominating, and sometimes attaining a thickness equal to the ordinary stratified deposits. In the same way it would be seen that in the county of Essex, represented on the small map, very large portions of the formations were covered over by superficial accumulations to such an extent, that maps showing the geology proper were practically useless for agricultural purposes. The Geological Survey, he was glad to say, were re-surveying a great part of England in the way depicted on the second map, showing the superficial deposits, and they were issuing the copies as fast as possible to the public. It was well known that when Government undertook a work, it was prosecuted with greater or less energy in proportion to the degree of interest shown in it by those whom it chiefly affected. He felt strongly that if the agricultural public—if surveyors especially—did not show any great interest in these maps, their completion was likely to be delayed for a very long time, and he had therefore asked the director of the Survey whether he would allow any gentleman who might wish to do so to inspect the work in progress. The reply was, that at all times he should be happy to afford surveyors and others any information in addition to that which had at present been published.

Mr. W. STURGE said that he had intended to make a few remarks on the details of the geology of the West of England; but he would refrain from doing so, hoping at some future time to comply with Mr. Smith's request, and endeavour to supplement the very able paper prepared by Mr. Squarey by a description of the surface geology of the South-west of England, a part of the country with which he was more particularly acquainted. So far as regarded Cornwall, however, he might mention that it was a peculiar district, geologically, embracing the great metalliferous strata, and his acquaintance with it was very limited. He hoped therefore that some member who lived further west than he did would be found willing to deal with that part of England. Those districts with which he was more particularly familiar probably embraced a greater variety of soil and geological strata than any other, and he should be happy to do his best towards describing their agricultural geology.

Mr. SQUAREY, in reply, said he had approached the subject with great diffidence, and was glad to have been the means of eliciting a promise from Mr. Smith and Mr. Sturge to take up the story where he had left it, and do their share towards the completion of this very useful and interesting investigation. He must explain that his paper did not pretend to go into questions of technical geology. He had sought to give it a practical shape, and to incorporate with it as much useful matter as could be compressed within the prescribed limits of such a paper. Referring to the discussion which had taken place, he might observe that "clay" was not clay of the same nature in all places. The same treatment applied to the London clays in Hertfordshire as to the Oxford and Kimmeridge clays, even under the same conditions of climate, elevation, and rainfall, would result very differently. The same remark held good as applied to the sands and gravels of the tertiary as compared with those of the new and old red sandstones. On comparing the productive capacity of the sandy gravel, which was the basis of the soil in the lower valley of

the Avon, with the soils of the new and old red sandstones of Devon, it would be found that the natural difference of fertility was immense, although the two soils were nearly identical in their texture and depth. The depth of the soil and its capacity for decomposition had been rightly pronounced to be elements of fertility and value; but a cubic foot of soil taken from the Oxford clay or lias contained a much larger amount of natural organic fertilising elements than any ordinary clay or sands. He was rather surprised at Mr. Clinton's defence and estimate of value of the Wealden and gault clay. He (Mr. Squarey) admitted that the gault was a good soil, if thoroughly well managed, but the instances were rare in which that was the case, and they were not soils which in ordinary hands were profitably dealt with. He might mention, however, with reference to those soils, that Mr. Robert Clutton had, on his farm at Reigate, by long and careful management, converted land of low natural value into remarkably good pasture land. Not only had he done so, but he had also endowed it with the capacity to fatten animals; adding a certain amount of "proof" to the soil by a long course of skilful and liberal treatment; but this result could not be looked for, as he had said, in ordinary cases. With reference to Mr. Woolley's objection to his remark, that the best alluvial soils were due to the wash of the older formations, he might explain that in speaking of the older rocks, he (Mr. Squarey) did not refer to the granitic or silurian systems, but to the decomposition of the red sandstone, lias, oolites, and the chalk. The absence of uniformity, in the quality of the alluvium, alluded to by Mr. Woolley was, he thought, readily explainable. A current flowing where alluvium had formed might bring with it large quantities of gravel, in one place producing that denudation which frequently occurred in alluvial districts, and in another leaving the alluvium intact, or mixed with gravel in various proportions. It might very well happen, in such a case, that a particularly fertile area of soil might be washed away, and be replaced by gravel drift of comparative infertility.

The CHAIRMAN agreed with Mr. Woolley that geology, in its present form, was of small value to surveyors so far as regarded the valuation of land. Rainfall, elevation, and temperature were, in his opinion, more important elements for such purposes than the constitution of the soil.

PORCINE INTELLIGENCE.

'Tis with sincerest pleasure we announce
That late on Saturday, the 30th ult.,
His Grace the Duke of Styford's far-famed sow,
The noble Fifteenth Duchess of Pigwiggan,
Was happily delivered of twin boars,
Exceptionally excellent in form.
The auspicious advent of the illustrious pair
Will gratify an influential class
Of porcine critics.

Tidings come from Hogeliffe
That Mr. Fitch's sow, Miss Gamp, has bred
Twelve useful suck lings.

We congratulate
The noble Marquis of Pygmalion
Upon his recent purchase, from the sties
Of Viscount Petticoes, of Duke Hlungrumplia.
The lofty style and grandeur of this hog,
His Majesty of character and gait,
The indiscrutable prestige of his presence,
Would sanguine expectations justify
Of his achievements as a sire of pigs.
'Tis said, and we believe with perfect truth,
His Grace the Duke of Porcaster has made
A princely offer for this Prince of hogs.

The whole of Mr. Hodge's swine, we see,
Are advertised for sale on Monday next.

With feelings of the most profound regret
We learn that Carl Fitz-Bacon's splendid boar,
Nineteenth Grand Duke of Swillub,
Has paid the debt of Nature. Over-free
Indulgence in the pleasures of the trough
Induced hypertrophy, of which he died.
We beg respectfully to tender here
The humble homage of our sympathy
To Lord Fitz-Bacon on this sad event.

SUFFOLK TO WILT.

At the annual meeting of the East Suffolk Chamber of Agriculture, held at Ipswich, Mr. CORRANCE, M.P., said: The most important measure in the estimation of the public was the Landlord and Tenant Bill. A further consideration of the subject had convinced him that this was a question which he must approach with extreme caution. It was not a subject on which they must legislate without having most substantial reasons. It could not be a matter of surprise in these days, when the capital required in agriculture was every day increasing till it amounted in some cases to half the fee simple of the soil, to find that the farmers who were investing such capital required more adequate security than they had under the present system. The question was, how were they to attain this? Could it be attained by the gradual and safe processes by which they had attained their present state? That was the question about which he should like to be satisfied. Was it possible that farmers, being a class who were not by any means homogeneous—ranging from the men of high culture and great wealth down to the mere peasant who tilled the soil—could require a system which was wholly inelastic and unbending; or one which would adapt itself to all circumstances of all those cases. No doubt if they were to wait for natural causes to operate the transaction would be slow and gradual, but they would ultimately obtain the high security best adapted to the customs of the country which now prevailed. There was, however, a class of people to whom this slow and safe progress was no longer a matter of contentment. They sought to interpose the arm of the Government, and thought, or seemed to think, that they were not safe unless they had such security. They had an example of it in the Irish Land Bill. He had voted for one clause in that bill (the third), because there was in Ireland an exceptional state of things which was not only inconvenient but dangerous, and the relations between the landlords and tenants had arrived at such a pitch that nothing but the strong arm of the Government could render them safe. There was in that case no prospect of arriving at a natural solution of such a question, and, consequently, he saw the Government must do the work. It was not for him to say whether the Government Bill met the necessities of the case, nor was it for him to say the reasons why the Government Bill had not been wholly satisfactory; but he might be allowed to say that he was not satisfied with the limitations either of the times or persons devised for that bill. He should not, however, admit that this same treatment could be profitably applied to England, but he should call upon those who demanded such treatment for England, to show that the slow transition to another state of things would not be better for England. If the principle of the bill proposed for England was economically bad, what would be its effect? The author of this bill contemplated that it should afford to men of capital greater protection. He wanted, he had said in one of his speeches, to supplant the needy tenantry of England, and to introduce another and a higher class. That was a most laudable wish no doubt, but whether it was to be realised by Act of Parliament, he gravely doubted. They had all manner of complaints that it cost so much money to enter farms now, but if this bill was passed the expense—as he had shown them before—would be much greater, because the compensation for unexhausted improvements must amount to a large fixed encumbrance. If that were the case, certainly Mr. Howard's wish would be realised. To men of capital this would be a mere nothing, but what was to become of the smaller farmers, and of that large and needy class who were indebted to their landlords, or to what custom gave them, if they had only men of capital? It appeared to him that the struggling needy class ought to be considered, and the difficulty to his mind was that it was no slight experiment to try to shut the door against such a class. This consideration must influence him, and if he were called upon again to record a vote, he must ask himself whether he was doing justice to the whole class. He had the greatest sympathy with intelligence and enterprise, but he had also sympathy with the industrious and struggling classes, and if he could help it he would never record a vote which would shut the door upon them. If they had a law they would find that the law was stiff and unyielding; it knew

no difference between poor and rich. Custom was elastic; custom allowed the landlords to adopt the law of hythoc; custom allowed the landlords to be accommodating in waiting for the rent, but with this bill it would be impossible to say whether the landlords could take such things into consideration at all. He should call upon the authors of this bill to give satisfactory reason for believing that there was necessity to move in the face of all these reasons against it. Another question which had been before the House was Mr. Forster's Education Bill, to amend the Education Act, of 1870. In that bill there were two material clauses: one to secure the compulsory application of Denison's Act, for the education of the pauper classes; the other to place the power of paying the school fees in the hands of the guardians, instead of the school boards. With respect to the first of these he had, when the bill was first brought forward two years ago, denounced the folly of attempting a system of National Education, and not providing for the pauper class. The Education Bill was, however, passed, but when he called upon Mr. Forster to make a provision of that kind, the answer he received was "Wait, I am not in sufficient accord with the Poor-law Board." He found that the first Education Act was not one to which he could give his assent. He had for twenty years been a Poor-law reformer, and was of opinion that one of the first duties they had in reference to the paupers was to educate them. When Mr. Forster proposed that Denison's Act should be applied compulsorily instead of voluntarily, he thought it was a proposal which should command his respect. As to the taking the power of payment of school fees from the school boards and transferring it to the guardians, he thought, apart from the religious difficulty which he was not going to discuss, the guardians were of course better able to judge; they had the officers trained to the work, and were the best parties to undertake the work. They had seen at Salford the result of leaving the payment of the fees of the pauper class in the hands of the school boards. There the school board having only one object—to fill the schools—had paid half of the fees of the children with magnificent results. All the children had been swept into the schools, but the result was not so fortunate for the rate-payers. He had always been of opinion that an effort should be made to improve the pauper class by educating them, and when the question came before him he thought he was taking the view most in accordance with common sense in supporting a measure to give this power to the guardians. He had been surprised to find that his view had not been adopted at once by all the boards of guardians in the country. Petitions were put into his hands declaring that the guardians would not take the responsibility. A circular had been sent from the Local Taxation Committee of the Central Chamber of Agriculture, calling upon members of Parliament to oppose the proposal because it would increase the rates. As it the education of the paupers would increase the rates! He felt greatly annoyed that a committee to which he belonged should have issued such a manifesto as this. He believed, however, that the Committee was afterwards a little ashamed of that circular. Mr. Forster having the religious difficulty to contend with, finding himself attacked by foes and not supported by friends, and by those upon whom he thought he could rely, threw up at once the proposal to take from the School Boards the power to pay school fees. It was a special subject of regret that he had not been able to attend any of their meetings. He felt that there had been a misconception which might have been cleared up. But though Mr. Everett had sent the notices, the bill came on in the House on the very Tuesday when it should have been discussed in that Chamber. Although he felt that he had a good excuse for what he had done, he felt that he should have done it with far better grace if he had done it in consequence of a resolution in that Chamber. The Rating Bill which came before the House last Session was a very old question; they had discussed it pretty often in that Chamber, and he feared they might hear that they had made no progress, or that their progress had been but slow. It might appear so to them. The success of the last Session might not amount to a triumph, but they must remember that great questions were not, and ought not, to be settled in one

Session of Parliament. The steps by which a great question advanced were that they were first discussed—or, in the jargon of the day, ventilated—by bodies such as that Chamber. Then of course they must expect to see the thing disproved about twenty times by such papers as *The Economist*, *The Times*, and *Poll Moll Gazette*. They would find in that stage all the talent of the country against them. Of course the question would then be supposed to be finished and done with. Depend upon it that was just the time when the question was advancing. Then, at that stage, they might consider it advancing with the most rapid steps. As soon as a question was supposed to be utterly put down they might consider it to be in a healthy state. Just watch what was the consequence of this question being utterly disproved—Government was first obliged to take it up, and next was compelled to make an elaborate report upon it by Mr. Goschen disposing of it once more. As to that report, he feared he must use rather hard language—it was a mendacious report, and never ought to have been brought forward by the Government. He had, with them, looked through that report, and had shown that its arguments would not hold water, and he was glad to see that these very points had been taken up and disposed of by Mr. Dudley Baxter. He (Mr. Corrance) had told them that no comparison ought to be set up between towns and the country, and that on the data taken by Mr. Goschen, the report was utterly fallacious; and, secondly, that Mr. Goschen ought to have taken his figures from a prior or later date. All these things Mr. Dudley Baxter had now shown with much greater weight. He had, when the report first appeared, challenged Mr. Goschen to frame a bill upon it, and if he had done so he (Mr. Corrance) did not hesitate to say they would have torn it to rags. They were prepared with facts and figures to meet Mr. Goschen. That opportunity, however, had never arrived, for Mr. Goschen went to the Admiralty. Mr. Stansfeld had produced a bill. What was that bill to do? One object of it was to destroy all exemptions, whether game, woodlands, mines, or mansions. He (Mr. Corrance) did not know how it was, but it appeared to him to be rather hard that the very people who had complained should be the very ones who felt the whip over their own backs. Mr. Stansfeld said in effect, “I have framed a bill to meet your case; you are all subjects of certain exemptions, and it is only just that exemptions should cease.” The dissentients, however, complained that the right hon. gentleman had made it worse. They wanted exemptions abolished in a wider spirit than this; “but,” said they, “you have abolished them, but have left the burden on our shoulders worse than at first.” The reply was ingenious, no doubt, “Remember this, it strengthens your arguments for the removal of your grievances; no doubt your grievance existed before, but then we are going to enlarge the area of your grievances, and you will go before the House of Commons with a magnificent case.” This reminded him of the lines,

The wound is great because it is so small,
Then it were greater were there none at all.

The bill did not stop there. It was a large bill in one respect, and there was one clause in it which had more effect than the whole of it, and that was the exemption of stock-in-trade. To people who did not understand the question it seemed natural to exempt stock-in-trade, because nobody ever thought of rating absolute stock-in-trade. But to better informed persons in the literature of this subject—which was vast—it was a well-ascertained and known principle that the rating of personality of all kinds involved this principle of rating stock-in-trade. If once they had passed such a wide exemption they attacked one of the essential principles for which they had contended. He was willing that all exemptions should cease, that game, woodlands, mines, and mansions should cease being exempted, yet it was utterly impossible that they should accept such a bill as this. Mr. Cawley moved the rejection of the bill, and he (Mr. Corrance) seconded it. The Government were unfortunate, for they carried it. The bill was impracticable and impossible in that shape, for it contained those very exemptions which he (Mr. Corrance) had asked Mr. Stansfeld to leave out to be dealt with in future. Had the clause with reference to stock-in-trade been left in abeyance, he thought they would have been content to leave that for a larger bill to settle. There had been an absence of fair and straightforward conduct on the part of the Government with reference to this question of Local-Taxation. The policy of the Ministry had been a policy of obstruction.

and the provisions of the bill did not contain a fair settlement of the case. However, the tenants and landlord had not been led to see that a mere shifting of the burden from the tenants to the landlords would meet their case, and the townspeople had not been deluded into the idea that a taxation which was paid locally upon their areas, and for their wants, could possibly be affected by legislation which would meet the case of those who were complaining. An imperial tax—as had been shown by Mr. Dudley Baxter—paid by all, might affect all; but as to a local tax, locally raised and locally expended, it could not possibly make any difference as to what was the proportionate share or value within any separate area of that rate. Townsmen had not been deceived on this point by the Government. He did not think that politicians had been deceived, and he thought he could say this to his constituents, that though the period of solution might be remote, yet whatever bill her Majesty's Government submitted to the House of Commons this year, must be one that would not merely apparently satisfy all wants, but one that would really deal with the subject in a comprehensive sense.

Mr. H. BIDDELL saw in a letter written by the gentleman who brought in the Landlord and Tenant Bill, that he had given notice that next year he should under no circumstances withdraw the 12th clause. He (Mr. Biddell) was sorry for that, because he considered that there was a good deal in that measure calculated to effect a good deal of great, and would tend to rectify some very obvious inconsistencies in the present arrangements between the outgoing and incoming tenant. There was in the bill a proposal for an alteration in the period of the notice to quit a farm, and if it were only for that clause it would be well that the bill should pass. Mr. Howard was withholding from the agricultural world that which would be a great benefit, by the hard and fast line which he had marked out for himself in reference to the 12th clause. The effect of that clause was to prevent the landlord and tenant making a private bargain as to the letting of a farm, and that was the weakest part of the bill. The one great point which had produced all the agitation which had taken place in reference to this subject had been this—that where there had been no stipulations and nothing said to the contrary, the whole thing was in favour of the landlord and against the outgoing tenant. The outgoing tenant might have left incalculable wealth in the land, which he was unable to move, and for which the law did not allow him adequate recompense; and it would perhaps be well if all laws and agreements should afford the same definite understanding as to what should be left on the farm, as to what should be paid for, &c. When nothing had been said to the contrary, there might be ample room for a bill which would be applicable only in that case, providing that such and such should be the law between the landlord and the tenant. But it was proposed by the clause in question to override everything, whether there was an agreement or not. He did not see why it should be made compulsory. There were other points connected with the bill which it was hardly necessary for him to refer to now. There were inconveniences owing to the different systems adopted in different parts of England, which it would be well to assimilate, if possible, to a greater degree. He could not see the remotest chance of the bill passing if the 12th clause, which was so obnoxious to many, were retained. As to the subject of education, he did not take much notice of what the last addition to the bill was, and he would not refer to that. He hoped that the bill was well watched. He believed that their members did well watch it. The bill required amendment in one direction, and that was the cost of education should be made a national charge, the local rates being already over-burdened. There was a good deal in it which he should help to carry through. The bill had been passed, and whatever antipathy there might have been felt at the time the measure was accepted, he hoped that wherever a parish was compelled to adopt it, it might be carried out with the utmost good will, and with the best intentions of carrying out the objects for which the bill was introduced. His fear was that there might be a good deal less of that which acted well in the past—he referred to voluntary education. When people were compelled to do certain things they were not done so zealously and so well as when the work was taken up voluntarily. There were some places where there was inadequate school accommodation, and where the order to provide the required accommodation had been disregarded; there school boards were required. Where there was not sufficient accommodation he saw no way of enforcing the requisite provision

excepting by such a clause in the bill as that which referred to school boards. However, people were very apt to be misunderstood, and he had himself been of late. Mr. Biddell proceeded to speak of his sympathy with efforts made for the education of the people, and he defended himself against certain aspersions which had been cast upon his public conduct in an article which had recently been published.

Mr. E. GRIMWADE sympathised to a certain extent with Mr. Biddell in his objection to the 12th clause of the Landlord and Tenant Bill, but if that clause were omitted, would not the whole bill become a nonentity? Would not every other clause of the bill be overridden by the power which would be left in the bill for parties to make private arrangements? That was the greatest difficulty he (Mr. Grimwade) saw about the leaving out of the clause. Private agreements might be made, and, doubtless, when people wanted farms badly, they would be ready to make private agreements. Again and again, certain farms, which were known to be bad farms, and to have ruined tenant after tenant, were snatched up. If one poor fellow had been ruined and was obliged to leave the farm, there would be sure to be someone quite ready to go in and take it. Would that not be the case if the present bill was passed with the 12th clause omitted?

Mr. R. L. EVERETT said what the farmers wanted settled was not the price at which they might be able to obtain a farm, but the conditions. The effect of such a law would no doubt be to increase the price which they would be willing to pay the landlord for the farm under those improved conditions.

The PRESIDENT: The State is to prescribe the conditions upon which the farm is to be let.

Mr. EVERETT said there were two points involved; one was to secure good farming, and the second to secure safe farming. As to whether there was a law needed for this, or whether it might work itself by custom, was a matter in regard to which there might be some difference of opinion. He thought the time had come when results had proved that we did need a statute law to assist the operations of custom. He sympathised very much with the Tenant-Right agitation. If Mr. Howard could pass a bill which would secure a 12 months' notice it would be better than nothing, with the rest of it permissive, similar to the compulsory powers of the Education Act. It

could be understood that only special writings on the part of the landlord would bar the operation of the Act. Public opinion would in the meantime be formed, and it was just possible it might be found better after a time to make the whole Act compulsory. The President had said that the effect of the operations of the bill would be to shut out poor tenants, and give the farms to rich men. He (Mr. Everett) rather differed. The simple operation would be this, that with more capital in the land, men would take a smaller quantity, and instead of there being fewer men to deal with if there might be more.

The PRESIDENT: But that might reach a finishing point.

Mr. EVERETT: With regard to the Education Act, he thought it would be found to work beneficially. He might say—and his colleague (Mr. Grimwade) on the Ipswich School Board would bear him out—that some difficulty had been experienced in dealing with the cases of the very poor. Under the application of Denison's Act, Boards of Guardians might be the proper bodies for dealing with cases of this kind, the larger powers, which the Government at one time proposed to grant, had been given. But the idea involved this: whether the persons elected to the Board of Guardians were the proper parties for dealing with the whole of the educational work. It would have given them very considerable influence, and would have affected the election of Board of Guardians very much. With reference to the Rating Bills of the Government, he thought the House of Lords did the only thing that was open for them to do. The Government would have done right to have passed a Bill abolishing exemptions on real property had it solely contained that, but when to that a clause was added, the virtual effect of which was that personal property should be released from contributing, the Government asked the House of Lords to do a most inconsistent thing. The whole outcry throughout the country had been that while real property had to bear the whole burden, yet from the earliest records we had of these Acts every man was bound to contribute to the best of his ability whether his income arose from real property or personal wealth. He thought the ultimate effect would be, if they got what they wished, viz., a larger contribution from national sources, that the rich man would pay more, and the poor man would pay less.

TENANT-RIGHT AND THE SUFFOLK CHAMPION.

TO THE EDITOR OF THE SUFFOLK CHRONICLE.

SIR,—Business at Halesworth market having prevented my being present at the annual meeting of the East Suffolk Chamber of Agriculture last Tuesday, I ask your permission to make a few remarks on the extraordinary statement then made by Mr. Corrance with respect to this all-important question to the English tenant farmers, for want of which I was many years since a heavy sufferer. This is a question which for 25 years has been before the public, and the leading agricultural journal (*The Mark Lane Express*) has for that time headed its leaders with the words "Tenant Right" in large capitals. It has year after year been discussed by the Central Farmers' Club, who have always passed resolutions declaring the importance of this "Right" being conferred on the British farmers. Reports of these discussions have been published in all the agricultural journals. These discussions have clearly shown the vast importance of British farmers being protected by law in the possession of a large portion of the capital they employ in their business. How many instances have these discussions brought to light of good and worthy farmers expelled from their holdings on a six months' notice, and a large portion of their hard-earned capital confiscated by unfeeling and unprincipled landlords. For be it known, that although among the landlords of our island there are many good and sympathizing men, unfortunately there are many others, hard men, who will do nothing and concede nothing unless the law compels them. And I have known cases of farmers who have commenced occupying under good and honourable landlords, but death having removed them, their successors have been men of a different stamp, who have at once given their tenants notice to leave their holdings or pay an increased rent; and having a lot of money invested in their occupations, the tenants have been compelled to submit to these terms, and

pay interest on their own capital rather than sacrifice it. And many of us can call to mind cases of farmers who have made improvements in their farms and invested large sums in them, and who have been grievously plundered by an enormous quantity of game being unexpectedly quartered upon them. We have known farmers stricken down by death or loss of reason, and large amounts taken from their helpless wives and families for the want of Tenant-Right, or, in other words, compensation for their unexhausted improvements. And I have repeatedly known cases of farmers who have received notice to leave their holdings, and who knew no reason for their expulsion but that they had given votes adverse to the candidates supported by their landlords. Under these circumstances, what condition can be more uncertain or more humiliating than that of a large proportion of the British farmers? Show me any property so entirely unprotected as theirs is, or any body so entirely at the mercy of their landlords as they are. Would any other body of men submit to live on with such a weapon always hanging over them? Mr. Corrance has stated a fact that in many cases the farmers capital is equal in amount to half the fee simple value of the land, and truly it is marvellous that such an enormous amount of property should have gone on from generation to generation increasing in amount and so entirely unearned for by the Legislature of this great country. What shall we say to a gentleman who, representing an important agricultural constituency as Mr. Corrance does, has not made up his mind whether any legislation is necessary to secure this large amount of property to its rightful owners, the long-suffering farmers? "He would call upon the authors" (of the Tenant-Right Bill, Messrs. James Howard and Clare Sewell Read) "to satisfy him that the slow and transitional period of gradual improvement would not

satisfy our case." Well, sir, 25 years have elapsed since the matter was taken up by Mr. Pusey, then M.P. for Berkshire, who brought in a bill to give farmers Tenant-Right, which was shelved by being referred to a Select Committee, and nothing has been effected. I ask, is Mr. Corrance ignorant of all these facts, as, if so, he is quite unfit to sit as the representative of an agricultural constituency, or are the British farmers content that another "slow and transitional period" of 25

years shall elapse before their property is legally protected? Were Mr. Corrance a young man I could understand his plea of ignorance, but what shall we say to a gentleman of 50 not having yet made up his mind upon this the most important question which now affects the farmers of Suffolk, of whom he professes to be the representative in the Commons House of Parliament?

I am, sir, &c.,

ROBERT HAWARD.

Mells Hill, Halesworth, 15th Dec., 1873.

THE AGRICULTURAL LABOURER.

[The following preface from the pen of Lord Shaftesbury appears as an introduction to a series of papers by "A Wykehamist," now collected from *Frazer's Magazine*.]

The question of the Agricultural Labourer has assumed very large proportions; and has become as irrepresible and as permanent as the condition of Ireland itself. Perhaps, as in that country, it shows the evil of improvements long delayed; of troublesome enquiries set aside; of the weakness and danger of the rough-and-ready use of authority on all occasions, accompanied by a disinclination, or probably a complete inability to discern the signs of the times. No one can deny that, during the last forty years, or even more, the condition of our rural population, in all its respects, has been such as to demand the attention of every thinking man. The riots and incendiary violences at the period of the Reform Bill in 1832, sufficiently indicated their uneasy and excitable state. The complaints they then made were the complaints that they make to-day; and there would have been much wisdom on the part of the landed proprietors had they, when the fever had subsided, looked into the causes and consequences of the general disaffection. The objection then, as it is the objection now—and in both instances too strongly asserted—was that the whole was the work of agitators and revolutionists. It may be so, but not the less is it necessary to trace the whole matter, and ascertain whether the agitators have real grounds of wrong to work upon. If they have not, the landowner will gain a clear conscience if he gain no more: that neither was he the author of the mischief, nor can he be the author of the remedy. But if they have, he must address himself at once to the duty before him; and, avoiding his former errors, 'a little sleep, a little folding of the hands to sleep,' take care, lest, in consequence of further neglect, his 'poverty come upon him as an armed man.' The writer of these treatises acknowledges that responsibility, and gives, concisely and effectively, the results of his experience. The remedies he proposes are various, specific, and minute; he manifests much good sense and practical acquaintance with peasant life; and all of it in a most kind and liberal spirit. How far his suggestions will be acceptable to the husbandman himself, and satisfactory to his counsellors, is another question. The attitude of 'Labour' throughout the world has struck even Hodge, as he is called, in his provincial seclusion; and he seeks to enter into the great cosmopolite association of work-people. Our author very judiciously avoids the stock appeal of 'not knowing who are your best friends,' and all that sort of thing; which, however true it may be, has, somehow or other, never convinced, nor even stirred, an agricultural audience. Nor does he attempt—and I think most wisely—to beget contentment among them by contrasting their position with that of their own class in other countries. I have ever found the argument to be, not only vain, but somewhat irritating. The statements ven of factory-workers, made after personal inspection by the workers themselves, of the superior advantages of rural life in many parts of England, have failed of effect—it is not a moral, but a financial, enjoyment that the complainants require. I presume to express a dissent from our author in one or two matters which may seem to be of minor importance. But minor they are not, in respect of the domestic arrangements and personal life of the labouring man. He speaks far too glibly in disparagement of the proposition, that 'farmers shall pay in money, never partly in beer.' I am satisfied that such a system would be both practicable and beneficial in all the items of health, sobriety, and thrift. I do not deny the difficulties of the first institution of it, raised, alike, by farmers and labourers, the greatest, perhaps, by the labourers; but the issue would be happy, and in far more ways than I am able to show in the short compass of a preface. Another

question of vital importance—question of early marriages—he handles, at one time, with apparent tenderness; but at another he summarily dismisses it. But it is one worthy of deep consideration. I have read and admitted a great deal of the evils such marriages might introduce; but I have never yet seen an exhaustive statement of the evils they would be calculated to prevent. Our author, I fear, has not made up his mind upon the tenure of the cottages: whether they shall be held of the farmer or the landlord. I say 'I fear,' because my own opinions are very strong upon the point. I fully agree that the carters and the shepherds, who are a part of the homestead, and almost of the family, should hold directly of the tenants. But to place the house and allotment absolutely in the hands of the farmer is simply to destroy the freedom of the cottager, and render it impossible for him to assert, or perhaps retain, any one of his rights. The Essays manifest large and valuable experience in the mode of dealing personally with the labourer. We gather from them, that more frequent intercourse, civil and kind language, and an evident desire to convince, rather than coerce, the employed, are always conciliatory, and, oftentimes, effectual. A difficulty, no doubt, is not seldom started on the question of 'Union-men,' and justly: for many inconveniences arise out of it. But our author seems to be of opinion that unions are now inevitable, and cannot be disregarded, or made the subject of penal action on the part of the farmer. I heartily concur with him. It is, I venture to think, a foolish thing for the peasants to join a union, but every man has a right to do so if he pleases: and we must recognise, though we do not approve his determination. Under the pressure and urgency of the demand, we are compelled for the moment to consider symptoms rather than causes. But temporary remedies are of no real value: they leave the populations where they found them, bent on further complaints and further concessions. Great and manifest efforts must, no doubt, be made for the benefit of the adults; perhaps without much hope. The working classes have shown, in too many instances during the past year, that many of them are wholly incapable of using, or even of appreciating the unprecedented advantages and blessings within their reach. Doubtless there are many and noble exceptions, but the country requires such to be the rule and not the exception; for the recurrence of periods in which the agricultural labourer as a class shall be found to be despairing in times of prosperity, might ultimately issue in social and political revolution. If we can, by God's blessing, creep safely over the interval, our hopes will lie in the manhood of the children. We have entered on a system of national education: this is good; but the result will, of course, depend on the character of the education bestowed: there are many things that may be taught, external to the school and its secular accomplishments: principally, the children may be trained in habits of economy; and as extravagance is a besetting sin of all our populations, thrift, founded on sobriety, may be instituted as its cure. High wages will then be a blessing instead of a curse. I have no misgiving as to the practicability of the plan. I have seen its wholesome effects among the ragged children of London—a wild and thoughtless race. The children of sixty schools in combination contributed to the penny bank, in one year, no less a sum than two thousand pounds; and at the time of the general distress in the East of the metropolis, the savings of the children had reached a considerable amount, and were only drawn out to satisfy the hunger of their parents and of themselves. The author refers to a certain earl who advanced a few shillings to several of the younger labourers, as a basis for accumulations. He asks the reason why some of them refused the offer. A few, I have reason to believe, stated their unwillingness to let the

farmers know that they were in possession of money: with the same motive, no doubt, as an Irishman desires to hide his alluence from the priest. Since this preface was written, I have obtained the results of the experiment mentioned in p. 83. Out of four parishes, small in point of population:

Members	60
Those who paid in during the year	31
The ages varied from	14 to 21
The sums paid into the savings' bank in every degree from	20s. to 20s.
But some few made greater exertions:	

	£	s.	d.
One paid in	3	10	0
One "	3	17	0
One "	3	0	0
One "	2	11	0
One the astonishing amount of	11	0	0

I am certain that by the institution of habits of thrift and economy, we shall place the agricultural labourer in a vastly improved condition. It should be added that, of the 60, some

have left their homes; so we could not arrive at their books. One declared that he would begin to save for future necessities as soon as he had saved five pounds 'to buy a watch'—a luxurious taste, which many would bepraise, as they bepraise the love of dress, styling it a legitimate spur to exertion; but mainly, the objectors preferred present enjoyment to remote comfort, replying—and here is opened up the whole question of the 'Poor Law'—'Why shouldn't I spend my money as I like? Let the worst come to the worst, there is always the workhouse!' Our author is entitled to the thanks of the public for the able, thoughtful, and hearty manner in which he has investigated and handled the whole question—perhaps the most serious of the present day. For my own part, I am satisfied that if, by honest industry, the labourer can attain a power, in all disputes, to assert his due, and be independent of the employer, he will, equally, have attained both the power and the will to be independent of the agitator and the revolutionist.

St. Giles', Dorsetshire.

SHAFTESBURY.

THE TRANSFER OF LAND IN IRELAND.

At a meeting of the Statistical and Social Inquiry Society of Ireland, held in Dublin, Mr. D. C. Heron, Q.C., M.P., in the chair,

Professor DONNELL read his report, drawn up in obedience to a request of the Council, in reference to the best means of facilitating land transfer by means of a local registry. The following are some extracts from the paper: I think the advocates of small farms have established beyond dispute one position, at all events—that if the system of small farms is to exist, peasant proprietorship is economically preferable to any system of limited interest in the cultivator. This last admission has become embodied in English legislation. The purchase clauses of the Irish Land Act are founded on the idea that the encouragement of peasant proprietorship is as proper an object of state policy as the improvement of their estates by landlords, or the reclamation of waste lands. If we call small properties into existence, we should allow them the fair conditions of successful existence. To subject small proprietors to the present system of land transfer is to render their existence socially impossible. Surprise has been expressed that the tenants had to so trifling an extent availed themselves of the advantages of the purchase clauses of the Land Act. To one who considers the difficulties imposed by the present system of land transfer, the surprise will be that so many persons have been found willing to assume with the ownership of their farms the burdens and responsibilities of dealing with their property under a system of law so unsuited to their circumstances. Referring to the existing system of transfer, Mr. T. B. C. Smith, lately Master of the Rolls in Ireland, has denounced "the complicated system at present in operation, and the intolerable expense, delay, and injustice to which it constantly leads." A succession of English Chancellors—Lords Westbury, Cairns, Harterley, and Selborne—have expressed themselves in almost similar terms. Since 1708 a public registry of deeds, conveyances, and wills has existed in Ireland. In 1850, Lord Romilly, then Sir John Romilly, Solicitor-General for England in Lord John Russell's administration, introduced a bill for the registration of deeds in Ireland. He proposed to make use of the Ordnance Survey maps for the purpose of making a complete land index. The bill was passed without opposition, and now stands on the statute-book of England, 13 and 14 Vic. c. 72, from that day to this a dead letter. Was the Act discovered to be a bad or a worthless Act? Nothing of the sort. When Lord Selborne last session had expounded in the House of Lords the latest and best conceived of the schemes for the registration of title in England, Lord Romilly got up and claimed for his forgotten Irish Act the merit of including many of the provisions of the new bill. "That Act," added Lord Romilly, "provided that great care should be taken with respect to maps; but a direction from the Treasury was necessary upon this point, and as the direction was never given, the Act never came into operation." It was certainly owing to an unsatisfactory system of administration that an excellent Act of Parliament should have been put upon the statute-book to re-

main a dead letter for so many years, because the department entrusted with carrying it out had some objection to it. The establishment of a local registry, subordinate to the Record of Title Office, in every union, and registering all lands or leases to which titles have been immediately granted by the Landed Estates Court, is perfectly feasible, and would confer a great boon upon small owners. The local registry should also be open to *primâ facie* titles not certified as absolute or limited. The district of the local registry should be the poor-law union, and the local registrar the clerk of the union. The civil bill court, with appeal to the Landed Estates Court, should be substituted for the Landed Estates Court, in case of applications for amendment of the record, appointment of real representatives, and the like. An open registry should not necessitate any investigation of a technical character. The open registry should be confined to owners in fee and to lessees for any term of years. The registered ownership should be subject to all rights and interests affecting the property, and to any adverse interest or title subsisting thereon at the time of registration; and also to easements, profits *à prendre*, occupation tenancies, and the like. Registration should not involve the fixing of boundaries between neighbours; but a tracing of the Valuation Office map should be lodged as the best, but merely a *primâ facie*, definition of boundaries. The registered ownership should not be subject to any rights or interests created after registration, except charges: all other partial interests should be protected by stops. The registered owner will be entitled to transfer the entire ownership to a purchaser, free from all partial or limited estates or interests created since the commencement of the registry. Hence a purchaser need only investigate the title antecedent to registration, and this retrospective investigation will gradually diminish, until at length it becomes unnecessary. The self-clearing operation of the registry of title would be greatly aided by a shortening of the periods of limitation. On the death of a registered owner, a real representative should be appointed. The law of succession to real estate should, as to land locally registered, be assimilated to the law of succession to personal estate; and if so, the executor or administrator should be the real representative. Charges should be admitted to the register, if created in simple statutory forms; and the land and the charge may be transferred independently of each other.

Mr. DENNY URLIN, of the Landed Estates Court, read portions of a paper on the same subject, and stated that he found it unnecessary to read it fully, as the conclusion to which he had come had been really anticipated by the very learned and able paper of Professor Donnell, with almost everyone of whose conclusions he concurred. Referring to the cost of conveyance from the Landed Estates Court, Mr. Urlin produced a specimen of a printed conveyance from that court, containing about nineteen lines of print, the cost of which, the purchase money being £1,100, was £23. If the purchase money were under £1,000 the cost would be about £3 less.

The CHAIRMAN said Mr. Bright would be surprised to learn that a tenant purchasing under the Bright clauses of the Land Act of 1870 would be charged so high a price as £20 for a conveyance of land worth £600 or £800. But until the present system was to a great extent changed the expense must continue. It was remarkable that though the system of giving a parliamentary title had existed for a great number of years, the previous system of conveyancing was still adhered to, and the Commissioners of the Incumbered Estates Court and the judges of the Landed Estates Court had kept as it were, under the sanction of Parliament, a system of conveyancing as if they were the owners of the estate, instead of vesting the property sold by them by an order in the purchaser. This, though it might appear a verbal difference, had, in his opinion, caused a vast deal of expense to the present system. The Bright clauses had been an entire failure. Less than £180,000 had been applied for by tenants as loans to aid purchasers under those clauses. The farmers had £30,000,000 deposited in joint stock banks at 2 per cent., and everyone knew they were most anxious to invest money in land. But the Landed Estates Court had not given the facilities for the transfer of land to the tenants which were enjoined by the Bright clauses. The estates were not divided into lots to suit tenants as purchasers.

Dr. HANCOCK suggested that the tenants only liked to purchase clear titles, and that as the Landed Estates Court sold property to the amount of about £1,000,000 per annum, the sum of £134,000 lent by the Board of Works to tenants since that date under the Bright clause was not disproportionately small. Moreover, the amount lent was increasing annually, as the tenants became better acquainted with the matter.

Mr. MACDONNELL, of the Landed Estates Court, said the court gave all reasonable facilities to the tenants by inviting them to come in and apply for lots when the rental was being settled. If a tenant wished such a lot to be made it would be made, unless it would spoil the property for general selling purposes. But, as a rule, tenants who had the stimulus of the government loan were best purchasers, and it was desired to have more of them.

The CHAIRMAN, in reply to the observation of Dr. Hancock, said that, according to his experience, tenants did not care to purchase a parliamentary title much more than any other title.

Mr. VESEY FITZGERALD thought the reason of so few applications having been made by tenants for loans to aid purchasers, while so much money was spent in purchasing Tenant-Right, was that the latter was a simple thing, and the former a difficult one.

Mr. URLIN concurred with the opinion of the chairman, that the Landed Estates Court did not give tenants sufficient facilities under the Bright clauses.

Mr. SMITH thought the reason why so few applications had been made by tenants for loans to aid purchasers under the Bright clauses of the Land Act was, that the majority of them were wholly ignorant of the existence of any such legislation in their favour.

Professor DONNELL agreed with Mr. Smith and Mr. Vesey Fitzgerald, and said his scheme tended to remove both difficulties.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

The annual meeting of this Society took place at the Society's house in Hanover-square, the attendance being smaller than usual, partly in consequence, probably, of the foggy and trying weather. The chair was taken by the President, Mr. E. Holland.

The SECRETARY (Mr. H. M. Jenkins) read the report of the Council, which was as follows:

During the year 1873 the list of governors and members of the Society has been increased by the election of 1 governor and 351 members, and diminished by the death of 5 governors and 128 members, the resignation of 168 members, and the removal of 15 members by order of the Council. In addition to these changes, the Council have to record their sense of the loss which not only this society, but the whole world of science, has suffered by the death of one of its honorary members, Baron Liebig, whose chemical discoveries, especially in relation to the production and utilization of food, have been of the utmost importance to agriculture.

The Society now consists of

- 77 Life governors,
- 59 Annual governors,
- 1,894 Life members,
- 3,949 Annual members,
- 12 Honorary members,

making a total of 5,991, and showing an increase of 46 members during the year 1873.

The Duke of Bedford has been elected a member of Council in the room of Lord Kesteven, whose election as a trustee was reported to the annual meeting last May; and Mr. T. Horley, Jun., of the Fosse, Leamington, has been elected to fill the vacancy caused by the resignation of Mr. Sanday, the state of whose health no longer allows him to give the Council the advantage of his services.

The half-yearly statement of accounts to the 30th of June, 1873, has been examined and approved by the Society's auditors and accountants, and has been published for the information of the members in the last number of the *Journal*. The funded capital of the Society remains the same as at the last half-yearly meeting, namely, £24,112 7s. 6d. New Three per Cents., and the balance in the hands of the bankers on the 1st instant was £1,111 2s. 1d.

The distinguishing feature of the Hull country meeting was to be found in the trial-fields rather than in the show-yard.

More than three hundred implements were entered for trial, in thirty-four classes. Of these implements 86 were ploughs entered in 16 classes, 75 were harrows divided into 6 classes, 58 were rollers and cloderushers, 42 cultivators and scarifiers, 12 diggers, potato-ploughs, &c., and 31 stacking machines. The number of classes, no less than the number of implements, would have rendered a comparison of the relative merits of the prize implements a matter of very considerable labour and difficulty to intending purchasers, unless some special facilities had been afforded them by the Society. The experiment of a parade of the prize implements on the first two days of the show was therefore made; and as it appeared to give widespread satisfaction, it is proposed next year to erect a special exhibition shed for this purpose in a prominent part of the show-yard.

Illustrated reports of the trials, by Mr. J. Coleman and Mr. C. G. Roberts, have been published in the last number of the *Journal*, as well as tables, showing the dynamometrical and other results, compiled with great care by the consulting engineers, Messrs. Eastons and Anderson.

The competition for the prize of £100 for the best farm in Holderness, in connection with the Hull country meeting, was very close, although only four competitors entered for it. The prize was awarded to Mr. W. G. Walgate, of West Hill, Aldborough, near Hull, and the three other farms were highly commended by the judges. The Council regret that the illness of the judge who had undertaken to act as reporter has necessitated the postponement of the publication of the report of this interesting competition.

The show of live stock at Hull will be remembered on account of the high quality of many of the animals exhibited; but the small entry of horses was disappointing. An exhaustive account of the whole exhibition has been contributed to the last number of the *Journal* by Mr. Milward, the senior steward of live stock, with the assistance of his colleagues.

The smallness of the horse show at Hull, as compared with the anticipations which had been formed of the number of entries which the Society would be justified in expecting, coupled with the admitted scarcity of the supply of horses in proportion to the demand throughout the country, has induced the Council to take into consideration the whole question of its list of prizes for horses, as offered at the annual country meetings. Hitherto the Society's prize-list has been limited to classes for breeding animals, and conditions having

reference to their productiveness have been attached to all prizes offered by the Society. These prizes have up to the present time been supplemented by others, offered by local committees, county agricultural societies, or individual donors, generally for mares and geldings in various hunting and hackney classes. Notwithstanding the great liberality, and sometimes profuseness with which these prizes have been offered year by year, the system has not been favourable to the Society's horse show, the scheme of these supplementary prizes having varied very much from one year to another, and occasionally the conditions attached to their offer have varied essentially from those generally recognised by the Society. Under these circumstances the Council have determined in future to offer prizes for all classes of horses which a farmer may be supposed to have in his possession, either for breeding purposes or as the product of his stud.

At the Bedford meeting next year the amount offered by the Society as prizes for horses will be increased to the extent of about £600; and prizes will be offered for Norfolk and Suffolk polled and for Sussex cattle in place of those offered at Hull for Ayrshires and Galloways. The Council have decided to continue the prizes for Border Leicester sheep for another year; but the prizes for Cheviot, Blackfaced, and Mountain sheep have been omitted from the Bedford prize-sheet.

The Council have decided to add the following rules to those previously published with the Stock Prize-sheet:

"The Council reserves to itself the right of determining all disputed cases as to qualification, &c., and the decision of the Council shall be final in all respects."

"The exhibitor of any animal at the Society's country meetings shall be required to prove the correctness of his certificate to the satisfaction of the stewards, if called upon by them to do so. Until the required proof has been furnished, the prize may be withheld, and the exhibitor may, on the recommendation of the stewards, be prohibited by the Council from exhibiting at the Society's country meetings."

The Bedford Local Committee have added to the Society's prize-sheet offers of prizes for cart-horses for agricultural purposes, dairy cows, and for long-woolled and short-woolled ewes, lambs, and wethers.

Lord Charles Russell has also offered a cup value £50, together with a purse of £50 as a prize for the best-managed farm in Bedfordshire. The Council have decided to offer a second prize of £50, to appoint the judges and pay the expenses of the adjudication, and to fix the conditions of competition.

The implements to be tried at Bedford next year comprise twelve classes of drills, and several classes of horse-hoes, manure distributors, waggons, and carts. Prizes are also offered for vehicles for the road conveyance of implements and live stock, as well as for shepherd's huts on wheels, and sleeping vans for men engaged in steam-cultivation. The points of merit which are to be taken into consideration by the judges in awarding these prizes have been already arranged by the implement committee, with the assistance of the consulting engineers, and experienced judges.

The question of providing in the show-yard adequate sleeping accommodation for the men in attendance on the stock exhibited at the country meetings has been under the consideration of the Council; and the Society's surveyor has been instructed to prepare plans and estimates with a view to the experiment being made at Bedford. It is proposed to charge a fee sufficient to cover the expense of building the sleeping-room, leaving it optional with the exhibitors to take beds for their men or not, at the time when they send in their certificates of entry to the secretary.

The Education Grant has been renewed for the year 1874 on the scheme which has now been continued for several years past. The secretary has been in communication with the head masters of some of the county and middle-class schools, but up to the present time it does not appear that the study of the science and practice of agriculture has been combined with a superior education in any English place of education, except in the Royal Agricultural College, Cirencester.

Professor Wrightson has prepared an elaborate report on the agricultural departments of the Vienna Exhibition, which will be published in the next number of the *Journal*; and it is proposed to publish his report on the agriculture of Austro-Hungary in the succeeding number.

The Council are glad that they are able to congratulate the

members on the very general and decided decrease of foot-and-mouth disease since the last general meeting; but the prevalence of pleuro-pneumonia, notwithstanding the recent Order of the Privy Council compelling local authorities to slaughter animals known to be affected with that disease and to compensate the owners, is still a matter of serious importance.

Ninety-four essays were sent in to compete for the prize of £100 offered by Lord Cathcart, for the best essay on the potato-disease and its prevention. The committee appointed by the Council to adjudicate this prize have reported that they cannot recommend its being awarded to any one of the competitors. They have, however, recommended that a sum of money be granted for the purpose of inducing a competent mycologist to undertake the investigation of the life-history of the potato-fungus (*Peronospora infestans*) in the interval between the injury to the potato plant and the re-appearance of the fungus in the following year; and that the Society should offer prizes for the kinds of potatoes that would resist disease during a series of experiments to be continued for three successive years. The Council have taken these recommendations into consideration, and have appointed a special committee to make further inquiry, and, if necessary, to draw up a detailed scheme of the manner in which these recommendations might be usefully carried out.

By order of the Council,

H. M. JENKINS, Secretary.

Mr. H. NEILD, in moving the adoption of the Report, after alluding to the death of Baron Liebig and observing that his works would continue to be valued in this country as long as agriculture itself was practised, said he regretted that the increase in the number of members did not exceed 46. The increased value of the *Journal* should alone have caused a much greater increase than that. It was one of the cheapest and most valuable publications ever issued in connexion with agriculture, and was well worthy of being more extensively read by farmers. The announcement in the Report of the election of Mr. T. Horley to a seat on the Council reminded him that there was a general feeling among agriculturists as a body that the Council did not sufficiently represent the practical element. At the annual dinner of the Farmers' Club which had just taken place a valuable member of that Society expressed the opinion that, considering the great changes which were taking place in agriculture in the present day and in the position of farmers, and considering also what a large amount of money was lying dormant, part of which might be employed in extending the usefulness of the Society, the Council should have a little more of the practical element infused into it from different parts of England, in which case the Society might meet with more support from farmers than it did now. They in the North thought it might be desirable to establish an honorary membership of the Council. It would be very unpleasant to ask elder members of the Council to retire; but if some of them became honorary members, they might still have access to the Council meetings, while the most active duties could be performed by younger men. He threw out that suggestion merely for the consideration of the Council. Remembering the large amount of funds which the Society had at their command various ways might be suggested of extending its usefulness and promoting the progress of agriculture. As regarded horses he knew that sensational exhibitions of jumping would not do for the shows of that Society; but he thought that the exhibitions of horses might in other ways be made more attractive than they were at present. He was glad to find a considerable addition made to the prize-list, but that was not enough. In the opinion of many persons in Lancashire it would be well if losing horses were allowed to be paraded or exhibited in an inferior sort of competition. That would, he thought, be a great stimulus to exhibitors, and tend to keep animals up to the mark. The showing of horses in harness would not, in his opinion, be out of place at a Royal Show, many persons not knowing without that what was the real difference between a riding horse and a driving one. He had noticed with great pleasure what the Bedford local committee were going to do. He hoped he was right in assuming that the prize for dairy cows was open.

THE SECRETARY: It is open to all the world.

Mr. NEILD continued: Last year Lord Cathcart put the members of the Society under the deepest obligation by offering a prize for the best essay on the potato disease and its prevention, and he was glad to find that at all events, the inquiry on that subject was to be continued. In conclusion,

he would express a hope that as Bedford was a small town care would be taken to make the commissariat department as effective as possible. At Hull the commissariat was miserably defective, and he hoped the Bedford local committee would take that subject into their serious and early consideration.

Mr. W. BOTLY, in seconding the motion, said he never saw a more satisfactory report, or one that was more creditable to the Council.

Sir J. H. MAXWELL said as no award was made in the report to the death of the late Lord Hardwicke, who once filled the office of President of that Society, he wished to observe that a more hearty agriculturist had never belonged to the Society (Hear, hear). The Council having omitted the prizes for Scotch sheep and cattle at the Bedford Show, he wished to remark that he hoped that omission was only temporary. They had, in Scotland been particularly successful as regarded the Galloway and Ayrshire breeds and Scotch mountain sheep. He presumed it was only for want of funds that that omission occurred; for he found that prizes were offered for the Norfolk and Suffolk Polled in place of those offered at Hull for Cheviot sheep. The failure of any one to secure the prize offered by Lord Cathcart afforded fresh proof how very serious was the potato disease, and any one who solved the mystery would deserve the gratitude not merely of Great Britain but of the world.

The report was then adopted.

Mr. ROBERTS, in moving a vote of thanks to the auditors, said he thought the Council had been partially carrying out the wish that the funds of the Society should be used to promote the progress of agriculture. The great increase in the prizes offered for horses would, he believed, meet with general approval. He missed from the present report a leading feature of two or three previous ones, namely, an allusion to the great expense incurred in checking frauds with regard to manures and feeding stuffs; but he thought they need not fear that that watchful care of the interests of the members in reference to those matters, which had proved so beneficial hitherto, would not be continued (Hear, hear). Although a large sum had been expended in the prosecution of fraudulent dealers, the expenditure had, he felt sure, given the greatest satisfaction to the members, and he hoped the vigilance of the Council would not cease. The evil had been arrested for a while, but fresh temptations to adulterate were sure to arise from competition, and the Council would, if its efforts were sustained, be exceedingly useful in preventing or checking what reached such a head two or three years ago (Hear, hear).

Mr. BARTHROPP seconded the motion, which was then put and adopted.

On the motion of Mr. G. D. Badham, seconded by Mr. Gibbons, the auditors were re-elected.

The CHAIRMAN: I now wish to know whether any gentleman has any question to ask, or any suggestion to offer which may be referred to the Council for their consideration.

Mr. H. CORBET said he had a suggestion to make which was not his own, but in which he concurred on behalf of his friend Mr. Clare Sewell Read, who was suffering under the prevalent fog panic or would have been present to make it himself. Last year Mr. Read suggested that a prize should be offered at Hull for the best straw elevator, and the adoption of that suggestion had proved satisfactory. What he now suggested was that a prize should be offered at Bedford for a safety guard to the drum of thrashing machines. There was, he believed, a bill coming before the House of Commons on that subject, but he hoped that fact would not tend to give a political tone to the matter (laughter); and that the Royal Agricultural Society would assist Parliament in passing a practical measure. It appeared from a meeting, held in the previous week, that implement makers thought, that although very little had yet been done, something effectual might be done to secure an economical guard; and in his opinion the attainment of the object would be greatly facilitated by having recourse to the much abused, but, nevertheless, very useful prize system.

The CHAIRMAN said he would take care that Mr. Corbet's suggestion was referred to the Council at its next meeting; and although one of the rules of that Society under the Charter was that they should avoid everything that was political, yet he thought no one would regard an attempt to provide for the public safety political because Parliament joined in it (laughter).

No one having risen to make any other suggestion,

Sir J. HERON MAXWELL said there being no other business before the meeting he begged to propose a motion which he was sure would be carried unanimously, namely, that the best thanks of the meeting be given to Mr. Holland for taking the chair (cheers). He was sure they were all very much pleased that he had been the President of the Society that year, and they might well congratulate him on the great success which had attended the Hull meeting during his term of office (cheers).

Mr. H. CORBET, in seconding the motion, said everyone who knew Mr. Holland must feel how great were the services which he had rendered to agriculture. He felt great pleasure in saying "Mr.," after such a long succession of lords and dukes that he had seen occupying that chair (laughter), and he was confident that the name of Mr. Holland would long be remembered, along with the names of Mr. Pusey and Mr. Handley, as that of one of the most useful presidents that that Society had ever had (cheers).

The motion having been carried by acclamation,

The CHAIRMAN said he need not say that he thanked the meeting most cordially for that acknowledgment, and he felt that the best return he should make for it was to do his utmost to promote the interests of every department of agriculture during his presidency. He wished to make two or three remarks in reply to what had been said by different speakers, and more particularly by Mr. Neild. The reason why there was such a large accumulated fund was that the Council had thought that the fund should be proportionate to the number of life members, so that there would always be a sufficient sum to meet anything that might happen. With regard to the farming element in the Council, he thought that if Mr. Neild examined into the matter he would find that a larger amount of that element had been infused during the last few years. He was glad to say that the men who had been chiefly introduced during that period were men of a high grade of intellect and education, and were at the same time tenant-farmers (Hear, hear). That showed that everything connected with agriculture in this country was improving (Hear, hear). He need say nothing with regard to the prizes for horses, but with regard to the other prizes he would observe in reference to the remarks of Sir John Heron Maxwell, that they varied more or less with the peculiarities of the districts in which the shows were held, and if they went to the North again they would have to drop things which were included in the present list. With respect to the important question of accommodation for the visitors at the Bedford show, he was happy to inform Mr. Neild that the Secretary of the local committee had been asked to furnish a list of suitable hotels and lodging-houses, not only in Bedford itself, but also in the adjoining towns. Among the adjoining towns might be reckoned London itself, as it was only an hour's ride by railway from Bedford, while there were six or seven other towns, including Northampton and Luton, within a short distance. He did not know that he had any other remark to make, but he repeated that he would take care that Mr. Corbet's suggestion was laid before the Council. He again thanked the meeting for its kind acknowledgment for its services (cheers).

Mr. WOODS wished to make one remark before the meeting separated. He did not concur in Mr. Neild's opinion that it was desirable to have honorary members of the Council. He had had something to do with agricultural societies, and had always found that the smaller a committee was the better the work was done, and he feared that if they were to enlarge the number of members on the Council of that Society it would not work as well or as harmoniously as with the present number. The honorary members would have the same power of speaking and voting as the active members, and, therefore, if new blood were introduced it might be over-ruled by the old blood (Hear, hear). Unless therefore some better change could be made than that of introducing honorary members, it would, he thought, be best to let the Council remain as it was (Hear, hear).

The CHAIRMAN said he agreed to a certain extent with the gentleman who had just spoken. At all events, if there were to be a kind of honorary members it would hardly do to use the word "honorary." Under the 7th bye-law of the Society the Council had power to elect, as honorary corresponding and foreign members, eminent individuals who had distinguished themselves in promoting the object for which the

Society was established. Such members were not called upon to pay any subscription, and while they had the privilege of attending and speaking at the meetings they had no vote. They must, therefore, he thought, take care, in the event of any change being made like that suggested, that retiring members were not called honorary members (Hear, hear).

Mr. NEILD observed that his sole object had been to get ventilated what was felt among the farming community to be desirable for the welfare of that great national institution. There was a feeling among farmers that the Council was rather

too exclusive. He did not use that word in an invidious sense, but he asked the Council to endeavour to meet the spirit of the progressive age in which they lived.

The CHAIRMAN said their charter confined them to a Council consisting of one president, twelve trustees, and twelve vice-presidents, to be elected from the class of governors, and to fifty other members to be elected indiscriminately from among the members of the Society.

The meeting then separated.

THE AGRICULTURE OF SOUTH AUSTRALIA IN 1873.

[FROM THE OFFICIAL REPORT.]

The total area of South Australia, exclusive of that portion designated the Northern Territory, is computed to be 383,328 square miles, or 245,329,920 acres. Of this vast territory only about one-fourth has been turned to useful account. Twenty-five counties, containing 39,287 square miles, or 25,143,650 acres, have been proclaimed, embracing the principal agricultural and pastoral settlements situate within an easy distance of the capital or a shipping port. The pastoral districts at present occupied, exterior to the boundaries of the counties, are held under the Waste Lands Regulations for pasturage only, and contain about seventy thousand square miles, leaving two hundred and seventy thousand square miles still open for settlement. The greater part of this unoccupied territory lies to the North, through which a line of communication has been opened by the construction of the Trans-Continental Telegraph, and the establishment of telegraph stations, adjacent to which cattle runs are already being formed, the route across the continent being now travelled with comparative ease. There can be little doubt that the explorations now being made on either side of the telegraph line will result in the discovery of large tracts of valuable pastoral country in addition to that already known, of which 6,324 square miles have been taken up under the Pastoral Regulations. During the year 1872 a very large quantity of land was alienated from the Crown, making the total area at the close of December to be 5,037,970 acres: of which 4,317,102 have been purchased for cash, and 720,868 acres under the new system of deferred payments, compulsory cultivation, and improvement. The alienated land averages twenty-six acres for each individual of the population, or 112 acres for each male adult. Nearly three-fifths, or 2,842,751 acres, is in the occupation of the holders of the fee-simple. The area alienated during the twelve months was 413,945 acres; of which 114,788 acres were sold for cash, and 299,157 acres taken up under the credit clauses. Sales of country land by auction *for cash* are suspended for a time. I append a diagram showing, for a number of years, the area of land alienated, and the quantity under cultivation, revealing at a glance what progress has been made in the settlement of the country. For instance, it shows that fifteen years ago, a population of 110,000 possessed 17 acres of freehold land per head, of which two were tilled; at the present time, with 192,000 people, we own 26 acres per head, of which six are cultivated. Or taking the last five years, in which the new land system has been brought into operation, it will be found that the holdings have increased from 21 acres to 26 acres per head, and the area cultivated from 4½ acres to 6 acres. Erroneous conclusions, however, may be drawn from these figures, unless it be borne in mind that in this interval the addition (16,000) to the population has been actually *one-third less* than the recorded natural increase (23,000) from the excess of births over deaths. During this period Government immigration has been suspended, and there has been no recruiting of the man-power lost, the full extent of which the above figures fail to show, inasmuch as the departures have been chiefly adult males. The enclosure of leased lands for sheep pasturage continuing to be largely carried on, and selectors of agricultural lands under the system of deferred payments being required by law to fence their holdings, a very large increase appears in the area of enclosed land: no less than 13,021,440 acres being returned as against 10,070,367 acres the year before.

Following a season of comparative failure, so far as the wheat crop was concerned, it is satisfactory to find so large an

increase appearing in the extent of land under cultivation, as showing that a period of disaster has not diminished the confidence of the agriculturist in securing a proportionate return for his labour under ordinary circumstances. During the past season no less than 120,190 acres were added to the breadth of land under tillage, an increase of twelve per cent., making a total area of 1,164,846 acres. There are over six acres of land under crop for each individual of the population, twenty-six acres for each adult male, and fifty-six acres for each person returned at the Census as engaged on farms. These figures conclusively show that agricultural operations in South Australia must be attended with exceptional facilities, when such a result can be attained by the employment of so little labour, a state of things, I believe, unparalleled. One out of every four and a-half acres of purchased land is under cultivation, the remaining portion being devoted chiefly to sheep pasture. Two-thirds of the tilled ground were under wheat—about the same proportion as in previous years. This fact has naturally caused much comment upon what is termed slovenly farming, when speaking of South Australian agriculture; and there is no doubt the low average yield for the whole colony chiefly proceeds from the fact that large areas have been cropped for many years successively, without any replenishment of the soil. It must, however, be borne in mind that the climate, and the greater part of the soil, is peculiarly suited to the growth of wheat—the grain in ordinary seasons being unsurpassed in quality; that the putting in, and gathering of this crop by mechanical aid is accomplished in a most economical manner; and that the produce is removable at once from the field to the stores or place of shipment. The convertibility of the commodity at any moment, evidenced in its securing the highest prices ruling in the English grain market, is an element of security not attaching to other descriptions of farm produce. The total area of wheat reaped was 759,811 acres, as compared with 692,508 acres, showing an increase of 67,303 acres, or nearly ten per cent. The total quantity of wheat gathered was 8,735,912 bushels, or an average of eleven and a-half bushels to the acre over the whole colony. This return is slightly below the average of ordinary seasons, and was not equal to the promise given by the luxuriant growth and appearance of the wheat shortly before harvest. In the new areas the average reached 17 to 19 bushels per acre, whilst some of the older lands produced under 11 bushels. It is confidently asserted that, in many parts of the colony where labour was particularly scarce, from two to three bushels an acre, at least, were lost from inability of farmers to employ their reaping machines within reasonable time of the grain ripening. Flights of locusts again appeared, but late in the season, and did, on the whole, only trifling damage to the wheat. The rainfall during the season was very favourable. Between April and October, 17.32 inches fell, as compared with 14.97 inches during the same period in the previous year; whilst, at the most critical period, in the months of May, June, and July, 11.7 inches fell, as against 8.8 inches in the same months of the preceding season. Taking forty bushels of wheat to the ton, the gross produce of the crop would amount to 218,398 tons, which, at an average value of only ten pounds per ton, would realise to the community of 192,000 souls the sum of £2,183,980, or equal to fifty pounds for each adult male, or one hundred and ten pounds for each person engaged on farms. Subjoined is a statement showing the total area of land under cultivation, the acreage under wheat, the

gross produce of the harvest, and the average yield per acre for each season since 1858-9 :

Season.	Acres cultivated.	Acres under wheat.	Produce, wheat.	Average per acre.
1858-9	261,462	188,703	2,109,511	11 11
1859-60	361,884	218,216	2,103,411	9 38
1860-1	428,816	273,672	3,576,593	13 1
1861-2	486,667	310,636	3,110,756	10 59
1862-3	494,511	320,160	3,841,824	12 0
1863-4	555,968	335,758	1,691,919	14 0
1864-5	587,775	390,836	1,252,919	11 0
1865-6	669,569	110,608	3,587,800	8 41
1866-7	739,714	157,628	6,561,151	11 20
1867-8	810,734	550,456	2,579,891	1 10
1868-9	808,234	533,035	5,173,970	9 12
1869-70	850,576	532,135	3,052,320	5 45
1870-1	959,006	691,761	6,991,164	11 30
1871-2	1,044,656	692,508	3,967,069	5 14
1872-3	1,164,846	759,811	8,735,912	11 30

The quantity of land returned as in fallow was 234,241 acres, as against 201,713 acres, showing an increase of 32,528 acres. About one-fourth of the above is situated in the northerly counties, being new land ploughed for this year's crop. Considerably more hay was grown than in the previous season; 115,704 acres wheat and oats being mown as compared with 97,812 acres, or 17,892 acres additional. The yield was also more abundant, being twenty-four hundredweight to the acre, instead of twenty hundredweight; making the total quantity 140,123 tons, as compared with 98,266 tons, or 41,957 tons more than last season. This supply, however, is deficient, if compared with the produce of 1870-71, when 110,316 acres were cut, yielding 197,419 tons, or 57,296 tons more than the late crop. The comparatively high price which horse fodder has attained shows that the consumption, partly export, is exceeding the supply, and that there can be but little stock to fall back upon in case of a dry season. It would prove very advantageous and economical could a year's supply of hay always be kept as a reserve on our farms. Barley and oats continue to decline in favour, only one-half of the quantity grown two seasons ago now being returned. As compared with last year, the former shows 12,608 acres, or 4,617 acres less; and the latter, 2,206 acres, or 1,380 acres decrease. The barley crop yielded 180,442 bushels, or at the rate of 14 bushels 16 pounds to the acre; and the oats, 36,152 bushels, or 16 bushels 16 pounds per acre. This retrogression in the cultivation of these cereals is to be regretted, and results most probably from the additional labour necessary for harvesting these descriptions of grain not being available. These crops might with great advantage be more generally grown in the hilly and southern districts. On the other hand, the culture of field peas increases yearly, and is represented to have a restorative effect upon old wheat lands. The yield appears to be less fluctuating, averaging for several seasons between thirteen and fourteen bushels to the acre. Mention of this crop was first made in the returns of 1865-6, in which season 969 acres were cultivated. The acreage now given is 5,154, producing a total yield of 68,786 bushels. Potato planting has but slightly increased, there being only 137 acres more than last year. The total acreage dug was 3,293, producing 10,808 tons, being an average of three and a-half tons to the acre. About one-fourth of this quantity was grown in the south-eastern district, a portion of the colony possessing soil and climate peculiarly suited for the growth of this tuber. It is to be hoped that exertions will be made to increase the production in that locality, so that we may no longer continue dependent on foreign supplies for one-half of our requirements of this article of daily consumption. Flax culture progresses more rapidly, and is apparently receiving much attention in several districts suitable for its growth. This crop was first separately mentioned in the returns in 1871, when 186 acres were under cultivation. The area now shown is 427 acres, being 205 acres more than was grown last year. Flax mills are being established in several localities, experience is being gained in the mode of cultivation best suited to our position, and considerable liberality has been displayed in distributing seed among those farmers desirous of entering upon its culture. There is every prospect of flax-growing becoming an established industry, the importance of which cannot be over-estimated. Permanent artificial grasses, lucerne, and wheat, barley, &c., cut green for fodder,

show considerable increases in the area cultivated, being together 17,954 acres, as against 10,675 acres last year, or over two-thirds additional. It is satisfactory to note that more attention is being given to the growth of permanent grasses and lucerne, for as yet practically nothing has been done in this direction by farmers or graziers in the hills, although over seven thousand head of fat cattle are annually imported from the Darling to supply the Adelaide market. Orchards and gardens cover an area of 7,251 acres, or 633 more than last year, whilst the extent of the vineyards is 5,424 acres, or 31 acres less. The quantity of wine made was 657,604 gallons, or 194,711 gallons less than in the preceding season.

LIVE STOCK.—The returns under this head are more satisfactory than last year, in all the items a steady, if not important, increase being shown. Horses are returned as numbering 82,215, as against 78,125, or an addition of 4,090, and being exclusive of those in towns and villages. Horned cattle are represented as 151,662, compared with 143,463, showing an increase of 8,199. During the year 7,367 head of fat cattle were brought from New South Wales and Queensland, or 1,367 more than in the previous twelve months. Whether viewed in respect to population or extent of pastoral country, the number of great cattle is seriously disproportionate, and demands grave attention. Compared with the neighbouring colonies, South Australia labours under great disadvantage in the deficiency of large cattle. Ten years ago they numbered over a quarter of a million, and were exported in numbers; now nearly all our butchers' meat is imported, and store cattle are difficult to obtain. The number of sheep given in the returns is 4,900,687, as against 4,412,055, being an addition of 488,632. Of these, 3,384,080 are depastured within the boundaries of counties, as compared with 2,887,861 last year, and 1,516,607 in the pastoral districts as against 1,524,194. The increase altogether amounts to eleven per cent., and in view of the high price of wool during the period and the number taken by the meat-preserving and boiling-down establishments, may be considered highly satisfactory.

J. BOOTHBY, Government Statist.

MONDAY'S MARKET.—In fitful slumbers I thought the Ilus were invading Rome, razing her palaces, shattering her temples, destroying women and children by fire and sword, driving into captivity her kine, her flocks, and lowing oxen. Flocks and lowing oxen! I woke with a start. The three roads branching out before the Green Dragon were alive with beef and mutton, hurrying hither and thither, scampering up by-ways, recalled by yelping dogs, by shouts and curses and pattering of staves, bleating, lowing, crying out to Heaven for peace, calling down vengeance from the skies on wicked, cruel, gluttonous, carnivorous Man. The market was already half-filled with animals; streams of them still flowed in, seemingly from the uttermost quarters of the earth. Men on horseback galloped about, superintending the disposal of their wealth, scurrying to and fro as though endeavouring to re-form a routed army. Half-past four clanged from the tower, a bell clattered all over the house, causing even flies on the window to shiver and be sensible of nerves, and in the twilight we were presently imbibing rum and milk before the bar, preparatory to facing the nipping morning air. Really the market looked quite picturesque thus at early dawn. Its upper end was a set of sheep's heads, so tightly packed as to form an opalescent parterre tipped with high lights on delicate, moist noses. The lower end was a glorious confusion of bullocks' horns, and heels, and flapping tails, as they struggled with all their might against being half-choked by too short ends of rope. *Bong, batter, smash* went the drovers' rods, serving out indiscriminately to all a shower of blows, and kicks, and tugs. Footsore dogs sat with open mouths, adding to their yelping to the general din, wagging their tails feebly, in delight at having at length accomplished an onerous task; and footsore they might well be, for some of them had capered and barked round a flock of sheep all the way from the North of England. Now and again an energetic beast would break away, scattering his tormentors to the right and left, running a-muck against a grove of brethren who would low and kick in terror until the truant was reclaimed, and with a bang, batter, smash, tied up again. *Bong, batter, smash, curse, kick*; the rods were never quiet, hammering unruly victims, prodding peaceful ones, until the next change of scene to the slaughterhouse would

surely be a happy release. "Now then, master, stop her—turn her, will you? What the blaink do you mean by letting her go by? Why the dash could not you turn her?" And so amid the confusion the only thing to do under the circumstances is to transform yourself into a continual semaphore, spreading out your arms, and plunging at anything which may chance to come in your way. But even then you are so sure to be deluged with opprobrious epithets, that perhaps it is as well to stand aside and let the poor things have their way. Beyond the market lay enveloped in haze the still sleeping suburbs, from behind which rose slowly a red sun, flooding the terrified animals with light, casting long shadows over the wiry stones. "Hi! You there! Don't you see? Yonder a young bullock has fallen down; is throtingling himself; will be trampled by the others." *Bang, batter*, and he is dragged up again, half by the tail, half by one horn, and then given a final poke to teach him better behaviour in the future. Salesmen hover around their own stock, peering at them critically with one eye and head on one side to ascertain if all is in readiness for the coming of the butchers. Sheep are ranged symmetrically in pens, here a dozen or so, all marked with a purple cross; there a batch decorated with bright green, further on some more rejoicing in sienna top-knots. Beasts are displayed to the very best advantage, like wares in a shop window. The fat old gentleman, very bad with gout, who ought to be snugly at home in bed, swings on his crutches, discoursing to his drovers, and glancing from time to time, down the still empty roads. Another palsied and very snaky, gravely tickles up some lambs, poking his finger into the meat, with which his toothless gums may never cope. Others walking up and down impatiently, turning every moment to the clock. "Sister Anne, Sister Anne, are they never coming?" Yes, see, far away on the road, a splashing of mud, and presently a host of gigs and light carts bearing men in all kinds of costume. High hats and frock coats, cut-aways, and wide-awakes, linen coats, besmeared with grease; the respectable, the seedy, the shabby-genteel, the ostentatiously dirty. The carts, the gigs, the vans are ranged

in rows, displaying legends on their backs. "Snuggins, butcher, Bermondsey;" "Stubbs, butcher, Knightsbridges;" "Hoskins, butcher, Kensington;" and so on ad infinitum; men from the north, from the west, from the east, from the south, all come to replenish their stores for the next few days. And now what plodding and poking, what feeling and frowning, what shaking of heads and scratching of fates, what voluble discourse, what wheedling, persuading, arguing! "Stay now, as you're an old customer, you may have him for thirty; I take my oath no one else should have him under five pounds more. What, you won't? Hi! Peter, bring him out, he can't be seen. He's choked up there. Twenty-eight. My good sir. I should die in the workhouse, and deserve it, if I did such a thing. There, there! You are in such a hurry. Twenty-seven, come, although it's ruin to me. Mark him, Peter, cut the hair off his tail; Mr. Snuggins has got him, and a prime beast he is." "Mr. Stubbs, look here. Ain't them lambs pictures? I brought 'em up a-pupus for you, and dirt cheap. Scraggy! Nothing of the kind. Where's gratitude?" The public bars are by this time full. Butchers, drovers, farmers, salesmen, jostle in a common throng to obtain a cup of coffee from dishevelled Hebe, or to wet their whistles with "a go of brandy cold." Urchins, half town half country mouse, scurry backwards and forwards, bearing trays of tea with a rasher under a tin cover, and a new roll. Drovers vary their occupation of prodding and swearing by hawking new milk fresh from the cow, a mugful for three half-pence. Strange beings, ragged and grimy spring up from somewhere with trilling articles for sale: curry-combs, portions of harness, sieves, rat-traps. Vendors of india-rubber display mackintoshes or gig-aprons spread artfully upon the stones. One by one light carts are filled with calves or lambs, and, being securely netted, are driven off. Master butchers retire in state, leaving their foremen to complete their purchases. And by eight o'clock the great market-place is once more desolate.—*All the Year Round*.

ON THE EMPLOYMENT OF TURF IN AGRICULTURE.

[Translated from the French of the *Journal of Practical Agriculture*, expressly for the *Mark Lane Express*.]

1st. Turf stratified with farm-yard manure.

2nd. Turf dis-acidified and disintegrated by means of quick-lime.

3rd. Turf reduced to ashes in the common house-fire.

"The great conquests of industry are effected by the employment of natural riches not appropriated." (J. Garnier).

Turf is a combustible matter, brown or black, formed by the accumulation of vegetable debris, having the same origin as vegetable mould.

The first manuscripts that speak of the existence of turf go back to 1260, and the first book published on its employment dates from 1668. The author, Martin Schookem, Professor of Philosophy at Groningen, informs us that the Dutch had, for a long time before any other people, made use of this combustible. It was specially the "frise" (a local term) which possessed, and still possesses, the most important extractions of turf.

It is generally agreed to divide the turbaries into three classes—that of the mountains, that of the plains, and that of the marshes. To each of these divisions are attached deposits of different natures, which we designate under the names of "compact turf," "spongy turf," and "earthy turf."

Amongst the countries that possess numerous turbaries, or peat mosses, we shall first cite Holland, where we find considerable deposits, incessantly growing, thanks to the draining of the marshes, which in the low countries is carried on upon a vast scale. The ancient Lake of Haarlem especially contains immense deposits of turf. To that lake are attached two memorable periods in the

history of Holland: 1573 the naval combat and destruction of the Spanish fleet by the Dutch, struggling for the independence and freedom of their country; and 1852, the complete draining of the Lake of Haarlem, and the transformation of an unhealthy marsh into good arable land and rich pastures. For some years past a new industry has been established in Holland, and practised on a large scale in the provinces of Groningue, Drench, and Over-Yosel. It consists in burning the surface of the turbaries in order to obtain large crops of buckwheat. Belgium possesses similar deposits of turf. We shall name in Flanders those of Fursus, Ambacht, and of all the zone of the sea coast, an extent of from fourteen to fifteen leagues, and those of the campines of Antwerp and Lemburg.

For many years turf has been generally abandoned as fuel, the preference being given to coal, which warms better and takes fire more readily. Never was there a more opportune moment in which to take up the subject of turf considered as vegetable earth or *humus*, as applicable to the improvement of the soil. In order to prove the utility of it it will suffice us to make a few extracts from a little brochure, published in 1787 under the title of "A Memoir on the use of Turf and its Ashes as a Manure," by de Ribeacourt.

The use of turf ashes as a manure is very ancient, but it is not the same with that of turf, for scarcely is this last known except to a few persons. We shall have no need to dwell upon it much in order to demonstrate the utility of turf as a manure, it will be sufficient for us to establish some generalities on the nature of the principles of substances which the experience of all ages has ranged in the class of fertilising matters, to examine the effects upon vegetation, to cite a few facts, and lastly, to deduce

the consequences that naturally flow from it. In whatever manner vegetation works, this marvellous operation of nature can only be performed in the bosom of the earth. It is from experience that this last is supported, and nothing is more proper, if we cannot give it a fresh vigour by the manures; and we cannot doubt that the best must be those which have the greatest analogy with the constituent principles of the vegetables. The analogy of the definition we have given of the turf, established between this combustible and the true manures is confirmed by the products it yields to analysis. Submitted to distillation in close vessels the turf has furnished us with volatile alkali and a black oil, thick, very heavy, and of unbearable fetidity. "Turf," says Roland, "is a manure which is only employed in places circumjacent to those from whence it is taken, and it is necessary in order to produce the same effect to employ at least double the volume of that of its own ashes."

Turf-dust is proper to produce a light soil, sandy or tufaceous, in vegetable mould, by mingling it with the soil; and it is particularly useful to cold and poor lands, in others it is only required in small quantities equivalent to a manuring. If it is mixed with cattle dung we may be certain of having fertilised that soil and obtained for the following year a soil unequalled in goodness, and it is, for a time, preserved from insects which are multiplied in other land. Let us then examine in what state the dung ought to be that is employed as manure, and whether the turf is or can be reduced to the same conditions?

If the turf is a collection of organised bodies of vegetables in a state of putrefaction, why should it not have the same properties as manures? Assuredly, if it yields it to the dung it can only be in so much as it is composed of vegetables, the effect of which is less than that of animalised substances, and if it yields it to pulverised plants it must be attributed only to the degree of putrefaction to which it has reached. It is only necessary, therefore, in order to render it useful for fertilising the land, to finish the work of nature by exciting in it a new fermentation which shall bring it into the state of putrefaction necessary to convert into manure the organised bodies. We can assure the reader that so long as the vegetable substances remain, whether in a mass or spread over the surface of the ground, they do not absolutely change their state. But it is otherwise when they are mixed with substances, whether animal or vegetable, in a state of putrescent fermentation; these last then furnish them with the principle in which they are deficient, awaken in them the fermentative action which can alone produce their entire putrefaction.

According to what we have here laid down we conceive that it would be in vain for us to attempt to employ turf alone as a manure. We may be assured that it would be useless, if not absolutely hurtful, to cover the land with it; of this we have an example in the peat meadows, where the places on which the stacks of turf have been laid remain barren till the winds have dispersed the dust. But if we mix the turf-dust, whether with the dung of animals or with farm-yard dung, and give this mixture time to ferment, then this addition will increase the mass of compost and communicate to it infinitely more of valuable qualities than other vegetable substances in any other state. Let us see in what manner Mr. Ribeaucourt in his Memoir describes the effects of turf-ashes on many plants. "Experience teaches us that turf-ashes possess properties of helping vegetation in a singular manner, and promoting the growth of plants which constitute the basis of meadows, new or artificial, destroying mosses and most of the acrid plants, rushes, reed-grasses, and other plants which affect the pasturages and the quality of hay." We extract from "The Cours d'Agriculture,"

by de Gasparin, vol. i., p. 571, the following paragraph, which expresses the opinion of the illustrious farmer on the employment of turf in agriculture:

"Lord Meadowbank, thanks to turf, obtained for the culture of his land a mass of manure equal, taking weight for weight, to the stable dung, the turf losing by its disacidification its hurtful qualities is converted into a black vegetable mould, useful in improving and in supplying carbon to plants." Pavis in his excellent "Treatise on Improvements (*Amendments*)" expresses himself in the following terms: "Turfs are in some manner masses of manure, which present themselves to the intelligence of man to be made use of, and at the same time scarcely any part of it is so employed. The advantages of turf, which is almost everywhere to be met with, are generally ignored and disdained. In all parts of the country we see immense turbaries without employment, which sadden the country by their pale and vigorous vegetation by their unhealthy emanations which are repulsive to the human species, and which offer to the inferior animals only a few miserable resources, when by their being rendered healthy man might impart to them salubrity, form productive plantations, obtain from them forage crops of good quality, and, in short, gather from them harvests and produce of all kinds."

Guided by the "Cours d'Agriculture" of Gasparin, by the "Treatise on Improvements" of Pavis, by the "Memoir sur les Usages de la Tourbe" of Ribeaucourt, numerous experiments have been made for many years at the Britannia Farm at Ghisteltes, and all have resulted in the improvement of the bed of vegetable earth and a considerable increase of agricultural produce.

CONCLUSIONS.—As we have shown, turf is called to render great services in the improvement of the soil, and agriculture might derive from it immense advantages in the numerous regions in which that combustible has been abandoned in favour of coal. The whetten converted into *panus* or vegetable mould by means of beds superposed with layers of farm-yard manure, or disintegrated and disacidified in composts with quicklime, or employed as ashes after combustion in the domestic fires, will one day occupy, we may predict, an important position by the side of so many other improvements. If it required a quarter of a century to bring into use the best of all manures—guano—it has required little less than a century to bring into use the turf as a fertilising earth. The free association of agriculturists at Ghisteltes, with facts before them, so well established, have decided to make in favour of turf as a fertilising agent, a propaganda not less active than that which they have established in favour of nitrified lime.

The Secretary, P. BORTIER,

Ghisteltes.

President, FR. VANDEKERCKHOVE.

CATTLE DISEASE ABROAD.—The *Swiss Times* of Wednesday says: On the 20th of November there were 132 stalls for cattle attacked with foot-and-mouth disease throughout the Confederation, whilst now there are 350. During the same period the contagious form of pleuro-pneumonia has broken out in seven additional establishments; and near Geneva alone thirty cattle have had to be slaughtered during the past fortnight. Additional measures of precaution are being taken by some of the cantons. The *Victor*, of Saturday, says: As far as we have been able to ascertain, there is no foundation for the statements which have been made in the daily press relative to the existence of cattle plague in the island of Madeira and in Switzerland. Madeira was reported to be free from cattle plague in the beginning of December, but foot-and-mouth disease existed there; and it is most probable that the term "cattle plague" has been misapplied to that disease. In Switzerland pleuro-pneumonia is prevalent, but there is no reason to suspect the presence of cattle plague there.

THE GAME LAWS.

At a general meeting of the Surrey Chamber of Agriculture at Guildford Mr. J. BRADSHAW, the chairman, said that in his opinion it would be desirable to take the question of the proposed premium for the best lease into consideration first.

Mr. BAKER was glad they had as much as £30 on the right side. With regard to the lease, he imagined that none of those present supposed that any lease could be drawn which would apply in its entirety to every farm in Surrey, or even to a great number of them, but it was possible that such lease as they proposed to give a premium for might contain suggestions, one of which might do for this farm and another for that. He knew that some time ago in the county of Leicester, where they had a Chamber of Agriculture, and a somewhat stronger one than existed in Surrey, a similar course to the one now proposed was suggested. The Council, consisting partly of landowners and partly of tenant farmers, the residue being valuers, decided on the terms of a lease, which lease had, he believed, been since adopted to a certain extent in various parts of the county of Leicester. This lease, he was informed, was generally believed to be a desirable one for the neighbourhood, and calculated in its provisions to put the principles of the tenure of land, both as regards the letting and the hiring, on a just and solid basis. There was no use in trying to disguise the fact that in every county in this country we hear a great deal of dissatisfaction expressed in reference to the way in which the land is let, and in which it is held by the tenant farmer. It seemed to him that if the Council, taking into consideration the various bodies represented in that Council, were to meet and consider the whole of the views of the matter which would be laid before them, they might at any rate draft a lease, some of the provisions of which might be adopted. They could not expect that all the provisions of such a lease would be adopted, because a lease that suits light land does not suit heavy land; these were two classes of soil which required very different styles of farming to produce their utmost. He thought if the Council met together and calmly looked at the matter, taking the judgment, not merely of this man because he was a landlord, or of that man because he was a tenant, or of the other man because he was a valuer, but of all, and putting them together, they might at any rate do some good. It might be that they might not be able to do away with all the difficulties that attended the matter—hardly any of them was sanguine enough to expect that—but, at any rate, by talking over matters, they might prepare leases of some value, one of which might be adapted for heavy land and one for light land. That was his idea when he made the primary suggestion. He did not mean to say that the landlord is going to agree to everything which was contained in the lease, or that the tenant farmers were going to sign their names to all the provisions it contained, but if they could not do much good let them do the little that lay in their power.

Mr. HEWETT said the proposition was to offer a premium for the draft of the best lease, of which the Council were to be the judges; not for the Council to prepare a lease.

Mr. BAKER moved "That a premium be offered by this Chamber of Agriculture for the lease best adapted to the county of Surrey.

The resolution was put and carried, and the amount of the premium was fixed at 10 guineas.

The CHAIRMAN said the next question was that of ground game, and perhaps some gentleman would open the discussion on the subject.

Mr. ISAAC ELLIS said: In discussing the tenure of land the question was put to him whether there was any legislative enactment that would be beneficial, to which he replied that he did not know that there was excepting in regard to hares and rabbits, and he thought they agreed that ground game should belong equally to the tenant as to the landlord. At that time he was told that he was out of order, but on referring to documents the chairman ruled that he was in order. At the same time a disposition was shown that the question belonged to the Game-laws, and, therefore, although he had satisfied himself and the chairman that he was in order he did not press the matter. The report presented by the committee on the tenure of land valuations was characterised by one

gentleman as being somewhat meagre, and that gentleman complained that this question had not been met in the report. This complaint was met by the remark that the Game-laws would shortly come under discussion. If he (the speaker) had not opened his mouth he did not think they would have heard anything of hares and rabbits. Mr. Baker having refused to open the subject, and as he appeared to expect him (the speaker) to come to the front he had done so, and he had no hesitation in saying that under all circumstances the occupier should have the option of killing hares and rabbits on the land in his occupation. With regard to the subject of the Game-laws generally, it was such a vast one that it would take the gentlemen present a week to discuss it if they all had something to say, and, unfortunately, he must go as he had another meeting to attend. He would repeat emphatically that he thought all occupiers should have the right at all times to kill the hares and rabbits on the land which they occupy. He would go even farther than this. He really felt so strongly on this question of ground game that he would not even allow an agreement on the subject between landlord and tenant. He had seen many cases, although he had never had any reason to complain personally, where the landlord reserved his right and the occupiers were never interfered with, but in the case of a death it passed into other hands, and often with very bad results. On the previous occasion, when he spoke on the subject of game, he referred only to hares and rabbits. He concluded by submitting a resolution to the effect that landlord and tenant should exercise equal rights over ground game.

Mr. HEWETT said the defenders of the Game-laws have recently adopted a new mode of defending them, or rather have found a new argument, which is, that if the Game-laws are abolished or even modified, a great amount of food would be lost to the people. That very specious, but fallacious line of argument, was taken about last February in the House of Lords by Lord Malmesbury, and lately it had been advanced by Mr. Walter, M.P., for Berkshire. Now, both these gentlemen could not fail to know that the statement that the food supply would be decreased was not a fact. What do farmers care for the number of rabbits Mr. This or Lord Someone else keeps in his rabbit warrens? What they said was that when the rabbits trespassed and consumed the occupier's property, they should be treated as his stock, as they are fed at his expense. What could be a meaner action than for a man to expect his neighbour to feed his stock for nothing? But to return to Lord Malmesbury and his great rabbit speech. The noble lord said that rabbits were a great staple food with many thousands in this country. But does Lord Malmesbury pretend to say that if the ground game on the agricultural land was entirely handed over to occupiers, it would diminish in the slightest degree the number of hares and rabbits produced on the 25 millions of acres of waste land and rabbit warrens? As one who had always lived near a rabbit warren, and who, in fact, had been part-owner of one, he (the speaker) knew that rabbits which could only get furze to eat, were better food than those which were feeding on the richest cultivated land. Fortunately, not one-tenth of the rabbits spoken of by Lord Malmesbury came on cultivated land at all. If the 39 millions that the noble lord spoke of did come on the cultivated land, they would eat up the whole of the produce of the country and leave only a desert behind. The value of the food consumed by rabbits is often more than 100 times the value of the flesh made by them. He (the speaker) had a valuation last year, and was adjudged £25 damages, when the value of the food as it then was was not 25 pence, but the rabbits had entirely destroyed what would have been a good crop, and it had to be ploughed up. How many thousand acres of wheat are eaten off and never produce the half or a quarter of a crop in consequence of being eaten off in the early spring? Lord Malmesbury also said that if the Game-laws were abolished it would necessitate a severe trespass law, and increase the rural constabulary by 10,000 to 15,000 men. Now he (the speaker) did not believe there was a tenant farmer in that room who was so insane as not to be certain that the number of police would be diminished, because the temptation to crime would be lessened. The noble lord wound up his

great rabbit speech by saying that it would send up the rents of the tenant farmers very considerably, and one paper—the *Daily News*—reported him as saying 15 per cent. Why the noble lord could not have answered himself more completely, for why would the rents be increased? Simply and solely because the farms would be worth more to the farmer by his being able to produce more food from the land. The increase in the value would no doubt be more than the million and a half of rabbits about which Lord Malmesbury spoke so much. These were difficult times. The great increase in the price of labour and the great amount of capital required rendered it necessary, if the farmer is to continue, for the landowners also to move with the times: to meet the farmer by giving him security for his capital, liberal arrangements, good cottages for his labourers and thorough control over all the stock that he feeds. It was not so much the winged game as the ground game which ruined the farmer, for ruined some farmers were in the county of Surrey. Let the landlord give up the ground game to the tenant, and there was no tenant that would not be pleased to keep as much winged game as he could for his landlord to enjoy. On the other hand, what could be a greater act of poaching than to eat and consume the property of another man who was poorer than himself? Three-fourths of the disputes between landlord and tenant were caused by the Game-laws. Modify them, or as certain as all present expected justice hereafter, if that was not done the Game-laws would be entirely swept away.

Mr. R. HARRISON (Clandon) said: I don't much think there is any resolution before the meeting, as Mr. Ellis has left. You have all heard the tale of the cat, the monkey, and the chestnuts. Well, there is the cat (pointing to Mr. P. Arthur), and here's the monkey (himself). However, without any further observations of this kind, I will say that I intend to move a resolution, which I will read to you. That resolution is as follows: "That this Chamber being convinced that the modern system of preserving game is injurious to the national interest, as it hinders to a great extent the agricultural and pastoral development of the land, and is also the cause of much disturbance as well as crime, resolves to petition Parliament for a total repeal of the existing Act affecting game with a view to the introduction of a reasonable and practical law. First, which shall withdraw ground game from the game-list, and give tenants an inalienable right, jointly with the proprietors, to all such ground game. Secondly, which shall establish a speedy and effectual system for recovering damages from proprietors or occupants (adjoining or otherwise), who do not keep down hares and rabbits, and who preserve pheasants, or other wild animals, by which injury is caused to arable or pasture farms. Thirdly, which shall afford reasonable protection to harmless game for purposes of sport or recreation, in such a manner as shall not interfere with the production of food." Having undertaken to be godfather to this child of my friend behind me (Mr. Arthur), I will take opportunity to say a few words about it. I think we are too much in the habit of hearing this subject discussed sensationally. Our enthusiastic friends who advocate the repeal of the Game-laws—and we are all, I believe, driven to consider such repeal to be necessary—have imported, I think, a little too much of the sensational element into the question. Looking round this room, I think I see some very good specimens of "the down-trodden serf" of whom we read so much in the paper. But really when I hear the phrase "down-trodden serf" my mind goes back to centuries ago, and I may be permitted, perhaps, to draw a parallel between our position and the position of the serfs who cultivated the soil at that time. The prosecution of the shepherd whose dog happens to get hold of a rabbit is but a modification of the time when even the neck of the serf was never safe if suspected of any interference with the king's forests. I say, as a fact, that many farmers can't walk round their own farms with one or two colliers at their heels; and the shepherd, with his dog, can hardly pursue his avocation, except in fear and trembling. Is not this a good analogy to the time, hundreds of years ago, when dogs were clawed, and had their teeth knocked out lest they should interfere with the game in the king's forest? We do not, I take it, want to approach this question in a sensational style; but, on the contrary, we wish to look at it from a common-sense point of view, and in a pocket-feeling sort of way. The tenant-farmer has a very deep objection to keeping stock for other people—in fact, this is the pith of our grievance. We pay rent for farms, and then on those farms we

keep stock for the landowners. To gentlemen living in counties like our own, where we are within a flight by rail from London, this is a very serious and most important subject. The landlords, liking other parts of the country better, leave us to take care of ourselves. If they would do that entirely we should get on better, but they don't quite do so—the landlords, I say, leave us, and let their shooting to men from London with long purses, their object being to get the greatest possible return. They are used in London to having percentages, and they like to have it in the country as well. Some carry the thing out in a neighbourly way, as is the case with myself; but others act in a very unneighbourly way indeed. I think the men are very few who would object to seeing their landlords shooting over their own land: in fact, they would not find one farmer in five hundred in England who would raise the slightest objection. But it is the letting of the shooting over a tenant's head, without giving him a chance to have it for himself, that the former objects to, and I don't merely question the policy of so doing; but I deny *in toto* the landlord's right to do it. I have heard it often said that, if the landlord did not keep the rabbits the tenant would, and if he did not keep game the tenant would. Well, supposing this was the case, the tenant could, if he chose, kill the game, sell the game, and feed upon the game. That argument merely amounts to this: If you wish to keep a field of clover uneaten, has your landlord right to send in a lot of sheep and bullocks to eat it for you? I say, "No," and I say, neither has a landlord any right by himself or by his deputies to send in a lot of rabbits and hares to feed on the crops of the farmer. With all the agitation and talk very little has been done in reference to game, and it is high time that something was done. A little time ago rabbits and hares were, as I understand, removed from the protected list. What follows? I need hardly ask any of you gentlemen whose shooting is let over our heads *en masse*. In defiance of all law, the rabbits and hares are protected by individual agreement. Looking at it in that light, we are never safe. The administration of the Game-laws and the abuses arising therefrom is a great point for those who wish to see the law repealed, but I don't intend to enter into that part of the question; but all gentlemen who are in the habit of attending the law-courts must know that the administration of the Game-laws has been the subject of the greatest animadversion. After some further observations of a general character, Mr. Harrison went on to say that history has always pointed out that the Game-laws were originally made for the benefit of a grasping and overweening aristocracy. I should like to ask at whose wish and for whose benefit are they kept up now? Is it for the tenants? I think not. Is it for the benefit of the public, who, instead of getting food by these laws, have their food lessened? I say no. Is it for the labourer? The idea is preposterous. Then who are they kept up for? I don't wish to use any hard words; but I will say this—they are kept up for the benefit of an overbearing aristocracy. These are hard words; but they are true. Some of you here present might, perhaps, be afraid to use the expressions that I have done, however much you may be convinced of their truth; but I hold it to be our duty when we speak on such matters as these to declare the truth, and to declare it boldly and fearlessly. I am reminded of a noble earl, who has said, in referring to our aristocracy:

Let trade, let commerce, arts, and science die,
But give us still our old nobility.

You would hardly believe that such words could have been uttered in the last century; but they were uttered, and I believe the man that produced them must have been a great advocate of over-preservation of game. He ought to have lived in the good old times, before we farmers had degenerated so much as to dislike to be gobbled up, stock, lock, and barrel, as we sometimes are by game—

THE CHAIRMAN: Wouldn't it be better if you were to be a little more moderate?

Mr. HARRISON: Of course I shall pursue any course that the chairman desires me to do, and I have no desire to use any immoderate expressions. I don't think I have done so. But to proceed. We are told that the agricultural interest is very strongly represented in Parliament. Well, upon most questions we are. But here in this Game-law question we have a subject on which our interests and the interests of our landlords and representatives unfortunately clash. It would be a mockery to pretend that they do not do so, and I do not

believe we shall ever have this matter remedied till the agricultural interest is represented separately from the landed interest. What I mean is, that on this question the landed interest, meaning the landlords, is represented in Parliament; but the agricultural interest, meaning the farmers, is not. I will now conclude my remarks, and, in doing so, I must beg the indulgence of our chairman if I have been a little too warm; still, there is nothing like getting warm to your subject, and I feel now as if I could speak for an hour. I am pleased to see so many farmers here, for I hear it said on all sides that the farmers can't have any grievances, or they would take the trouble to make an effort to get them redressed. If the farmers won't come to the Chamber, and hear the rest of us make fools of ourselves, that is their own fault, and I can only deplore their apathy. Why, in a county like Surrey, this room is not crowded with farmers to-day, when such an important matter, affecting so nearly their best interests, is under discussion, I am sure I am at a loss to imagine, unless it is that Surrey farmers are more forgiving than I am for one, for every farmer must at some time within the last twelve months have been just in the proper humour to come to the Chamber, and ventilate his grievances under the Game-laws.

Mr. P. ARTHUR said he had much pleasure in seconding the resolution. He was sure that the farming community laboured under a serious grievance, and it was a grievance that ought not only to be remedied, but remedied at once.

Mr. NAFFER expressed an opinion that the matter in hand was purely a landlord and tenant question, and he thought it might be met in a very simple way. The solution of the difficulty appeared to him to be to give instructions that in the premium lease the matter of game should be provided for. The question was one, however, with which he was not immediately concerned, as he was neither landlord or tenant.

Mr. JOHN ELLIS said: I think this question of the Game-laws is the most proper question to which the attention of this Chamber could be directed. I have very strong feelings on this subject, but in the course of my remarks I shall endeavour to guard against any expression of opinion which may be offensive to any person present, or any landowner in the county who may be absent. It is very much to be regretted (and I would hardly allow myself to explain my own ideas of the cause) that there is not a larger attendance of landowners and tenant-farmers of the county here. I should have thought, and in fact I had hoped that all the landowners of this neighbourhood would have been present to-day, as they ought to have been. The question is one so momentous and so important, and one which so nearly concerns the welfare of the tenant, that the landowners would have shown their good sense, one and all, to have put in an appearance; to have met the farmers face to face, and to have discussed the relationship that exists between the two classes in their several positions. I shall not allow myself to express myself too strongly on this occasion, but I will say that the Game-laws, existing in their present state, and inducing, as they do, an over-preservation of game in this county, and in many counties other than Surrey, are a blot upon our statute book and a disgrace, and one of the greatest curses of our country. I can't express myself more strongly, and this statement of mine, all farmers, if they had the courage to do so, could substantiate. No question has a nearer relation to us than this, except it may be the tenure of land. When we started this Chamber we considered the subject of the tenure of land somewhat at length, and we went into the question of unexhausted improvements. I won't say that we have come to any definite conclusion on that subject, for although we have passed certain resolutions what has been the good? What is the permanent, real, and substantial good that is likely to emanate from resolutions passed at this Chamber unless we call upon those gentlemen who represent us in Parliament, and ask them to take these measures and resolutions in hand, and submit them to the House of Commons, and to represent our interests in the House. All our meetings, unless we do that, will have very little real effect. Of that I am positive, and I say again that I quite agree with the remarks of Mr. Harrison, that the agricultural interest in this county is an interest that has never been represented in the House of Commons. It has never been represented, nor is it likely to be, till we do as every other class of the community are doing, send men from our own class to represent our interests. It may be said that the aristocracy—and I have no desire to say the least word of disparagement of that noble body—I say

with all due respect, that the aristocracy do not, and cannot, and never have done, and never will represent to any great extent the interest of the tenant-farmers. It is not reasonable to expect them to do so, for if we, as farmers, went to Parliament, we should represent our own interests, and not the interests of other classes. But I will not enlarge further on this point. I start from this position—that the Game-laws, inducing as they do an over-preservation of game, are, as they stand, a blot upon our statute book, and ought to be repealed. We know why they are a disgrace, and we know to what a great extent the produce of the country is diminished in consequence of them. I see thousands and tens of thousands of acres that do not produce one-third of what they would do were it not for these iniquitous Game-laws. I have been a surveyor and valuer for 25 years, and how many instances have come under my immediate observation of tenant-farmers and their families being ruined by trusting in their landlords, who promised they should never be injured by game? I have many times seen families, industrious, hard working, honest, striving families so ruined. I declare that I do not overdraw the picture when I say that there have been many cases where the Game-laws and nothing else have caused men to become the occupants of lunatic asylums. Our chairman, as a magistrate, knows of the convictions that are being daily recorded, not so much, however, in our county as in others. He knows how much these Game-laws help to fill our gaols and our workhouses; no one knows better than he does that such is the case. Then there is another important point to be considered, and that is the amazing cost of carrying out these laws. Having touched on this point Mr. Ellis went on to express an opinion that if the laws were not altogether repealed they ought to be re-arranged. After saying that they were often told that an agreement between the landlord and tenant should be sufficient, he proceeded to deal with that point. He said: I have known numbers of cases where men have made contracts that if any damage was done they should be remunerated and reimbursed. But what was the result? I have been employed to adjudicate in these cases, sometimes on the part of the claimant and sometimes for the landlord, and I have never known anyone instance in my whole life in which I believed an adequate compensation was given to the tenant or anything approaching an adequate compensation. And the result is that a man sees his crops destroyed before his eyes—his corn and his roots, and is powerless to prevent it. If the corn crop is damaged, the evil does not rest with the mere destruction done to the crop. In the first place the grain falls short; then there is no straw, and if we have no straw, where is our manure to come from? and the result was to, not only impoverish the farmer, but to demoralise and pauperise the labouring classes. These laws demoralised the labouring classes because they very frequently offer the first inducement to crime, by which the number of occupants in our gaols and unions is greatly augmented. Gentlemen, we know that this is not an overdrawn picture that I have placed before you. These are all matters of fact, and things that come under our daily notice. Suppose a man enters into an agreement with his landlord and let him enforce his claims vigorously, is there any peace for that man with his landlord in future? A friend of mine, and a very able man, has said on this subject, "I don't know what may be the hereafter of that man, but it is certain that if a man puts himself in a position of antagonism to his landlord, that man is tabooed." There is no peace for the future in his relationship with his landlord for the tenant on this side the grave. I am exceedingly pleased that this question has been brought forward, and I repeat my former expression of regret that the landlords are not present in greater numbers. I should have thought they would have been willing and glad to have met their tenants, and discussed a question like the present with them. I can assure you that till we have more Clare Sewell Reads in the House of Commons we shall never be really represented in that assembly. Our labouring men will very soon, indeed, send their representatives to Parliament, and good and clever men too. They are coming to that fast, while we are what I call napping and depending on a rotten stick. I feel very strongly on the question of the Game-laws, for I have seen as much of the evils which they work as most men, and I hope that I have not expressed my feelings any further than is consistent with the facts and truth of the case, and I can say that I have endeavoured to speak my views without any stretch of the truth whatever. There are men

who pretend to encourage agriculture, but are doing all they can to stay its progress by game and hedge row timber, but I hope they will not think I meant any of my remarks to be offensive to them. I feel it right that we should in this Chamber express our feelings in a manly and straightforward manner, without fear, or favour, or regard to any ultimate personal results. With results of that kind we have nothing to do. We must do our duty to ourselves and the class to which we belong, expressing ourselves honestly and strongly, and leave "results to take care of themselves." The speaker sat down amid loud applause.

Mr. WHITEHEAD (a member of the committee of the Anti-Game Law League) proceeded to lay a heavy indictment against the Game-laws. Among other things, he said they had the effect of making landowners selfish, and mentioned that a former Lord Derby and the Earl of Sefton opposed George Stephenson's railway from Liverpool to Manchester because it would interfere with their preserves. George Stephenson, that glorious engineer, was thereby compelled to take his railway across Chat Moss, an undertaking declared to be impracticable by many eminent engineers at that time. Thus, he said, the selfishness of these two lords, caused by the Game-laws, was very nearly knocking the railway scheme on the head, and preventing the innumerable advantages which had followed its adoption. He complained that the matter had not been discussed more in the light of its effect on the food supply of the people, as he understood the Chamber was instituted for the benefit of the general public in this respect.

Mr. W. BAKER, affirmed, as one of the prime originators of the Chamber, that its object was, in the first place, to further the interests of landlord and tenant, the good of the community at large being merely a "collateral issue." He wished to deny Mr. Whitehead's statement that the Chamber was instituted for the good of the public, and he did this with some authority, as he was the first man to write to the local papers suggesting the formation of the Chamber. The primary and chief object of the Chamber was to promote a better feeling between landlord and tenant.

Mr. WHITEHEAD was understood to say that if that was so he would leave the association. He had thought that the Chamber was instituted for a nobler, a higher, a more generous and patriotic object. After some further remarks had been made by Mr. Whitehead, who had come fully equipped with papers and statistics, attention was called to the fact that the speaker had exceeded the allotted time of ten minutes, and considerable impatience was manifested by the Chamber. Mr. Whitehead concluded by moving an amendment to the effect that a petition be presented to Parliament for the "entire abolition" of the Game-laws, and that Lord Hatherley and Lord Raleigh be requested to take charge of the petition in the Upper House, and the Right Hon. John Bright and Mr. P. A. Taylor in the Lower. He then proceeded to read the petition which he proposed should be presented.

The amendment found no seconder.

Mr. BAKER said they had had history quoted, and Mr. John Ellis had gone thoroughly into the question of representation in the House of Commons, but he (Mr. Baker) regretted that from a body of English farmers he had heard so little of evidence to the injurious effects of ground game [A VOICE: "We have not had time yet?"]. Two years ago he was requested to meet a friend in one of the western counties to look over a large farm which his friend had an idea of taking. His friend first showed him a field of eleven acres composed of thorough good loamy soil, capable of growing something like four quarters of wheat or five of barley. He was informed, and it was a fact within his knowledge, that that field had not been cultivated for the last seven years. He asked the reason and the reply was "Sir, do you see your little covert? Well, that is so full of hares and rabbits that the last tenant never secured one sack an acre from this field." Another friend in a different county asked him to look over a farm under similar circumstances. He had a good landlord, but the damage done by the ground game was something tremendous, yet he had to submit.

Mr. SALTER said that if Mr. Baker thought it necessary to go into details, he could give him plenty of them. Mr. Whitehead had touched upon one point with great effect, and that was with regard to the food supply of the people. Mr. Jno. Ellis had grappled with the subject most fearlessly, and the gentleman who had introduced the resolution did the same. He (the speaker) had not gone into the question at all, because

it was so complicated and mighty that he feared the Chamber would not deign to give him the time requisite for him to express his views upon it. The question involved other points besides the arrangements between landlord and tenant—for instance, the augmentation or decrease of the food supply of the people, and the moral influence which it had on the kingdom generally. The latter question was perhaps one of the most important at present existing in the kingdom. Their chairman, as chairman of a bench of magistrates, knew very well that although this was not a game-preserving county, yet two-thirds of the crime in county towns and villages might be traced to the Game-laws. The crime emanating from the Game-laws was something fearful. It was not the mere conviction for offences against the Game-laws, but what they led to, for, if a man went out to get game, and did not get it, he would steal a sheep. A man went out to get game one night, and did not succeed, and so he stole one of his fat sheep, for which the man got six months; but that did not compensate him (the speaker) for the loss of the sheep. After referring to the advocacy of Mr. Clare S. Read, the speaker proceeded to instance cases in support of the alleged ravages of ground game. He said he knew a farm which let for £400, and which had ruined more than one farmer who had taken it. If that farm were freed from ground game it would let for over £1,000, and a farmer would get an excellent living. He knew another farm which adjoined a farm which he used to occupy in Norfolk, and which also joined the farm of Mr. Clare Sewell Read, who was his next neighbour, which contained 300 acres of arable and 200 of pasture land. The rent was £550 a-year, and the man had valued to him over £700 for damage done by game. The speaker mentioned one or two other instances, and went on to say that no one complained of pheasants and partridges; but nothing on earth had caused so much bad feeling between landlord and tenant as the Game-laws. It was not done directly by the landlord; there was a go-between in the shape of a gamekeeper.

A VOICE: You mean a promoted poacher.

Mr. SALTER: I don't know what they are before they are gamekeepers.

Another VOICE: I can assure you it is so.

Mr. SALTER asked how it was the railway interest and the iron interest got on. Why, they sent forty or fifty members to Parliament to look after their interests, and the farmers were, he said, great dolts that they don't do the same. He wished the tenant-farmers would all do as they had done in Norfolk, and send men like Mr. C. S. Read to Parliament. If they did so, they would soon hear of land tenure, and there would soon be an alteration. He asked, with Mr. John Ellis, why is the tenant-farmer not represented? Their interests were not represented except by some half-dozen members—by one or two particularly, and the rest moderately. Unless they adopted some principal by which they could be represented, they had better leave off talking, and shut up shop. He denied that a proper agreement was sufficient, and condemned the Legislature for turning policemen into gamekeepers. He concluded by asking whether it was just that these policemen should be paid out of the rates to protect game, when game paid no rates at all.

The CHAIRMAN, Mr. Chaudler, who had succeeded Mr. Bradshaw, said the time was very short, but, as a landlord, he should like to say one or two things. He would venture to say one thing, which was that although they and he might differ, they would not respect him the less if he gave them his own *bona-fide* opinions very shortly. Now, he had said over and over again in his life, "Perish Game-laws, perish game, and perish every other thing that will make crime." But he would say that with his experience at the bar and as a magistrate, his view was that they would not get that diminution of crime which some people appear to expect by the mere abolition of the Game-laws. He only wished he could think so. If he could he would, if he had his will, abolish them to-morrow—he would abolish them that very day—because what were their amusements compared to the good of the public in general? A man must be a very bad man indeed who could place a mere amusement before the welfare of his fellow-creatures. He would abolish the Game-laws to-day, and never shoot off a gun again, if he thought that by so doing he could benefit his fellow-men. After some further remarks, the Chairman went on to argue that if a man liked to keep a sparrow on his ground, and anyone took it away, that person was just as guilty of felony as if he took a

chicken. Was he to understand that the word preservation in the resolution meant over-preservation?

Mr. SALTER explained that the resolution did not go in for the abolition of game. Tenant-farmers did not want that, for they like sport as well as anybody.

The CHAIRMAN proceeded to say that however they might differ on some points, there could be no difference on the justice of landlords giving their tenants a reasonable protection against game.

A VOICE: They don't, sir.

The CHAIRMAN hoped he always gave his tenants an agreement that afforded them that reasonable protection; at any rate, for twenty years he had never received a complaint. He should be very glad if he could do any thing that would assist in doing away with the feeling that these laws were made solely to ensure the amusement of the rich, and to inculcate a feeling that the law was made equally for the small as for the great. The resolution, with a little alteration, would suit his views. Mr. Salter had said that if a man could not get game he would take a sheep. Well, if they did away with pheasants, what would they do then?

Mr. SALTER: You must not argue on false premises. We don't want to do away with pheasants.

The CHAIRMAN continued that, of course, he was under a difficulty, as he was not present at the earlier part of the proceedings. He remarked that he was told outside that some hard things had been said about the landlords, and he replied, "That is the very reason I should go in directly, and if any of these hard things are true, I'll endeavour to amend them."

Mr. CARTER said some gentleman had mentioned that pheasants were not injurious. He denied this statement, and mentioned the case of a man who farmed his own land who had suffered great loss from pheasants.

Mr. HARMSWORTH, in the course of a brief speech, contended that the principal object of the Game-laws was to provide sport for the aristocracy.

Mr. JOHN ELLIS suggested to Mr. Harrison that the first clause in the resolution would be sufficient.

Mr. HARRISON consulted his seconder, after which he said he should prefer the resolution being put in its entirety.

The resolution was then put and carried with only one dissentient.

THE DUTIES OF GUARDIANS.

The third central conference of chairmen and vice-chairmen of boards of guardians from the various counties in England and Wales was held at the rooms of the Social Science Association, Adam-street, Adelphi, to discuss subjects connected with the administration of relief generally, either by way of poor law or charity, and the public health in connection therewith. Mr. Dickenson, M.P., was in the chair. The first subject discussed was opened by Mr. T. B. Baker, "On the Systematisation and Circulation of the Reports of Conferences," and was spoken to by Mr. W. Portal, of Hampshire; Mr. Bosanquet, of the Charity Organisation Society; Mr. Plowden, of Coventry; Sir Charles Trevelyan, and others; and an opinion was expressed that inasmuch as any special preparation of reports would be expensive, it would be advisable to leave the ventilation of analyses of such reports to reporters of local government boards. Mr. Storr suggested the formation of a committee to consider the subject.

Sir BALDWIN LEIGHTON then read the following paper upon the duties of Guardians in relation to the Public Health Act: The paper which I have been requested to prepare for this meeting is the result of my own experience as chairman of the Rural Sanitary District of the Aitcham Union. For any one practically in contact with the question the better way to consider it would be under such heads as the following; but I should repeat that it is from the experience of a *rural* not an *urban* district that these deductions are drawn:

1. Drains.
2. Water supply.
3. Structures.
4. Infection and epidemic.
5. The existence of aggravated nuisances injurious to health.
6. General practical suggestions.

1. *Drains* in rural districts, and more especially for the poorer class of houses (because I take for granted that at the better sort of tenements some arrangement suggested, perhaps, by the inspector, would be acted upon by the tenant or landlord). It appears to me very questionable how far a sanitary authority should recommend *closed* drains for detached cottages, and my own opinion is against them. There will be cases, isolated cases, in which there is no garden or ground attached to the house, where some short drain is almost necessary; but the proper application of all house refuse is to the soil or the ash-pit, and the sooner it gets there without going through a drain the better. If you put it into a drain you only bottle up your enemy against future evil, for it must go somewhere, and probably becomes a nuisance. As to making sewers, that is closed drains, for carrying off all refuse without high-pressure water-service, that seems to me most unadvisable and dangerous, and there is always some risk of any closed drain you put becoming a filthy sewer. If a drain has to be made it should be so constructed as never to hold stagnant water or refuse near a house, and it

should, in my opinion, be open. The cases would be rare where in rural districts the sanitary authority would be called upon to undertake drainage works. It appears to me, further, that the sanitary authority in recommending drainage to be applied to houses must undertake the full responsibility of such recommendation, and see by their inspector that the work is properly done, or else warn the persons concerned that it is not sufficient. It has been urged that the Local Government Board will hold the sanitary committee responsible if they neglect to have these drains made, especially when recommended by the health officers; but will the Local Government Board take the responsibility of what may arise from closed drains neglected, or even not neglected? I, for one would not. There are cases of blocks of cottages, not supplied with gardens and abutting on a road, which partake of the character of urban tenements, and yet have no supply of water from a main. In these cases I should recommend an open gutter down the road-side with a good supply of water from a pump, or otherwise, to keep it flushed, and the pump might be placed at the head of the gutter where practicable.

2. *Water Supply*.—This is a difficult question in rural districts, and one requiring caution and knowledge. Sometimes, especially in detached cottages, the expense of sinking wells and pumps might be too great to advise; and then something may be done, as in parts of Berkshire, by storing the water of the roof in cemented tanks, or catching it in waterbutts and filtering it, as is often done. It would be impossible to lay down an arbitrary rule as to what constitutes a sufficient water supply in isolated habitations, but when three or more cottages are together, some arrangement ought to be made. It would be almost impossible, except in very aggravated cases, for the sanitary committee to set about sinking pumps in a village and charging it on the rates; the expense of the legal machinery would probably amount to 50 or 100 per cent. of the cost. The necessity of water, however, in a sanitary point of view, cannot be too much impressed upon all, and it is possible, in the event of illness or epidemic, that the want of water and consequent want of cleanliness might be a calamity. At the same time those who urge very drastic or sudden measures are not aware of all the conditions or circumstances of a rural population. I am inclined to believe in persuasion doing a good deal in this way gradually. As regards the purity of water, a very important point, the great infectant seems to be animal matter. If pigs, for instance, were fed on flesh, as they sometimes are, and any refuse from the styes percolated to the water supply, it might be found to infect it; but if they only fed on vegetable matter, it might not be so injurious. I believe at least that that is the sum of the scientific opinion on the subject, though, of course, I speak on that point with all deference. Regarding pigs, a question arose in our district as to the keeping of them near the roadside; and although the Act seems to give the power to the sanitary authority to prevent such an arrangement, it was thought by the committee that the power should not be

used except in cases where they were very offensive. That great sanitary reformer, Moses, certainly did prohibit the keeping of pigs to the Jews, but it is well understood now that it was on account of the Eastern climate which made them, if kept in an ordinary way, injurious to health.

3. *Structures*, that is to say buildings, either from their want of space or from their dilapidation, unfit for human habitation. It is of course well-known by any one conversant with the Act that the Sanitary Committee have no power to close any house, much less to touch a single brick of it; they can only apply to the Court of Petty Sessions of the Hundred to close it, or to put a penalty on the non-execution of repairs. These considerations should influence the Sanitary Authority perhaps in making application or taking this legal step. 1. Is the building capable of being made fit for human habitation? There are cases of squatters' huts standing on their own ground, with no garden or surrounding, which are manifestly incapable of improvement. 2. Are young children being brought up in them, or are they merely inhabited by aged persons who have become accustomed, almost attached to the tenement? The first case is obviously far more urgent than the last, and there are instances where the tenement should, perhaps, be left during the occupancy of present tenants or an understanding that they are to be pulled down afterwards; that is, in cases where improvement seems out of the question, or the site undesirable. 3. Is the occupation a nuisance to the neighbourhood? or is there fear of an epidemic fastening on such habitation? If so, action should be taken by the Sanitary Committee. This matter is not, however, by any means free from difficulties, as wholesale evictions are quite out of the question; and it will be found, as in other cases, that some private or personal representation to landlords may effect more than any direct action of the Committee. For this reason it is desirable that the chairman should have some personal influence in the district. In all these cases, namely, of necessity for drainage, a water supply, or habitations unfit for human habitation, *it is most desirable, before any steps are taken, that the chairman or some capable member of the Sanitary Committee should visit personally the locality. It is in my experience impossible to form a judgment without doing so.*

4. *Infection or Epidemic*.—Here it is desirable that the Sanitary Committee should take immediate and energetic action to prevent the spread of it; and, in such cases, the removal of nuisances, which might in ordinary times be more

easily overlooked, should be peremptorily enforced with all the powers of the Act.

5. *The existence of a Nuisance injurious to Health*.—That is, some chronic cause of illness, as a filthy, stagnant pool or ditch close to habitations: the Sanitary Committee should take immediate steps for its removal. It will generally be found that by making private representations to those concerned, more may be done than by any legal proceedings.

6. To sum up generally, it will be found desirable, whenever legal action has to be taken by the Sanitary Committee, that the greatest moderation and consideration should be shown, because persuasion will be of more avail than compulsion in most cases, and it is desirable to have the inhabitants as allies, not as recalcitrants; also, the Sanitary Committee, as representative of the ratepayers, is perhaps not justified in administering any harsh or severe policy, except in extreme cases, where life is really in danger. The act appears to me a good and practical one, but not sufficiently compendious to be understood by any ordinary guardian, who cannot devote himself to the study of it. It might be amended, I think, by giving power to the Local Government Board to charge improvements on the smallest possible area, namely, the *houses benefited by the improvement*, as private improvements now are in boroughs. I think it would thus be more workable, and the parish rates might be still given as collateral security. The science of the subject seems, if even understood by professional mind, to be still far above popular capacity; and a great deal may be done quietly by the inspector and the medical officer, as well as by the chairman and members of the committee, in gradually educating the people up to sound economic views as to health and life.

Mr. BAKER congratulated Sir Baldwin Leighton on having followed the footsteps of his father in identifying himself with sanitary reform in the rural districts. In the discussion which followed the difficulty of working the recent Act of Parliament was dwelt upon. Modified opinion prevailed that earth closets were desirable in rural districts. A vote of thanks was passed to Sir Baldwin Leighton for his paper. The other subjects entered for discussion embraced "The Best Means by which Guardians can Utilise Voluntary Efforts," and "Contagious Ophthalmia, as Influenced by the Arrangements of Workhouses and Pauper Schools." A vote of thanks was accorded to Dr. Carter for his paper. The reading of Colonel Gardener's paper, on the subject "How the guardians can best utilise voluntary efforts," was postponed, and the meeting broke up.

IX WORTH FARMERS' CLUB.

SEED CORN.

At the last meeting, Mr. Mansfield in the chair, Mr. GOLDSMITH, of the firm of Goldsmith Brothers, read the following paper:

The subject which I have the honour of introducing this evening is no new one, recurring as it does with the seasons; but I think you will agree with me that it is a most important one, and one which has hitherto not had that attention paid to it which it deserves. Fortunes have been spent in improving the breed of horses, cattle, sheep, and pigs; much labour has been devoted to the selection of your stocks of roots, but hitherto the breeding and selection of seed corn has been treated as a matter of minor importance. When we consider that rents increase, the cost of labour increases, but the acres unfortunately do not, and that harvest comes but once a year, it certainly appears important that when it does come, it should bring with it the best possible crops that the energy, the forethought, and the experience of the farmer can produce. The old adage is that "a bad horse costs as much to keep as a good one;" I may add that a bad crop costs as much as a good one. The improvement of our cereals is a subject which has been studied by many intelligent men, and they have started theories of their own, and attained results very various, and far too elaborate to be more than glanced at in a paper like the present; but all appear to agree on one point, viz., that our cereals are but the developed species of an inferior race of grasses, which by cultivation and selection have gradually attained the perfection in which we find them; and

this has induced them to try how far further the development may be carried, and results have been obtained which leave no doubt in our minds that much has yet to be discovered. Perhaps the most successful of the experimentalists is Major Hallett. I will therefore give you a general outline of the results of his experiments extending over twenty years. They are as follows: 1. Every fully-developed plant, whether of wheat, oats, or barley, presents an ear superior in productive power to any of the rest of that plant. 2. Every such plant contains one grain which upon trial proves more productive than any other. 3. The best grain in a given plant is found in its best ear. 4. The superior vigour of this grain is transmissible in different degrees to its progeny. 5. By repeated careful selection the superiority is accumulated. 6. The improvement is first rapid, is gradually after a long series of years diminished in amount, and eventually so far arrested, that, practically speaking, a limit to improvement is reached. 7. By still continuing to select, the improvement is maintained, and, practically, a fixed type is the result. He says that throughout his experiment he has found only three instances recorded in which there were two ears on a plant containing an equal number of grains. In every other case where the plant presented an ear containing 60 grains and upwards, the next best ear was of less contents than the finest one. The superior power of one grain over another may consist in a greater number of ears upon the plant it produces, or in their individually containing a greater number of grains, but the latter is the

more sure indication of productive power. One ear also possesses superiority over the others in respect of the quality of the grain produced. The grains also in the same ear differ in other qualities—such as stiffness of straw, power to resist disease, power to resist cold, &c. His system of "Pedigree" has, as you are aware, been conducted on the principle that a plant cannot be fully developed unless it has sufficient space allowed it both above ground and under ground, and that whatever quantity of seed we sow per acre from one peck to four bushels, we can only obtain a given number (about one million), perfect ears per acre, and as the number of ears cannot be increased, the only thing practicable is to increase the contents of the ear, and this he states that he has effected by his system of selection, by means of which he has doubled the contents of the original ears with which he started. The grains should be planted singly and the space allowed must depend upon the time at which it is sown as the larger the space it has to fill, the longer time it will require to perform it, or, in other words, the later you sow the more thickly you must sow, and that if you plant one, two, or three grains in a hole, you will get a larger return from the one grain than from the three. Now, gentlemen, you must take Major Hallett's system for what it is worth; I know many practical farmers ridicule the idea of such thin seeding as he advocates, and certainly where ground game abounds it does appear to be running a risk; on the other hand, he gives you certain results, and facts are stubborn things. For myself, I certainly must think that if no other benefits result the system of pedigree is one most likely to secure you a true stock, and that appears particularly desirable in the case of barleys, where so much depends on their ripening together, and producing, as far as possible, an uniformity of colour and condition; but if, as Major Hallett states, the length of the ear, and consequently the yield, can be so much increased, surely the sooner the system of pedigree becomes more generally practised the better; at least let it have a fair trial before it is condemned. Before leaving this part of the subject I will give you one instance of the many prejudices against which he has had to contend. Some years ago, a gentleman about to purchase some of the original pedigree wheat, asked the steward of an agricultural baronet if he had tried it. "Yes; but the millers don't like it." "What sort of a crop did you get?" Steward: "Oh, it yielded very well, we had nine quarters to the acre." In doubt his hearer remarked, "You mean nine sacks?" "No, we had 27 quarters on three acres." "Really! but that was pretty well, wasn't it?" Steward: "Ah! but the millers don't like it." "What did you do with it then?" "Oh, we sold it to a miller at 43s. per qr." (best red wheat worth 41s. that year). "419 7s. per acre, with wheat at 41s. per qr., pretty well, too, eh?" Steward: "Ah, but the millers don't like it." We now come to the choice or selection of seed corn, suitable to your soil and climate, and it would appear that a very great deal depends on this. It has been proved that the finer varieties of wheats can only be grown successfully on warm and good land, and that in cold clay soils, and exposed situations, the coarser sorts of red wheats are better adapted. Again, stearly oats, on poor, cold soils, will degenerate, and if their growth be persisted in, your land will eventually be found full of the wild oat, from which our cultivated oats originally sprang, and which, from its early ripening and shedding its seed, is a most troublesome enemy to get rid of. Some soils are so well adapted to the growth of barleys of fine malting quality, that no expense should be spared in obtaining the finest varieties in cultivation, while other soils are so unsuited that it becomes a question if barley should be grown at all, and if it be, the farmer should give up all idea of growing barley suitable for malting, and should select some such variety as the common bere winter barley, which, although very inferior in quality, will produce a very large return in quantity, with a fair weight per bushel. Whatever be the soil or situation, no one should be better able to judge of its requirements than the man who farms it; it is, therefore, sometimes a great mistake to recommend your friend a particular variety of seed, because you have found it answer extremely well in your own case, and it may happen that his soil and situation are essentially different from your own; again, it appears to be a mistake when you have found a variety which you believe will answer your requirements, to go largely into its growth until you have tested its merits, or should the season be exceptionally wet or dry, to give it up without another trial. Fashion, evidently, reigns as supreme with the farmer

as it does with the milliners. As an instance, if Mr. Smith grows Rivett's, and has a good crop, Mr. Brown follows suit, the next season Messrs. Jones and Robinson follow, until you find every one growing Rivett's. Five years pass away, and not one of the above-named individuals grows an acre of Rivett's. How is this to be accounted for? It should be the aim to get as large a money return per acre as possible. Nine times out of ten quantity beats quality; but, in some districts, the farmer can produce as much of the finer varieties of wheat as he can of the coarser. In the neighbourhood of Guildford, for instance, I doubt if the farmers would sow Browick if you gave it them. Their finest wheats are worth 36s. per coomb in the market at the present time, and they would tell you, that on an average of years, they can grow as much fine wheat as coarse. I now come to "change of seed," and, firstly, let us consider the probable extra outlay, because many of our friends make this a great consideration. Now, assuming that your seed corn costs you 4s. per coomb above the value to the miller or maltster, we find that on

Per coomb.	Extra cost per acre.	Extra quantity which must be grown.
Wheat at 30s.	2s. 6d.	1½ pecks.
Barley at 20s.	3s. 0d.	2½ pecks.
Oats at 12s.	3s. 0d.	1 bushel.

—I think you will admit that the above is a very liberal estimate, and that corn could be brought some distance, and a liberal profit allowed to the merchant for an extra outlay of 4s. per coomb. I think I have shown that the extra outlay is not such a very formidable affair after all. Corn grown on a poor soil, and brought to a still poorer one, will degenerate in quality, and it has been generally admitted that it is desirable to procure your change of seed from land colder and poorer than your own, so as, if possible, to improve its position rather than the reverse. Much advantage has been derived by procuring corn from poor thin chalks, where it has, no doubt, acquired a strength of character and a power of resistance, which when it is placed under more favourable circumstances, enable it to take advantage of its improved position. Thin and second-rate seed corn appear to be a mistake. If we breed cattle, we select healthy and well-bred parents, and why should we make a difference with our corn? If we desire a healthy and vigorous growth, which shall the better resist the effects of an unfavourable season, or other adverse circumstances to which it may be exposed, we must select fully matured and developed grain; for, as in nature, "like produces like," if we sow good seed, we may the more surely expect good results. I have, on more than one occasion, observed that some farmer, visiting a friend, say, in the North of England, has been induced by him to try a particular variety of grain in his own county, the result is so satisfactory, that he, in turn, persuades his neighbours to try it. Five years pass away, and one of them having lost his stock applies to the original introducer. "Oh!" says he, "I have given up growing it; I found it did not answer." Now, how does this occur? I argue that it was the change of seed at first gave such satisfactory results, and after that had died out he found that the variety itself was no better adapted to his requirements than others he had grown previously. Change of climate also has its beneficial effect in change of seed, and this is particularly borne out by the very large quantity of barley and oats annually brought from Scotland, especially for seed, and also the great demand for seed wheats which reaches us from France. On the other hand, in moving seed from a warmer climate to a colder, an adverse effect is experienced, which is, however, gradually overcome by acclimatisation, and this is especially shown in the case of foreign red clovers and sainfoins, although foreign Italian ryegrass appears to be an exception to this rule. I should be glad if some gentleman would account later on for the almost entire giving up of alsike in this country, where a few years ago it was so popular and commanded so high a price; is it another instance of that fashion which rules us all, or how do you account for its disappearance? Hybridisation has been successfully practised by artificial means and with good results. In 1851 Mr. H. Raybird obtained the prize medal at the International Exhibition for a hybrid wheat which he obtained in this way, and which for some time was a great favourite with both farmers and millers; the latter are very partial to a good

sample of red and white wheat grown together, and it is a question whether the good qualities possessed by such a sample are not in a measure brought about by natural hybridisation during the blooming season, by which the good qualities of two distinct varieties of wheat become blended. With regard to judicious feeding, as much care should be given as in the grazing of stock. The corn crop requires different kinds of food to sustain it and bring it to maturity. It is useless to buy a high-priced horse and then starve him, and I cannot help thinking that this subject (although perhaps not coming under the head of "seed corn") is also deserving of more attention than it has hitherto received. Certain chemicals, such as nitrate of soda, produce straw, but it is not always found that a heavy crop of straw necessarily means a heavy crop of corn, and I doubt if any manure has been positively found to assist the plant at the proper time in producing corn. Major Hallett would no doubt tell us that we don't get corn on our straw because we crowd it and do not give the plant room to perform its functions. In conclusion, great results, whether in farming or any other business, are only to be obtained by much care and forethought, many experiments and many failures, and I should suggest that the most practical way of arriving at a sound conclusion would be not merely by attending at such meetings as the present, hearing various theories advanced, and taking no trouble to ascertain if there be any truth in them; but let each and every one here present go home and commence some few experiments himself. You can most of you find some suitable place as a trial ground, and if you arrive at no satisfactory results you will at least have found amusement; and if, on the other hand, you should make some grand discovery, I am sure we shall be all pleased to hear of it at some future meeting of the Ixworth Farmers' Club. And I will venture further to suggest that if any gentleman will make it his business to start as a grower of seed corn, and will secure the best cereals in cultivation, taking care that nothing is allowed to interfere with the purity of each stock, that he will be conferring a boon on his fellow farmers which will be so far appreciated by them as to render the undertaking sufficiently remunerative for his time and trouble. Mr. Goldsmith added an expression of his opinion that some corn was cut much too green, saying it did not measure nearly so well as if it was allowed to stand a longer period.

Mr. J. BOOTY had not tried many experiments, and he had not been very successful with the few that he had attempted. He rather inclined of late to the view that change of seed was desirable, and he thought it preferable to obtain seed from the North rather than from the South. As to thin sowing, he approved of what had been said on that subject, and he had himself grown more from a bushel per acre than he had from two or three bushels—in fact, he grew the largest crop of red wheat he ever had in that way. He had always found that his land was too heavily seeded with ten pecks per acre, and consequently he had had a great deal of smallcorn. His experience in reference to barley was that in sowing it year after year the quality was not so good, and he had been told that he had some excellent barley land, but he did not get so much by 2s. or 3s. a coom as some of his neighbours.

The CHAIRMAN: Have you changed your seed?

Mr. BOOTY: No. I grew what is called "The Miller's Delight," but I find that now they don't delight in it all. It is my intention to change the seed, and if Mr. Goldsmith will get me some from the North I will try it.

The CHAIRMAN: Have you ever grown alsike, Mr. Booty?

Mr. BOOTY: I attempted it twice, but failed. Mr. W. Matthew's man has grown it very successfully.

Mr. T. GOLDSMITH, alluding to the question of putting the seed singly into the ground, said when he first commenced farming he used to dibble every acre of wheat. He had eight pairs of dibbles, but it was impossible to get it done now.

Mr. EATON GOLDSMITH said Major Hallett had little cups which would hold one seed and no more.

The CHAIRMAN: If you had the opportunity of dibbling your wheat would you do it now?

Mr. T. GOLDSMITH: Certainly, every acre; but you cannot get it done. We have now got into a different system. There is not the population, or if there is they do not care to do the work. You could get the dibblers, perhaps, but not the droppers.

Mr. A. C. WOODARD: Rather an argument against the Education Act.

The CHAIRMAN: Why would you dibble? Because you would use less seed per acre?

Mr. T. GOLDSMITH: I used to grow better crops and better corn. The seed was put in singly, as near as possible. You could not get the droppers always to put one seed, but you could get it done far nearer than you can now with the drill.

Mr. G. GOLDSMITH, in answer to the Chairman, said he would not return to the dibbling system again if he could.

Mr. J. BOOTY remarked that there were now excellent implements for pressing the land down.

Mr. EATON GOLDSMITH pointed out that farmers did not allow their turnips to grow in bunches, and surely it was not right to plant more than one seed at a time.

Mr. J. BOOTY: I like to see my wheat look bunchy in the spring, otherwise I do not get a good crop. The turnip is different to the wheat, and merely runs up.

Mr. EATON GOLDSMITH pointed out that the wheat plant must have a certain extent of ground to get its food from. Major Hallett said that as the plant developed above ground so it developed under ground—when it sent up a shoot there was a root to correspond.

Mr. G. GOLDSMITH observed that there was a great difference in soils. On some soils if the seed was planted very thin the wheat grew luxuriantly, tumbled down, and never came to maturity, but in other soils it would branch out and do better.

Mr. GATES said he thought all farmers would be ready to admit that a change of seed was beneficial. When he first went to Feltham, Norfolk, he found that there had not been a change of seed for years. He took some seed off another farm, and he could grow much more barley and better quality than his neighbours. The consequence was that everyone wanted his seed. He stated this to show that a change of seed was all that the land required. He thought the long ears referred to in connection with Major Hallett's system was probably produced by thin seeding.

Mr. EATON GOLDSMITH: That is his system, but then he speaks of results per acre, which cannot be disproved.

Mr. GATES said frequently with only half a plant the ears were long, whether the seed had been good or indifferent. If it was thinned with the wire-worm or other means, the ears were generally large. People had, in fact, grown great crops from cross corn. One thing he had noticed about a thin plant was that on the land he formerly farmed, which was high land and good land, it was more subject to mildew than a good plant. He rather doubted whether it was wise to carry out thin seeding to the extent Major Hallett recommended; but, on the other hand, he thought it was planted a great deal too thick as a rule.

Mr. WOODARD said it had been contended that wheat planted very thick would, after a time, turn to the grass from which it was originally derived. He had noticed that at those spots where the drills became unblocked, and where, consequently, a great deal of seed was allowed to drop into the earth, there was a large amount of a sort of grass and but few ears.

Mr. EATON GOLDSMITH: Rather a strong argument in favour of Major Hallett's system.

The CHAIRMAN said he had received a letter from the President (Mr. Green), in which he spoke of the subject discussed this evening as a very important one, and added that, with high farming, the only way the crops could be increased was by having grain which would produce fine kernels with more of them in each ear. He (Mr. Manfield) thought there was no one but would agree with that remark, but the difficulty was to know how they were to produce this kind of corn. They were much indebted to Mr. Eaton Goldsmith for having introduced the subject this evening. It was an important subject, and he (Mr. Manfield) could not help thinking that from the seed they sowed depended very much the character of the crop they obtained. They ought undoubtedly to sow the very best seed they could obtain, and money was well spent in procuring seed of that kind. Major Hallett's system had doubtless very much to recommend it; but he (the chairman) did not think it would do for all to sow the very small quantity that Major Hallett did. He (Mr. Manfield) believed he grew as much if not more corn from thin sowing as he did

from thick sowing, if the plant from the thin sowing was a good one. He well remembered planting some barley. He put on only a bushel to the acre, because he had planted the land with lucerne, but he got quite as much barley as he did when he used 10 pecks. As to the remark that farmers paid as much attention to the fashion as the milliners did, he had himself noticed that if a certain plant was grown by one farmer, others would copy it, until it gradually died out for the time being. He thought it a bad plan to follow the fashion, it being better not to imitate their neighbours to a very great extent. With reference to alsike, it had, as had been remarked, gone out of fashion, but why he could not exactly understand, seeing that it was admitted to be a very remunerative crop. There was one matter which was well worth knowing, and that was, the comparatively few ears that came to perfection. It had been estimated at one in ten. If that were so, it became farmers to economise their seed. If only one spikelet out of ten came to perfection, there was no doubt but that as a general rule the seed was planted much too thick. They might not like the look of their plant so well in the spring, but it seemed from experience that it would do quite as well. He would ask if there was no kind of manure that would assist in producing more corn. He believed nitrate of soda was very useful.

Mr. EATON GOLDSMITH said Mr. Lawes had contended that nitrate of soda acted more as a stimulant than anything else.

The CHAIRMAN: It has the effect of making the plant look well.

Mr. T. GOLDSMITH: But when there is a sharp frost, how then?

The CHAIRMAN continued: No doubt one argument against a thin crop was, that it was more liable to mildew. As for the growth of seed-corn, it would hardly pay so well as breeding pedigree Shorthorns, seeing that there would not be the extraordinary prices which were sometimes realised for Short-horns.

Mr. EATON GOLDSMITH: You would not make such an extraordinary outlay. My belief is that it would be found of comparatively more benefit than breeding Shorthorns.

The CHAIRMAN continued: As to cutting the corn green, it seemed to him to be the choice between two evils. If it was cut early, no doubt there was a loss in the measure, but, on the other hand, if cut late, a good deal of it was left on the land, and the question was, which plan was preferable. In conclusion, the Chairman intimated that Mr. Goldsmith was ready to answer any question that might be put to him. There was no man who had had more experience of the difficulties of farmers than he had, as he had been connected with a great seed farm for many years.

A desultory conversation followed, in the course of which reference was made to the necessity of picking the ears so as to get a good stock.

Mr. T. GOLDSMITH said he did that one year, and the produce he planted, and obtained an excellent crop of wheat.

Mr. EATON GOLDSMITH remarked that it had been proved beyond doubt that the disease in corn was hereditary. If red-rust appeared in wheat, it would show itself again if the wheat was used as seed, unless some strong chemicals were used to prevent it. It was therefore very important to keep clear of red-rust, smut, and other diseases as much as possible. He did not remember at the moment any disease to which barley was subjected.

The CHAIRMAN said he had seen a number of black ears in barley. Smut in wheat might be propagated, but he was not aware that red-rust could.

Mr. G. GOLDSMITH said he looked upon smut as one of the greatest mysteries that farmers had to contend with. When he commenced business he had some seed which had been wetted. He planted a portion of the field, but the headlings he left for a few days, till, in fact, there was a shower of rain, and he then planted the seed which had been wetted at the same time and in the same manner as the other. That which was planted then was full of smut, but there was not the slightest trace of it in that which was planted first. He had heard it contended that it was beneficial to the corn to remain after it was wetted.

The CHAIRMAN said reference had been made in the paper to the deterioration of corn if grown under certain circumstances for a time.

Mr. EATON GOLDSMITH said he had understood that it was

possible to continue the growth of wheat year after year till eventually it got back to the grass from which it originally sprung. Major Hallett had stated that if wheat was sown too thickly it produced nothing but grass. If there was deterioration on the one hand, why should there not be improvement on the other hand? Rather more than double the number of kernels had been produced in the ear by improvement, and the subject was well worth consideration, to ascertain whether the improvement could not be carried further. With regard to other corn, it had been said that if oats were grown year after year upon strong land they would return to the original wild oat from which they sprang; and wheat, if it was grown year after year under adverse circumstances, and too thickly seeded, it would go back to the original grass from which it sprang.

Mr. T. GOLDSMITH: I have known it grown for 18 years in succession, on a piece of land at Walsham.

The CHAIRMAN: And it did not deteriorate?

Mr. T. GOLDSMITH: No.

Mr. BOOTY instanced the land belonging to Mr. John Law, who grew wheat 19 years in succession.

The CHAIRMAN: It was planted 18 different times, and there were 18 different crops?

Mr. T. GOLDSMITH: Yes.

The CHAIRMAN said that was rather different to the case put by Mr. Eaton Goldsmith, who referred to corn planted much too thick. Scientific men had said that wheat cut off several times till late in the spring, and then allowed to grow, would come to something different to what it should be, that it would actually become barley or oats. He should like to have heard something said about wild oats, why it was they appeared in such vast numbers one year, and the next there was scarcely any to be seen.

Mr. J. BOOTY: You plough your land deeper sometimes than at others?

The CHAIRMAN said he did not think that that had much to do with it.

Mr. EATON GOLDSMITH said Professor Buckman tried a variety of experiments at Cirencester. He started with the wild oat, and grew it in succession six and seven years, and on one plant he got distinct varieties of the very oats which farmers now grew, thus showing that the oats in cultivation were simply an improved variety of the wild oat. As by cultivation the wild oat could be made so useful, so by deterioration by putting the oats on land which was unsuitable, on cold clay land, it would again assume the form of the wild oat, which sheds its seed earlier than the other, creating a pest which it was very difficult to get rid of. He was rather anxious that the practical gentlemen should have informed him as to whether there was any thing in these theories. It was no use to meet in this way and talk over these matters unless they tried experiments at home.

A vote of thanks was passed to Mr. Goldsmith for his admirable paper.

Mr. GOLDSMITH, in acknowledging the vote, said he would offer, on behalf of himself and his partner, two guineas as a prize at next year's show for the best collection of cereals, or to be devoted in any way the president thought best.

THE VIENNA EXHIBITION.—The Emperor of Austria has conferred the Cross of the Imperial Order of "Frauz Joseph" upon Mr. Walter A. Wood, of Thames-street.

PRIZE CATTLE TRUCKS.—The models sent in by the competitors for the prizes offered are now on view at the Indian Court, National Portrait Gallery, Exhibition-road, South Kensington, and are over fifty in number.

A TIPTREE TESTIMONIAL.—Some unknown friends and neighbours have presented Mr. Mechi with a Christmas box, in the shape of a pony, with his harness complete, as "an evidence of their friendship, regard, and esteem."

THE HULL SHOW.—In the miscellaneous awards it appears that Mr. George Cheavin's name was misprinted Leavin, but the address was correctly given, and the name itself in the list of exhibitors.

THE BALLARAT FARMERS' CLUB.

THE TENANT-RIGHT MOVEMENT IN AUSTRALIA.

At the last monthly meeting, Mr. Bacchus, President, in the chair, amongst the letters received was one from the Secretary for Agriculture stating that application had been made to Mr. Ellery, the Government Astronomer, for the supply of meteorological instruments for the Ballarat Farmers' Club, and that Mr. Ellery had replied to the effect that a rain gauge could be supplied, provided that a monthly record of the rainfall was forwarded to the Observatory, but no instruments were available. On the motion of Mr. McClure, seconded by Mr. Jopling, the offer was accepted. A letter from Mr. Robert Bell, referring to the offer of a premium of £500 by the Agricultural Society of South Australia for the invention of a wheat-cleaning machine, stating that he could demonstrate the way wheat could be produced at a cost of from 1s. to 1s. 6d. per bushel, but not stating how, was read, and on the motion of Mr. McDowall, seconded by Mr. Jopling, laid on the table, and directions given that all future communications from Mr. Bell be merely laid on the table.

Mr. J. M. MAIN moved the following motion standing in his name: "That in the interests of landlords and agricultural tenants in this colony, and in the interests of the colony itself, it is desirable that legislation should be brought to bear on the relations between these two classes, and that the Minister of Agriculture should be memorialised to introduce a Tenant-Right Bill with as little delay as possible; and, contingent on the necessity for such a measure being acknowledged by this club, that a memorial be prepared for presentation to the Minister of Agriculture in accordance with such acknowledgment; and that copies of this resolution be forwarded by the secretary to all the known agricultural societies in the colony, requesting their earnest consideration of same, and their cordial support of it, if approved." In connexion with this motion Mr. Main read the following paper:

The great mass of argument that might be used to support and oppose my views on this subject would occupy so much more time than can possibly be devoted to it here, that I shall abstain as much as possible from going into details now, and will limit my remarks to a brief notice of the basis on which such a bill should receive general support, leaving the fuller discussion of the details to the consideration of the Press and kindred societies, and to some future meeting of the members of this club. Although I have designated the proposed measure a Tenant-Right Bill, I mean that the measure should contain provisions for the protection of landlords as well; that while the interests of tenants should be protected from the rapacity or stupidity of landlords, the property and interests of the latter should be equally protected from ignorant or evil-minded tenants. Much discussion has taken place on this subject throughout Great Britain during the last year, and I saw in a number of *The Mark Lane Express* of January last (1873) the drafts of two bills that had been prepared under the auspices of what was termed the Central Chamber of Agriculture, the principles of which had been approved by that Chamber, and by other agricultural authorities. Considerable difference of opinion has been manifested on the subject, but so far as I can see, a large majority of the people at home is in favour of a measure of the kind. Some people contend that the relations between the landowners and their tenants may be safely left to special agreements between the parties. In this I would willingly concur if all men interested in agriculture were equally honourable and liberal; but as we never find an instance of human perfection, and very rarely an approximation to it, among any class of men, I think it would be to the advantage of both parties if the Legislature insisted on certain conditions on either side. We have already Acts of Parliament to enforce certain conditions between landlord and tenant in the matters of insurance, repairs, inspection, and subletting of buildings, between masters and apprentices, between masters and servants, between shipowners and seamen, and many others imposing certain conditions on various trades, for protection from fraud or injury; and what then can be the objection to an Act for the mutual protection of members of, perhaps, the most important class of persons in the colony? While I should like to be able to dispense with such a measure, I

maintain that we cannot, or rather that we should not, if we desire to advance the colonial agricultural interest. A bill that will enforce certain defined conditions of lease on either side will do a great deal to extend and improve agricultural pursuits; landlords and tenants would then have confidence in the law if not in each other, and a spirit of mutual confidence and independence would be established between them rapidly. Unfortunately for Victoria, the evils which the proposed measure is intended to remedy are not confined to private landholders and their tenants, but are the more rampant, and much more disastrous, among the Crown tenants, large numbers of whom have been for years, and still are, engaged in the constant deterioration, if not in the actual destruction, of our landed capital, under what is ironically called our "liberal" Land Acts—ravenous laws that should be either swept from the Statute Book, or administered more to our national, and less to our individual, advantage. But for the disastrous alienation of nearly all our best lands, Victoria might to-day have been the greatest country in the world of her age and size—a country with free trade, with free ports, no taxes, and an accumulated revenue from Crown lands rentals, equal to all our requirements, for the extension of our railways and the introduction of population; but since the introduction of responsible government, there has not been a Parliament, nor a Ministry, that has not proved disloyal to the people on this momentous question of the disposal of the public lands. If our landed capital must be sacrificed to meet our necessities I would certainly like to see it done under a really liberal Land Act, embracing the principles of free selection, deferred payments, and fair value; but I think the very loose manner in which these principles are now being carried out is more pernicious to the advancement of agriculture, and more obstructive to the true progress of the colony, than if they did not exist at all. The present system is, in fact, a continuous destruction of national property to which we have too long conveniently closed our eyes, but to which they may yet be opened when nearly, if not quite, too late. The alienation of our land capital should be at once stopped. The boasted "liberalty" of our land laws is, at the best, that of the spendthrift, who, instead of living on the interest, squanders his principal, and trusts for the future to chance. What chance will bring us may be a struggle neither light nor bloodless. I have long viewed the boasted liberalism of our land laws as a national calamity, very seriously affecting the legitimate agricultural interest; for I have reason to believe that in very many cases the lands purchased or held under lease or licence by that class of bastard farmers who have been overrunning the colony like locusts, have been partially, if not wholly, destroyed before they were paid for in full. In fact, many of these unskilled men of small means were, and are, no better than Crown tenants, paying 2s. per acre per annum for land which, if it were private property, would cost them 5s. to 20s. per acre, while they would be compelled to make more expensive and more substantial improvements than the State requires, and without the remotest chance of them ever acquiring the fee simple of the land for which they would be paying the highest rental. They are thus placed in a most unduly favoured position to compete against those farmers who have bought or rented their holdings at much higher rates, while there seems to be no tie to bind the most of them to these cheap lands, nor any deterrent penalty to prevent a desertion of them. As soon as they have worked all the virtue out of one piece of land they sell it for what it will fetch (if they have kept it long enough to acquire the right of sale) to the first squatter or handjobber that will buy it, or perhaps they abandon it to take care of itself, while they remove to some new selection to exhaust it in precisely the same way—a system of land liberalism that demands condemnation and prompt abolition. We shall shortly be on the eve of a general election, and, speaking individually, I should like to see no man elected who would not pledge himself to lock the door of the land sales office, and to throw away the key. I think I have said enough to show the urgent necessity that exists for a great effort being made to conserve what is left of the land capital of the colony, to

place the lessees of both Crown and private lands on a juster footing towards each other, and to establish better relations between their respective landlords and themselves. I think, while we continue to submit to this alienation and deterioration of the public lands, to the existing mismanagement of the public railways, to the crushing of the mining interest, and other grievances, we shall be doing a great deal to prove the soundness of Mr. La Trobe's opinion of us—that we are not fit to govern ourselves. I wish now to observe that I think a great deal of valuable information in support of the position I have taken up would be gained, if some member of Parliament would obtain a return of all lands alienated from the Crown by direct purchase, or indirectly, by lease or licence in the first instance, since, say 1860, with the names of the original purchasers, selectors, or licensees; the prices paid for them, the period of time and the extent to which they were cultivated, their present condition, the names of the present proprietors, the date at which the latter became possessed, the purposes to which these lands are now applied, and their present value. The disease is desperate, the remedy must be the same, but we need skilled doctors, not quacks, to apply it. And as I have before said, it will be undesirable now to enter into a discussion of the mass of details to be considered in the preparation of a Tenant-Right, or, perhaps, more properly speaking, a Land Tenure Bill. The length of leases, the variety of improvements, embraced under the heads of temporary, durable, and permanent, the value of unexhausted improvements in the shape of manures, are all matters that can stand over for future discussion; my present object is to test the opinion of this Club and of kindred societies throughout the colony, as to the desirability of getting a bill passed to place private landholders and tenants on a better footing, to check the destruction of our Crown lands under the existing pernicious system, and to better equalise the positions of the Crown and private tenants. If it be deemed undesirable to get such a bill passed, there will be no occasion for any further discussion on matters of detail. Since the foregoing remarks were written, I have seen the copy of a letter from the late Mr. J. S. Mill, to a Mr. Ross, in Melbourne, which was published in the *Argus* of the 1st July, in which he says: "I am glad to see the progress of the Land Tenure movement in Victoria. Now is the time to stop the alienation of public lands, before the great mass of them is granted away." I need not say that I should, and do feel proud of having unknowingly run in the same groove, with, though a very long way behind, so illustrious a thinker and writer.

On the motion of Mr. McDOWALL, seconded by Mr. BATH, a vote of thanks was passed to the essayist. Mr. Main's motion was not seconded, but a sub-committee, consisting of the president and Messrs. Main, McDowall, and McArthur, was appointed to take the matter referred to in the motion and essay into consideration, and to bring up a report upon the subject at the next meeting of the Club.

HEDGES and FENCES.—Mr. BACCHUS, the president, read the following paper: Hedges and shelter trees will probably not be much thought of by the farmer who works his land from hand to mouth; at first the quickest made and cheapest fence will be resorted to, but when the farm becomes a regular source of income, the owner will find that a certain sum of money laid out in planting live hedges and, in open country, screen plantations will be more to his gain than he at first might suppose. Will it pay? is the query usually asked when a new scheme is indicated. After a little trouble at first the ready answer will be in most cases, It is paying well. Hedges and trees are like children, requiring a good deal of attention in infancy, which properly given enables them in after years to look out pretty well for themselves, and do credit to those who had charge of their youth. Stone walls are undoubtedly the best of all fences, they give some shelter and arrest, if they do not stop, the progress of bush fires, and are the most durable. Posts and rails, however good at first, decay and must be renewed at some time; but, on average soil, a live fence properly made and attended to during its early growth, in the end is the cheapest, most useful, and handsomest of all fences. A live hedge bristling with prickles possesses a threefold advantage as a fence, a screen, and to keep stock apart; two lots of cattle cannot so easily fraternise, fight, or communicate infection across a thick hedge as they may across a fence of wire or post and rails. A hedge pleases the eye; unlike a fence of timber, every year it grows adds to the value of the

land it helps to enclose, at the same time it affords a refuge to small birds, which do no end of good by eating insects, seeds of thistles and weeds, and affording them winter food in the berries, they will make of it "a local habitation and a home." Some persons may be deterred from planting out hedge plants and trees on account of the expense of purchasing from a nursery; here I would say—raise your own plants and trees in a nursery at home. The Messrs. Anderson, of Barkstead, and others have been very successful in doing this on a large scale. A great number of plants may be grown on a very small piece of land; anyone who has not tried it will have no idea of the quantity of cuttings and trees that may be grown on such a small plot. Let a commencement be made and I venture to say that a home nursery will soon become a point of attraction to most of the members of a family; as the things grow so will the interest be increased. Let fruit trees be raised there; some member of the family could perform the operations of grafting and budding; it is a useful and interesting accomplishment which no one will regret having learned. A lavender hedge through the garden is soon made; the flowers are sought after by the bees and are in demand by perfumers, and housewives who like their linen scented. The nursery should be in a sheltered situation; a row of arctihokes on the north and west sides would make a temporary screen. For garden and shrubbery shelter fences I would recommend the English laurel and *Euonymus Japonica*, they grow quickly and make a high, close evergreen fence, and shelter; also the *Ceanothus* and *Alaternus*. The arbutus makes a pretty screen fence inside a garden. In New South Wales the lemon and olive make excellent close fences; the climate about Ballarat is too cold for the former, but the olive grows here and makes a high, close fence. The white acacia, or locust tree, might do; it grows quickly, and is disliked by stock. There are several native shrubs well adapted for hedges, and others, such as quicks, &c., which you see commonly in fences; visit the principal nurseries where the plants are growing, and judge for yourself. A few plants of New Zealand flax will be found very useful, giving material for tying all sorts of things. The poplar is one of the quickest growing and perhaps as good as any tree for a break-wind or screen. For this purpose it has been used at Lang's nursery; it grows readily from cuttings, which may be put out in rows a foot apart, and nine inches between each cutting, which in two-and-a-half years from the time of planting ought to be over six feet high. Suppose you wish to plant a quarter of a mile (440 yards) alongside another fence, plough a strip three feet wide, not under eighteen inches deep, plant the young trees in the centre, two feet apart; in four years the trees will be safe from stock, and each alternate tree can be taken up and made use for rails for the fence. There will then be a good break-wind of trees four feet apart, becoming denser each year. The interstices may be filled up with stones and brambles, such as the American blackberry or dog rose. A good many brambles, grown in the nursery from seed, may be planted; cattle are not so fond of rummaging in places where they get their noses scratched, or a piece of thorny bramble included in a mouthful of green stuff from the hedge; or you may plant or sow seeds of such shrubs between the poplars as will grow under the shade of trees. A very common native thorny shrub, yielding abundance of seed, a sort of myrtle called, I think, *Eugenia myrtifolia*, does well as a hedge plant, and thrives under higher timber, and is well suited for planting between the poplars or other large trees; to fill up, the *Acacia armata*, *Undulata hakea*, or some other indigenous shrubs may do as well. These native shrubs have long, penetrating tap-roots, and are not much put back by a drought. Two rails from the intermediate trees taken up, and a wire fastened by long staples to the growing trees, if considered necessary, being added, and you have a sheep-proof fence and break-wind combined. This plan might be carried out with other large growing trees, the hornbeam or sycamore for instance, but I have chosen the poplar as it gets sooner out of the reach of stock, and it thrives in most sorts of soils and climates. I know from experience that poplars grow well when planted only two feet apart; in Italy and other parts of the Continent of Europe they are so planted. To protect the young trees another fence must be put up, say 20 feet from the old fence. The space between the two may be utilised by sowing it with grass for hay, from which two cuttings may be obtained yearly. This fence may be removed in three or four years, when the trees are well grown. The greatest cost would be that

of the temporary fence, but it would be worth half the outlay when no longer required. Raising the poplars from cuttings, brambles and shrubs from seed, ploughing, planting, enclosing, wire, and staples, &c., according to my estimate, would cost about £70 a mile, including expense of the temporary sheep-proof fence. Care must be taken to keep sheep from the young trees at first, as there is a poison communicated by the contact of sheep with young trees, fruit trees especially, which often kills them, and always retards their growth. There are many native shrubs and trees which neither sheep nor cattle are likely to injure. The gum trees growing along the sides of the road between Ballarat and Buninyong grow closely together, scarcely touched by the stock. The same thing is apparent in the adjacent unenclosed country. I think it may be quite possible to make a screen fence of such trees without enclosing it; to make the fence close some management of the branches would be necessary when the trees had grown about six feet high; this process, called pleaching, is well understood by hedges in the old country. In this way a similar screen fence as described for the poplar, including cost of collecting seeds, might be made for about £24 a mile; no rails or wire would be required, the ground to be ploughed as before mentioned, and the seeds sown in two rows say a foot apart. Farmers in the Bullarook and other dense forests appear to wage war unsparingly against every sort of tree; in a few years they may find it expedient to plant more, and regret the destruction of a

few blackwood, cherry, and shady gum trees, which cannot be replaced. When clearing a piece of land, why not leave some of the most shady trees? A few trees left on the north side and in the corners of paddocks will be of use for shade and shelter. I will conclude this paper with an extract from Loudon's "Encyclopedia of Agriculture": "When farm lands are exposed to high winds, interspersing them with strips or masses of plantation is attended with obviously important advantages; not only are such lands rendered more congenial to the growth of grass and corn, and the health of pasturing animals, but the local climate is improved; the fact that the climate may be thus improved, has in very many instances been sufficiently established; it is indeed astonishing how much better cattle thrive in fields even but moderately sheltered than they do in open, exposed country; and in instances where fields are taken by the season for the purpose of fattening, those most sheltered never fail to produce the highest rents, providing the soil is equal to that of the neighbouring fields not sheltered by trees. Trees and shrubs properly disposed in a bleak situation, improve the land in three ways, by giving shelter to stock, by breaking the currents of winds, and communicating a degree of warmth and softness to the air. In winter living trees communicate actual warmth to the surrounding air by their shade; in summer they make it cooler."

On the motion of Mr. VAUGHAN, seconded by Mr. JOPLING, a vote of thanks was passed to the essayist.

THE WARWICKSHIRE CHAMBER OF AGRICULTURE.

At a meeting, Mr. J. Scott in the chair, Captain Townsend called attention to the provisions of the Agricultural Children Bill respecting the attendance of children at schools recognised by the Government as efficient, and said the restriction was productive of considerable inconvenience in certain districts. Such was the case in his own parish, where there was a good school, centrally situated, and generally used by the labourers, but not recognised as efficient by Government, while the Government school was at some distance from the village, and only just within the limit of two miles prescribed in the Act. The consequence was that the children had to walk the two miles, because the attendances at the village school were not counted, notwithstanding that a good education was imparted there which gave satisfaction to their parents. Lord Willoughby de Broke thought there would be no difficulty in getting efficient schools recognised. Captain Townsend rejoined that the misfortune was that such schools were not now recognised according to the requirements of the Act, so that the attendances at an unrecognised school would not count during the present year. It was decided that a terse summary of the salient provisions of the Act should be printed, and that special prominence should be given to the fact that the attendance of children must be at some recognised Government school, in order to qualify them to be employed in agricultural pursuits next year. The Secretary was directed to forward copies of the publication to the various members of the Chamber, for distribution amongst agricultural labourers in their respective districts.

The subject of the Animals' Diseases Act was introduced by Sir Robert Hamilton, who stated that the expenses incurred in connection with the working of the measure in Warwickshire had never been separated from the ordinary county finances. In compliance with a request from Mr. Horley and others, he had selected all the items from 1869 to the present time, and found that the total amount was just under a halfpenny rate. It was not until the Act of 1869 came into force that the expenses incurred under its provisions were ordered to be shared between the landlord and the tenant, and therefore there appeared to have been no very great harm or injustice occasioned by the accounts not having been kept separate, as specified in the Act. Mr. Newton thought that if the rate did not amount to a halfpenny in the pound, it was hardly worth dividing. Mr. Ford said that as the Act directed the expenses to be equally divided between the landlord and the tenant, he did not see how they could possibly avoid compliance with it, no matter how small the amount. Mr. Muntz agreed with Mr. Ford, and said the question was one of principle, not amount. Mr. Horley mentioned that he had written to Sir Robert Hamilton and Mr. Caldecott, who were members of the local authority,

calling attention to the specific provision of the Act in this respect, and suggesting the propriety of steps being taken in future for the separation of the cattle disease accounts from the ordinary finances of the county, the payment to be equally divided between the landlord and tenant. Mr. Robbins mentioned the case of Mr. Bray, of Shilton, in which compensation had not yet been paid for animals slaughtered several months ago, and complained of the hardship to which persons who had suffered loss for the public good were thus subjected. On the motion of Mr. Ford, seconded by Mr. Hicken, it was ultimately resolved, *nem. con.*, that a memorial, pointing out the provisions of the Cattle Diseases Act, 1869, with respect to the division of expenses between landlord and tenant, and requesting that in future that course might be adopted in this county, should be presented to the County Finance Committee. The Chairman, Mr. Muntz, and Mr. Ford were appointed a committee to draw up the memorial. Lord Leigh mentioned that at a special meeting of the local authority, held a few days ago, it was resolved to present a memorial to the Finance Committee, also asking them to keep the accounts separate, and to levy a special rate for cattle disease purposes. He had no doubt the matter would receive careful consideration at the hands of the Finance Committee, of which he himself was chairman, and that the decision at which they would arrive would meet with the approval of the Chamber. Mr. Muntz urged the importance of all claims for compensation being promptly settled. It was not only of moment to farmers who suffered loss, but was also of public importance, as uncertainty when a claim would be paid was calculated to make persons conceal the existence of disease amongst their stock. He suggested that the Chamber would render a service to members by circulating information as to how claims for compensation should be made, and when and how they would be paid. Mr. Horley mentioned that the local authority had great discretionary powers as to the compensation to be allowed for slaughtered animals. He had always felt that, as cattle were slaughtered for the public good, without the consent or even concurrence of the owners, they should be dealt with liberally. The utmost money compensation they could get was one-half of the value of the animals slaughtered, but the local authority could also give the owners the salvage, which, in cases of pleuro-pneumonia, occasionally amounted to something considerable besides. He thought it was for the public good that owners should be dealt with liberally, as there would then be less disposition to conceal the existence of the disease. He urged that in every case the whole of the salvage should be given to the owners of animals compulsorily slaughtered.

Mr. HORLEY said the meetings of the Chamber were usually held on the Saturday before the Tuesday on which the Central

Chamber met. He had frequently noticed when any question of importance was brought forward there was no time to communicate with anyone where it was desirable to do so; and though he was not then prepared to propose any alteration in the day for the meetings of the Warwickshire Chamber, he

thought that an alteration would in some respects be certainly beneficial. Mr. Muntz said he had noticed the same inconvenience. Mr. Horley intimated that he would on a future occasion bring the subject regularly before the Chamber.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The January meeting of the directors of this Society was held in their Chambers, No. 3, George IV. Bridge, Edinburgh, Professor Wilson in the chair.

The following resolutions were unanimously agreed to: "That the directors of the Highland and Agricultural Society of Scotland desire to express their deep regret at the loss which the Society has sustained by the death of Sir James Colquhoun of Luss, Bart., and their sense of the cordial assistance rendered by him as an extraordinary director. That the death of Mr. Charles Lawson, late of Borthwickhall, having been communicated to the directors, they feel it most justly due to his memory to express the deep sense entertained by the Society of the great zeal, assiduity, and interest uniformly evinced by Mr. Lawson during the long period of his connection with the Society as seedsman, conservator of the museum, and latterly as a director of the Society; and to express the great regret at the loss which the Society has sustained by his death."

The remit contained in the directors' minute of 5th November was brought before a meeting of the Special Committee on Steam Cultivation on the 17th of December, when the

committee resolved to report—(1) That an exhibition of steam cultivators should be held under the auspices of the Society; but as autumn is considered a more suitable time than spring, and as the present season is too far advanced, the committee recommend that the exhibition should not take place till November, 1874: (2) that the exhibition shall not be competitive, but that each exhibitor shall have an opportunity of showing the full working powers of his apparatus; (3) that the exhibition shall be held in the vicinity of Edinburgh; (4) that the Society shall pay all working expenses at the exhibition; (5) that the Society shall present a gold medal to each exhibitor; and (6) that a descriptive report of the various systems represented shall be drawn up for publication in the Society's Transactions. The report was approved of, and it was remitted to the committee to make the necessary arrangements for the proposed exhibition in November next.

A proposal by Mr. Glennie, Fernyhatt, to offer a premium to be competed for in the season 1874-75 by the owners or companies owning steam-cultivating machinery, was referred to the Steam-Cultivation Committee.

T H E H O P - P I C K E R.

At the annual meeting of the Society for the Employment and Improved Lodging for hop-pickers held at Maidstone, the Earl of Darley presided. The report stated that the committee had addressed a letter to the Local Government Board as to evils relating to the lodging of hop-pickers, the remedy for which must be sought in the amendment of the law. A correspondence subsequently arose between your committee and the Local Government Board, and there is reason to believe that the law will be altered in such a manner as to bring lodgings of hop-pickers under the supervision of the sanitary authorities. At the conference of the Poor-law Guardians of the South Eastern District of England held in August last at Maidstone, the following resolution was unanimously carried: "That in the opinion of this conference it is desirable that such bye-laws with regard to hop-pickers as are suggested in the report of Mr. Murray Browne to the Local Government Board should be entrusted to sanitary authorities." Your committee respectfully appeal to peers and members of Parliament who have directly or indirectly supported the efforts of the Society to render their aid in passing such measures through Parliament as may repress such part of the evils relating to the lodging of hop-pickers as cannot be dealt with by merely moral suasion. The committee desire to thank the Hon. Edward Stanhope for advice and suggestions relating to the state of the sanitary law. The number of hop-pickers supplied this year was 856 as against 812 last year.

The CHAIRMAN said: From a return issued by the South-Eastern Railway Committee it appeared that during the present year there were 14,664 hop-pickers conveyed by special down trains, and 16,933 returned by special up trains. In 1872 the numbers were—down, 15,947; up, 17,233.

The MAYOR, in moving the adoption of the report, said he was pleased to see that the Society was progressing. The previous year (1872) was, as they all knew, a very heavy hop year, and consequently a large number of pickers was brought down in excess of what had generally been necessary to meet the requirements of the district; but although a less amount of labour was required this year than in the year before, he perceived that the Society had supplied a large number of pickers, the number being 859 against 812; consequently they would suppose from that that the influence of the Society was extending. He thought there was a great work for this Society still to do. He believed that during the few years it

had been in existence it had very much improved the means of travelling and the accommodation of the poor people who came down for the hopping season. One was pleased to see that there were fewer persons hanging about the town at that period, not knowing where they were to be employed, than there were a few years ago. Time was when they saw poor people walking about the town, having no engagement, and not knowing when the hopping would begin. Now, through this Society, it was known when picking would commence, and that must be an accommodation to the poor people. With regard to the hop-pickers' lodgings there had been an improvement in that respect. He had noticed a growing desire among the farmers that these persons should be better accommodated than they had been, but he did not think they should altogether lose sight of the fact that the accommodation to which these people were accustomed in London was of the worst kind, and he had no doubt that a great many of the pickers were far worse off in the houses in which they resided in London than in any which they obtained in the hop districts. He believed that very few of them went back worse than they came. Looking at the alleys and courts of London, and the wretched condition in which these persons lived, he thought that their sojourn in this neighbourhood, although they were what might be considered badly lodged, must be an improvement to them. With regard to the remarks which were made as to fever and cholera being engendered, he was not at all sure that it was not more the fault of the food they obtained than the lodgings in which they lived. One could see from reports in the newspapers, and from personal observation, that a very great deal of the food supplied to these people was of a very bad description, and he thought that this Society, through their agents, would be doing a good work if they would pay some little attention to this matter. The Society had gone on doing good, and he hoped that God would grant them success and increased funds, and he was sure that the committee would lay them out well.

The report was adopted, the officers were re-elected, and the committee of management re-appointed.

The Rev. J. Y. STRATTON said that with regard to what the Mayor of Maidstone had said relative to the inspection of food, he might say that the committee found that was already provided for by the sanitary authorities, and that a very great change had taken place under the efficient inspection of the officers appointed by the unions in this district with regard to

the food sold to hop-pickers. With respect to lodgings for hoppers, he always felt very strongly that the fact of their being worse off somewhere else did not release persons in this neighbourhood from the responsibility of giving these poor people such protection as might not only secure them against the inclemency of the weather, which was sometimes bad enough during the hopping season, but they should give them such lodging as would at least tend to secure morality and decency. Anyone who supposed that because poor persons were accustomed to huddle together, that they were careless about morality and decency, made a great mistake, as was shown by the arrangements which these people were desirous of making when encouragement was given. An influence of a healthy kind had been beneficially exerted on the hop-growers by the publications which had been issued by the Society. There were, however, some people—not only hop-growers—who did not care a snap for public opinion, and it was most likely that in many cases the conduct of those persons was not of much importance; but with regard to farmers, he thought it was desirable that such persons should be influenced by law. He was glad to say that the committee backed up this feeling. It was thought that by the Sanitary Act they had all that they wanted, but it was not so, and an amendment of the Act was required to make it safe for an inspector to go into a hopper house for the purpose of inspecting it. At present an action might lie against him or his employers if he did so. A correspondence had taken place which had led to a report upon this subject being sent to the Local Government Board by one of its inspectors, and they were given to understand that the Amendment Act would be brought forward next session. Under these circumstances he thought that the appeal which was made in the report to peers and other members of Parliament was fully justified, and he trusted that they would give their attention to the amendments to the Sanitary Act when the subject came before Parliament.

A cordial vote of thanks having been passed to Lord DARNLEY, the noble earl, in responding, said that he observed that the result of the correspondence was that the Local Government Board had referred Mr. Stratton to the report of their assistant-inspector, Mr. Murray Browne, whose recommendation was that a permissive clause should be inserted, leaving it to the sanitary authority to make bye-laws if they thought proper to do so. He (Lord Darnley) must say that he was against permissive legislation. Some parties with whom this permissive legislation rested might be the persons who had neglected to provide proper accommodation for their hop-pickers, and he would rather see legislation in this matter made compulsory. At the same time, if they could get that which had been recommended it would be a great gain, and better than nothing.

The following particulars are from the report of the above Society:

Total acreage returned as under hops in each of the years 1872 and 1873, to the Board of Trade:

	1872.	1873.
	Ares.	Ares.
Hants	2,847	2,771
Hereford	6,106	6,044
Kent	37,927	39,040
Surrey	2,152	2,207
Sussex	9,738	10,174
Worcester	2,632	2,573
Other	524	467
England	61,926	63,276
Wales	1	2
Scotland	0	0
Total	61,927	63,278

In the latter part of the year 1872 the Rev. J. Y. Stratton opened a correspondence with the Local Government Board in reference to the improved lodgings of hop-pickers, and as the Board requested that the alterations in the law contemplated by the Society might be specified, the following resolution was forwarded, by desire by the Committee of Management of the Society for the Employment and Improved Lodging of Hop-pickers: "That the Local Government Board be requested to obtain an amendment of the Sanitary Act, 1866, s. 35, in order that the regulations for common lodging-houses may be extended to country sanitary

authorities in the several unions visited by hop-pickers, and that power to inspect hopper-houses, barracks, sheds, tents, wigwams, and other places in which immigrant hop-pickers are lodged may be given to inspectors of nuisances in the unions." Eventually the Board referred Mr. Stratton to the suggestions as to future legislation contained in Mr. Murray Browne's report. This report states that the quality and character of the accommodation provided for hop-pickers differs greatly upon different farms. In every district there are districts, however, satisfactory in its general character, there are farms where the accommodation provided is estates where no interference is required; and in every most insufficient and discreditable. In Kent the character of the lodgings appears to be generally improving; but it is agreed on all hands that on many farms in every district the accommodation is still seriously and often scandalously defective; that over-crowding of the most serious description is common, and that the lodgings are often very filthy; that internal divisions are constantly neglected, although without them, in the larger huts occupied by many persons of both sexes, decency is impossible, and morality must be endangered; that some buildings (the thatched hurdle houses) are frightfully exposed to danger by fire, against which no provision is made (six children were burnt to death in this manner last September); that privies, which are needed at least for the women, are comparatively rare, and fire-places, which are required for cooking and for drying the wet clothes of the children, &c., are very insufficiently furnished; that no washing accommodation is supplied, and that although the effects of this state of things are largely counterbalanced by the generally healthy character of the employment (at least in fine weather), yet that results injurious to health do not unfrequently arise, while the injury to decency and morality is of the most serious description. This matter concerns also the resident inhabitants of the district, who are exposed to infection should disease break out among the pickers. Replying to the allegation that the pickers are of so depraved a character as to be incapable of availing themselves of decent accommodation if it were afforded them, Mr. Murray Browne says that bad as the pickers generally are they are not so bad as to be devoid of the primary instincts and habits of a civilized population, and they will prefer decent lodgings to those which are not decent if the choice is offered them. Public opinion may do, and has done, a good deal, but there are some hop-growers who set it utterly at defiance; and it may be thought that public opinion has already had full scope for its operation, and has effected as much as it is likely to do. Direct compulsory legislation is in many respects to be preferred, but it would be difficult, from the nature of the case and the varying circumstances of different districts, to apply it at present. It would, perhaps, be better, therefore, to follow the suggestion made by Mr. Lambert, and to give power to each sanitary authority concerned to make bye-laws upon the subject. This course is recommended by the precedent of the Common Lodging Houses Acts, and appears to be in accordance with the views of others. Mr. Stratton gives the following suggestions as the result of his long experience:

The following regulations should be obligatory:

1. That the lodgings, whatever the materials, should be weatherproof.
2. That a minimum space of 16 square feet should be secured to each adult, two children to count as one adult.
3. That such screens or divisions should be used as are necessary to protect occupants from indecent exposure.
4. That a sufficient number of cooking houses and of privies should be provided.
5. That where the hopper-house is used for other purposes at other times of the year, it should be cleaned, and the ground adjoining made free from any offensive matter.
6. That sufficient water should be provided.

To the above I would desire to add that where sheds are used composed of hurdles and straw, lanterns should in all cases be provided to diminish the risk of fire. The above details would, however, be left to the local sanitary authority when framing its proposed bye-laws. I would only suggest that, following as closely as possible the precedent of the Common Lodging Houses Acts, a clause might be inserted in any future Act of Parliament emanating from the Local Government Board to the following effect: "Any sanitary authority within whose district hops are cultivated may from

time to time make regulations respecting the houses, sheds, tents, or other habitations within its jurisdiction in which the persons employed about such cultivation at the time of hop harvest are designed to be lodged, for all or any of the following purposes; that is to say, for the inspection and registration of such habitations, and for providing that the same be weather-proof, for fixing the number of persons who may be received into the same, for promoting cleanliness and ventilation therein, for the well-ordering of such habitations, and the provision of such screens or divisions as are necessary to protect occupants from indecent exposure, for the provision of cooking houses, fireplaces, and privies, and sufficient supply of water, and for providing against damage by fire. Provided always, that the regulations made under this section by any sanitary authority shall not be in force until they have been confirmed by the Local Government Board."

SUSSEX.—I have found but little information as to this county, and have had but little success in my endeavours to collect the same. That little, however, is of an unfavourable character. It appeared, from inquiries which I made at a meeting of the Board of Guardians of Rye, that any internal separation in the buildings was very rare, and that privies were considered quite unnecessary.

And here I may advert to a point already touched upon, *i.e.*, the great danger of fire in that not uncommon class of hurdles thatched with straw. Six children were burnt to death last summer in this manner in the Rye Union, and many others barely escaped with their lives. In this case the hopper-house, which was covered in with canvas over the straw, seems to have been ingeniously constructed so as to admit the wind and rain, and to afford every possible facility to a conflagration, while it effectually prevented the escape of those who happened to be inside at the time. From the published report of the proceedings at the coroner's inquest it appears that "it was the practice to have a naked candle to go to bed by," and "to tie the candle to the end of the hurdle above the straw." On this occasion the coroner and the jury intimated a not unreasonable opinion that lanterns should be provided for the use of the pickers. It appears that there have been similar fires in the same neighbourhood, and it cannot, I think, be denied that if the use of this sort of shed is still to be permitted, it should be made compulsory upon the grower to furnish lanterns for the use of the inmates.

THE SHORTHORN IN AMERICA.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I expect my last article will make quite a stir amongst the Bates men, and I am anxious to see if any of them can deny the facts therein stated. You know, Mr. Editor, that I always said that Mr. Bates was not what I should call a scientific breeder, nor do I believe he ever knew *good quality*. He always advocated flabby handling, such that I considered could never get ripe, nor did the symmetry of his own breeding ever come up to what I should call perfection. I have never seen anything to induce me to alter my opinion, notwithstanding the constant puffs that have appeared in this country. It was this constant run of bravado of Mr. Bates and his pet men that induced me to controvert the erroneous statements made. As *The Country Gentleman* is on your exchange list, I think you could not but perceive that this paper has been the organ to praise Bates and *his tribes* of Duchesses at all hazards since the introduction of his cattle into this country.

Mr. A. B. Allen, then editor of *The American Agriculturist*, was the first to visit Mr. Bates, who received him with open arms, feeling that his soul was wrapped up in prize cattle, and that his paper was the instrument to bring them into notoriety. When he returned to America, he said in his paper that "Mr. Thomas Bates, of Kirklevington, was the only breeder of any note in England." The junior editor of *The Country Gentleman* was the next visitor who was as much at home in the house of Bates as his predecessor, and, by this means, succeeded in gaining the good opinion of the noted breeder. Thus the mania for the Bates stock began. Both these papers were prepared, for the two editors had gained all the information they wanted to know about Shorthorns; they could write the history of them, with the assistance of Ambrose Stevens, Lewis F. Allen, Francis Rotch, George Vail, John R. Page, P. S. Chapman, taken as their fancy scribes. This was the body that first started the Duke and Duchess mania, and they swelled the current to an overwhelming state. Not a stone was returned to bring this noted tribe and the breeder of them into notoriety. They talked of their *sweet heads*, beautiful eyes, *tapering noses*, *sloping shoulder-points*, thin hides, and beautiful soft handling. Not one of them knew the true quality by the hand; nor could one of these Dukes or Duchesses claim anything higher than third-class character, and but very few of them could maintain even that. "They were bred by

Bates" was sufficient for them to command attention and win the admiration of novices. By referring to "Bell on Bates," you will see that Mr. Bates presented the bull Duke of Cambridge to an American gentleman, treated him with the utmost hospitality, and made a confidant of him. This gentleman was at the head of the writers. Francis Rotch went as far as he could. Part of Mr. Vail's correspondence appeared in "Bell on Bates." Mr. John R. Page chimed in occasionally with the extreme excellence of the Duchesses, and made his most flattering pictures of them to correspond, and to take their rounds in the agricultural press. This was done under a load of flesh; their top and bottom lines were even made straighter in such condition: many of the originals were anything but straight. The object was to attract the novice; but the practical man was not caught. The flesh, put on with great care and expense, was attraction enough for him, without the addition. All could not make them perfect even in imagination. These portraits, extremely overdrawn, were pleasing to those concerned.

This was the beginning of the Dukes and Duchess mania. The first bull heralded and noised about was the Duke of Wellington. His importer, Mr. G. Vail, claimed for him *the pure Bates*, if not quite pure Duchess. The editor of the American Shorthorn Herd Book hired him; and in the advertisements of this gentleman the Duke was the most prominent feature. He was the exalted sire of the young ones, and the numerous praises he received from the Bates men can be better imagined than described. I will give you my opinion of this noted bull. He had a small head, thick neck, and a very deep brisket; shoulder-points ragged, and his shoulder-blades uncovered; his waist was extremely light, his paunch heavy, his rumps tolerable, his twist half way up to his high tail. This is the exact description I gave of him in the "Live Stock Journal," and in a few weeks after Mr. John R. Page endorsed it, but disputed his pedigree. I think Mr. Thornton will remember this. His get were much like him. His son, Meteor, although portrayed in many papers, was coarse and unsymmetrical. Had I been one of the judges I should not have considered him worthy of a prize; but he was Bates blood, and he triumphed over others much better, to exalt the Bates tribes. Wellington was a roan; but his son, Meteor, was white. Then came the Duchesses from Earl Ducie's sale. These were

better, but not at all comparable to the fuss made about them. The scribes were full of flattering speeches, and they were all endorsed by *The Country Gentleman and Agriculturist*, and *The Ohio Farmer*. Many violent rotestatious were made against other breeds, and in oing so attention was called to the beauty of the tribe. Softness in handling was the cry of Mr. Bates; and this was the cry of his followers. We all know that softness is the reverse of good handling when the animal is ripe—and the Duchesses have to be loaded with flesh, if not ripe, to make them passable—and that is put on with a great deal of care and expense which a man of medium capital cannot sustain. Those who foreed for notoriety did it at the loss of constitution and to create barrenness, and the more scarce Dukes and Duchesses become from such treatment, the higher price they obtain, and thus some breeders out of a false persuasion of merit would sconer pursue their own will than reform; for they studied what was fashionable in preference to what was perfect. Some of those long legged, coarse, unsymmetrical bulls called Dukes of Andries were changed on paper into straight lines. These coarse creatures were pampered almost to barrenness, but still had the credit of superiority, and were honoured by claiming the calves, and there was no visible reason why this claim should not be allowed. The stock bull in the dark might be a cross from the Galloway, West Highlander, or descended from the white cattle from Chillingham, and none but those in the secret would be any the wiser. There are many ways to hide these outward crosses, purposely to make consanguinity conspicuous before the people. Tell me, Mr. Editor, whether some of your readers, if they know no blush, will not feel a little conscience stricken when they meditate upon this plausible scheme in the art of breeding. I contend that this darkness has been the means of the improvement, notwithstanding the secret kept is hardly excusable, while the forcing system is responsible for much that is evil.

A little more about the the New York Mills sale in comparison with the Provincial Show of Shorthorns at London, Canada. Here I met the auctioneer, Mr. John R. Page, and found him among the Shorthorns in all his glory; although none of the Duchesses were there to dazzle him with high-sounding names. I was very much amused with the remarks he made to me and others, and I think a short sketch of them may be amusing to your readers. All who know John R. Page have noticed the dimensions of his shirt collars, are aware of that peculiar gaiety in his walk, and that smile on his face, as he wags his head with a knowing air, sticking his thumbs into his waistcoat armholes while playing imaginary tunes with his fingers on his chest. After a few preliminary remarks, I said, "Well, Mr. P., what do you think of the show of Shorthorns here?" "A great show, sir; a great show, sir." "How does it compare with those sold at New York Mills?" "Well, sir," he said, with his hands on his hips, and his elbows a-kinmo, "I told them at Guelph that the cow sold for 40,800 dollars would not have taken a twelfth prize here." "I fully agree with you, Mr. P.; I could see nothing in that cow to warrant a prize at a county fair." "No, sir; she never was a show cow." "Then her fame and her value rested upon her name and fashionable pedigree." "That might be so, sir. That was a great sale, sir; an extraordinary sale, sir. Such a sale that we shall never see again, sir. I always said that I could outsell Stratford with the Duchesses, and I have done it, sir." This was said with much emphasis. When I visited Mr. Campbell's herd I wrote a description of it for the *Michigan Farmer*, and in that said that the West Highland cross was as plain to be seen in a great portion of the herd by a practical man as the

nose on his face; therefore I ventured to ask Mr. Pag his opinion on that subject. "You were right about that Mr. Sotham," he said; "Stratford, with that peculiar twinkle in his eye, always told Mr. Sheldon what cross was in his cattle. You were right also about the two heifers from Belinda. Col. Lewis T. Morris bought them, and they were considered as good as any in the herd by good judges." "That is gratifying," said I, "to be endorsed by the lion of auctioneers in the best tribes of Shorthorns, and one of the best judges and breeders in the State of New York. I hope that is not intended for flattery." "Oh no, sir; it is so. You and I have had many sharp passes at each other, and you have never taken a drink with me, suppose you do it now. I own a very nice little farm, and have it stocked with Shorthorns; though not Duchesses, they are good ones." I expressed my pleasure at his good success, here and we parted. I was very much gratified by the Provincial Show at London. There were many fine animals. Messrs. Snell, Stone, Miller, Bertie, and Craig were the principal exhibitors, the former gentleman being the most successful one. There were some splendid animals in each herd. I was very much pleased with two heifers imported and exhibited by Mr. Simon Beattie, bred by the late Mr. Garne. I saw nothing in the New York Mills herd that could compare with them for symmetry, quality, and compactness, and these were beaten by Mr. Snell. Such were the kind shown at London, and well up in the Booth blood.

Since writing the above I have read the letter of Lord Dunmore, and was as much surprised to see his denial of purchasing those two heifers of Mr. Alexander, as he was to see the error in my communication. Breeders all over the country fully believed him to be the purchaser, and I shall have much pleasure in *denying this emphatically*, knowing from whence the denial comes. Not only that, I will have his letter published as widely as I can. I know the heifers were sold to go to England for the price named, as I heard it from Mr. Broadhead, Mr. Alexander's steward, and both were published in the agricultural papers, the purchaser not given. I will try and get the name of the purchaser, and have more to say on these high prices in another communication.

WM. HY. SOTHAM.

Cass Hotel, Dec. 22, 1873.

THE FARMERS' CLUB.—The following subjects have been selected for discussion during the present year:

Feb. 2.—The Commercial Principle, } as applied to Agriculture	Introduced by Mr. J. J. Meehi, Tiptree Hall, Kelvedon.
March 2.—Milk: Its Supply and } Adulteration.....	Dr. Voeleker, Salisbury Square, E.C.
April 6.—The Farmer's Interest at } the next Election.....	Mr. James Trask, Orcheston, Devizes.
May 4.—Land Laws and Landlords }	Mr. Henry Clark, Edgecumbe, Tavistock.
November 2.—Our Villages: their } Sanitary Reform	Mr. James Howard, M.P., Bedford.
December 7. — The Future of } Farming	Mr. Herbert J. Little, Coldham Hall, Wis- bech.

THE RABBITS AND HARES.—At the Duke of Roxburgh's rent-day an intimation was made to all the tenants that henceforth they should have an equal right with the landlord to the hares and rabbits on their farms. The giving up of hares and rabbits is regarded by some tenants as virtually settling the game grievance.

THE AMERICAN DAIRY.

At the annual meeting at Sinclairville of the State Association, the proceedings were opened with an address by President WILLARD, reviewing in brief the advancement and condition of the dairy interest. Among the signs of progress were the extensive associations by dairymen. County organizations are springing up through all the dairy districts, and State associations have been established in Massachusetts, Vermont, Ohio, Illinois, Michigan, Wisconsin, Minnesota, Canada, and New York. The present season was regarded as unfavorable. Two months of drought in the early part of the season, he estimated, had cut short the cheese crop from 40,000 to 60,000 pounds of cheese for every 700 to 800 cows; and from early shrinkage and short feed the fall crop was put at one fourth less than the usual amount. The injury done to the farmer's revenue by the drought has been felt as heavily in the winter keep, as in the summer's yield. The forage-crop is one-third short of the needs of the coming winter. This deficit must be made up by a heavy cost of grain or hay—the latter being now worth 25 dollars per ton at the bar, or a loss suffered in disposing of stock at very low rates. Some dairymen preferred the latter alternative, and were selling good straight young cows for 15 dollars per head, and such animals as needed to be culled from the herd, from 5 dollars to 8 dollars. The panic, by which farmers usually suffer less than other citizens, is responsible in a measure for depressed prices. The future looks better than the present. The consumption of cheese is increasing. A half million of emigrants yearly finding a home within our territory are large consumers of cheese, and our own people, who are rapidly increasing, consume more freely than in the past. This, with the increasing export demand, which is estimated for the year at £85,000,000 gives promise of a future demand that will keep pace with the extension of the factories, and the enlarged production of the future. For relief in present emergencies he urged a reduction in the price of farm labour, a better selection of milk stock, and increased care and attention to its feed and comfort.

The Hon. HARRIS LEWIS, of Frankfort, N. Y., spoke at some length on "Adaptation." After considering the extent of his topic, the perfect adaptation in nature as exhibited in the distribution and production of the vegetable and animal kingdoms, and the adaptation of man to his peculiar relations to mind and matter, the salient points of his remarks referred to what he considered adaptation in the business of dairying. The first step which should be taken by the young dairyman toward adapting himself to the business of his choice Mr. Lewis contended, was to select a companion adapted to his vocation as well as his taste. A dairyman is not adapted to his calling without a wife possessed of some business talent. She should have sufficient intelligence and skill not only to perform her part, but to lend a helping hand and assume the direction of affairs in the absence of her husband. Less devoted to fashions than their future welfare, she should mingle her counsels with his in the selection of a home and all the essentials of life. A proper regard for taste is essential to adaptation. The wife of the merchant or the millionaire may be excused possibly for adapting herself to the ever-changing fashions and the marvellous freaks in dress. The wife of a dairyman must suit herself to her business. A three-foot trail or an absorption into her apparel of so much of the modern press as to impede her passage through a common door is not a good sample of adaptation in the business of dairying. This would be as inappropriate as to fill in the place of an enterprising farmer with a quack doctor, a poor lawyer, or a defunct merchant. The dairyman should select a farm suited to his speciality, and his herd should be adapted to the particular line of business to which he proposes to devote himself. No one need ever expect to get rich by selling milk by the quart or by making cheese from Devons or Jerseys. He must also adapt the food of his herd to their necessities. The food of the dairy must contain the material the cows are called upon to secrete. To expect golden butter from the pale fat of dead ripe hay, bleached straw or stale corn-stalks was not consistent. Nor did he think that to expect a bountiful yield from the stalks of green fodder corn, from which he had been able to evaporate 92 per cent. of water, was much more consistent.

Strong statements were made in regard to dry corn meal as a food for dairy cows, to which several members took exception. Mr. L. urged that grass was the proper food for the dairy cow in summer, and dried grass her food in winter. He further urged that adaptation could not be found in any single species of grass—a variety was better than any single sort. Lastly, the dairyman does not appreciate the full measure of adaptation if he does not possess himself of the best modern implements and the highest skill known to his calling. The profits of his business lie in the excellence of his goods. Poor goods give poor returns. By reason of the modern improvements in dairy products, the standard of public taste is all the time rising, and he who fails to bring his goods to the demands of the times, fails in the most essential part of adaptation.

The evening of the first day was occupied with the delivery of the annual address by the Hon. John Stanton Gould of Hudson, whose subject was "Cleanliness," upon which he placed all the stress that Demosthenes did upon action. He considered milk unclean that contained anything not belonging to the necessary elements of milk. He stated that average milk consisted of—

Water..86.00 | Butter..4.1 | Sugar..5.2 | Casein..3.9 | Ash.0.8

Milk that contains anything else is filthy. These elements are all that is necessary to the composition of perfect milk. They are exactly in the right proportions and conditions for the purpose of nutrition, and anything whatever that was added to them, must be regarded as foreign. It is not even necessary that something should be added to make milk unclean. He had often examined milk with a microscope, and had never failed to find foreign matter mingled with spores of cryptogamous plants—fungi—those identical with the active agency in rennet were always present, and others of a more offensive character. The tender affinities by which the compound elements of milk are held together are torn asunder by the growth of these cryptogamia; they feed upon the substance of the milk and change its condition unfavourably, or otherwise. There is such a thing as natural filth. These seeds are found alike in the milk of the wild and domestic cow. The evidences of native filth may be found at the factories where milk is condensed. The highest standard of milk is received at these factories. If any one will place his nose at the point where the vapour of the condensing milk passes out, he will be surprised at its extremely offensive character. It has the mingled odours of the cow's breath and her stable. Mr. Gould spoke somewhat fully in regard to the nature and effects of these germs. He exhorted dairymen to make themselves acquainted with this class of plants, as all the changes in milk and cheese are produced and moulded by them. They determine all the modifications by heat, explain the mysterious thickening in covered cans, and are the cause of the ripening of milk so often spoken of by manufacturers. The peculiar composition of butter, and how changes were wrought in it by foreign agencies was explained at length, and listened to with interest and profit. He showed that filth may be cultivated as well as introduced. Things otherwise cleanly and desirable became unclean in milk. The otto of roses became filth in milk or its products. The contaminations that occur in milking and hauling milk, the absorption of cryptogamous plant seeds from cellars and currents of foul air, from whey vats, and adjacent hog pens, was made clear. The necessity of making the study of milk more full and complete, so that the operation of the dairy can be conducted with somewhat of scientific exactness, was urged. A commission of scientific and practical men to investigate the laws and facts which avail in producing various changes in manufacturing dairy goods was suggested. The necessity of tests at every stage to know the exact progress made is desirable. The possibility of doing this was demonstrated at the close of his address by exhibiting one of Twitchell's acidimeters and testing the amount of acidity in a sample of vinegar in the presence of the audience.

Prof. E. J. WICKSON of the *Utica Herald* gave a lecture upon "feeding at a mark," explaining by diagrams the compound nature of food and the various changes it undergoes in passing through the different stages of elaboration in the

animal's body. He showed the farmers in a plain and simple way the necessity of studying more closely than they now do the composition of their cattle food, and of feeding less by guess, and at a great loss, as much of the feeding is now done. He showed how feeding for special purposes may be accomplished without waste, if the feeder understands the composition of food at his command.

The subject of cross-breeding for improving dairy stock was taken up by the Hon. J. Shull of Hion, and a full discussion by the speaker and the audience was had. A variety of opinions prevailed in regard to the subject. The salient points in the consideration of the matter were that the stock of the country is already well crossed. The so-called native stock is made up wholly of crosses, and the only native cow in the country is the bullalo. Mr. H. Farrington of Canada, a dairyman of over 40 years' of large experience, had found the most profitable milking stock in the common cows of the country, and the sentiment of the majority seemed to accord with Mr. Farrington's experience. The milking strains of blood in the Shorthorns, the Alderneys, and the Ayrshires, were discussed and their advantages for special purposes noted. The possibility and propriety of establishing a breed of milking stock in Chautauqua county was commented upon by several. The excellent pasturage for milk production in the county was considered a favourable condition for cultivating the habit of a large yield. The necessity of more attention to developing strong and permanent milking habits received general assent. Where crossing is to be done it was agreed that thoroughbred bulls from milky families with good milkers of common stock was the readiest way of making the first improvement.

Mr. L. B. ARNOLD, Secretary of the American Dairywomen's Association, discussed the application of heat in the processes of cheesemaking. All the changes in milk that occur in cheesemaking are carried on by the cryptogamous plants described by Mr. Gould. The action of heat, up to a certain degree, hurries up their action. It is important that this action should be entirely uniform, else all parts of the mass will not be alike. The present method of ripening curd in the cheese vat is imperfect, and can only be accomplished by a high degree of skill derived from long experience. It changes the temperature from 80 to 98 degrees. The difficulty lies in making this change uniform through the whole mass, as the heat is applied at the bottom and sides of the vat. To assist in distributing the heat evenly, the curd is divided. To cut and work the curd in such small divisions as to ensure an even heating, is to occasion waste; to make the division in coarser pieces, the outside and inside of the pieces will not be affected alike, and the ripening be unequally done, to the injury of the cheese. Another difficulty arises from making the divisions

of unequal size—cutting fine and coarse in the same vat. The circumstances stated are what make the manufacture of cheese such a difficult art. The remedy suggested by Mr. A. was to make the cheese with less variation in temperature, setting higher, with less rennet, and guarding more effectually against loss of heat on the top of the vat, after applying the rennet. By preventing any loss of heat in any part of the vat, it was suggested that the whole work of ripening the curd for the press might be carried on at a perfectly uniform temperature, and obviate entirely the necessity of cutting the curd, and the loss of richness and weight that occurs from that operation. Mr. A. referred to cheese which he had seen, which was made on this plan, that was of good quality. The suggestions attracted the earnest attention of the audience.

Mr. E. W. STEWART, of *The Live Stock Journal*, spoke on feeding for milk production, urging the necessity of feeding the dairy all the food they can consume. Feeding is the thrice important thing in milk production, as Mr. Gould urged that cleanliness was in the manufacture of it. If there is any profit in converting cattle food into milk, the more the animal can so convert the greater the profit. He pointed out with much minuteness how the rations of the cow should be made up to feed without waste of material, giving the composition of the foods in common use, and showing how they may be compounded to the best advantage. The improvement made upon the digestibility of certain kinds of food by cooking, and under what circumstances it can be done profitably, were explained. He had proved by experiments continued for months in succession, that some varieties of food are improved one-third by steaming. Mr. S. explained how the manner of feeding meal might affect the results to be derived from it. When fed alone and dry it passes at once into the fourth stomach and derives no benefit from digestion in the other divisions. If wet and mixed with cut straw or other coarse food, it will adhere to it and be carried into the first stomach or paunch and thence through all the other divisions, and receive a more complete digestion. In feeding the many thousand tons of meal which are to be consumed the present winter, the saving in cattle food which could be effected by this improved mode of feeding would amount in the aggregate to an important item. The lecture was replete with interest, and was listened to by the appreciative audience to the very last.

At about 4.30 p.m. the assemblage dispersed, after an unabated crossfire of questions for an hour or more, aimed at Messrs. Arnold, Lewis, and Stewart, which showed the deep interest that the novelty of a Convention in an extreme corner of the State had excited, and the determination of a wide-awake people to make the most of it.

SILESIA N BEET AS A FARM CROP.

At a meeting of the Royal Agricultural Society of Ireland, a lecture on the above subject was delivered by Professor C. A. Cameron, Lord Talbot de Malahide in the chair.

The CHAIRMAN said the question which they had before them was a very important one, if it could be carried out. It was not the first time he had given his attention to the subject. He perceived Mr. Sproule present, who, in conjunction in some degree with himself, had worked up the subject many years ago, but there were so many difficulties in the way that the results were not successful, although there was a manufactory established in Ireland for the purpose. The present movement, he hoped, would be a most successful one.

Dr. CAMERON then proceeded with his lecture: The term sugar is a general one, applied to several compounds of carbon, hydrogen, and oxygen (carbo-hydrates), all of which possess a sweet flavour. Of the various sugars, only four are of importance, namely, cane sugar (sucrose), grape sugar (glucose, or starch sugar), fruit sugar (fructose, inverted, or uncrystallizable sugar), and milk sugar (lactose, or lactine). Cane sugar occurs abundantly in the sugar cane, the sugar grass (*Sorghum saccharatum*), several varieties of the maple, in beet roots,

mangels, carrots, turnips, pumpkins, chestnuts, and many other plants. Grape sugar is found in fruits, especially when they have been dried and kept for some time; and it is the sugar produced from starch by the action of sulphuric acid, and during the germination of seeds. Fruit sugar, or fructose, is found in a great variety of fruits, and cane sugar is converted into this substance by prolonged boiling. Treacle consists of a mixture of 50 parts non-crystallizable sugar and a little grape sugar, 25 parts water, and 25 parts of saline matter. The quantity of starch sugar manufactured for sale is trifling, but enormous amounts of this saccharine substance are incidentally produced in the manufacture of malt liquors and alcohol. Cane sugar, as a commercial product, is at present obtained from only three sources, namely, the sugar cane, the beet, and the maple. The consumption of sugar is rapidly increasing, not only in the United Kingdom, but throughout the civilized world. Last year the enormous quantity of 16,000,000 cwt. were imported into the United Kingdom, and of this amount 14½ million cwt. were entered for home consumption. Of the sugar consumed last year in these countries, only 5,224,170 cwt. were imported from British possessions, and of the balance of 9½ millions of cwt. more than one-third was beet root sugar, and came from the Continent. France alone in 1872 exported into the United Kingdom, for home con-

sumption therein, no less than 2,238,811 cwts. of sugar, consisting, no doubt, nearly altogether of the produce of the beet. Even in America the beet sugar industry is extending; and one sugar company (Alveredo, California) produced last year 1,000,000 lbs. of sugar and fed 350 cattle on the pulp. The consumption of sugar in the United Kingdom has now reached the high proportion of about 50 lbs. per unit of the population, and it is therefore a question well worthy of serious consideration, whether it is desirable to produce this valuable food in our own land or to continue to import it from foreign and colonial countries. The sugar in beet is worth 2½d. per lb., and experience has shown that from 1¼ to 2½ tons of sugar may be produced from a statute acre of beets. Except in market gardens, there is hardly a food crop cultivated in this country which realises from £35 to £60 per statute acre, the values of the variable quantities of food produced from a statute acre of beet roots. No doubt, the whole value of an acre of beet sugar does not go to the farmer—it is divided with the manufacturer; but the profits of each are sufficiently ample. The late rapid spread of beet root cultivation throughout so large a portion of the Continent, and the yearly increase in the number of European beet sugar factories, unmistakably prove that the growth and treatment of beet sugar must be operations amply remunerative to those engaged in them. Walkhoff in his *Practische Rubenzuckerfabrikant*, page 7, gives the following account of the state of the beet sugar industry :

	Number of Manu-factories.	Quantity of Beet-roots used In cwts.	Quantity of Sugar extracted. In cwts.	Average consump-tion per manu-factory. In cwts.
Germany	296	51945494	4319640	172619
France	434	82850000	5800000	190915
Russia	300	42400000	3792000	141334
Austria	212	42300000	3400000	199530
Belgium	108	14200000	1000000	131482
Holland	18	2143000	150000	119060
Sweden.....	4	770000	61600	192500
	1370	236158494	18523240	172380

A Prussian cwt. is equal to 113·426 lbs. English.

In 1827 there were only 39 sugar factories in France, and in 1850 the amount of sugar produced was only 64,000 tons; last year the quantity manufactured was 400,000 tons. Only a few years ago there was not a beet sugar factory in Russia; now that empire promises to rival Germany in this great industry. Mr. Pauw in his excellent pamphlet on the beet sugar manufacture in Ireland states that in Holland the dividends from the beet sugar factories vary from 8 to 16 per cent. The mangel wurtzel, the common garden beet, and the white Silesian beet are all mere varieties of one plant, *Beta vulgaris*. The composition of all the varieties of this plant is essentially the same, but one kind—namely, *Beta alba*, or white (Silesian) beet—contains a larger amount of sugar than is found in the other varieties. By careful selection of seed and other means, the growers of beet have succeeded in producing varieties very rich in sugar; and it is these kinds that are chiefly cultivated when the roots are intended for the sugar manufacturer. Payen has minutely analyzed the white beet, and according to him, its composition is as follows : 100 parts contain

Water	...	...	...	...	83·5
Sugar	...	...	...	...	10·5
Cellulose (woody fibre)...	...	...	...	...	0·8
Albumen, caseine, and other nitrogeous substances...	...	...	...	...	1·5
Malic acid, gummy substances, fatty substances, aromatic and colouring principles, essential oil, chlorophyll, asparamide, muriate of ammonia, silicate, nitrate, sulphate and oxalate of potash, oxalate and phosphate of lime, phosphate of magnesia, oxalate of soda, chlorides of sodium and potassium, pectates and pectinates of lime, potash, and soda, sulphur, silica, oxide of iron, &c.	...	...	...	...	3·7

Since Payen made his analysis, the composition of the beet has been greatly improved. The sugar in the beet is pure sucrose (cane sugar), neither inverted nor grape sugar being present. Formerly not more than half the amount of sugar present could be practically extracted in a crystalline condition; but by means of certain improvements—notably the diffusion process—from 80 to 85 per cent. of the sugar can be extracted. Those roots which are not less than one pound, nor more than three pounds in weight, contain most sugar. When the specific gravity of the juice of the root exceeds 1,070, they are pretty certain to be rich in sugar. Excessive luxuriance of foliage exercises an injurious effect upon the quality of the beet root, as indeed it does upon the common mangel. The practice of growing enormous roots of any kind is undoubtedly open to serious objections. Monster roots are almost always very watery, and they do not store well. As a larger number of small roots can be grown than large ones, and as the former, weight for weight, contain more actual nutriment, I have no doubt that a crop of moderate-sized mangels or turnips is more valuable than one composed of overgrown roots. Though the farmer may have a very large quantity of roots to cart in from his field of monster mangels, yet it should be borne in mind that the extra weight, as compared with a crop of moderate-sized roots, is merely water. F. Sestini and G. Dell Torre have recently experimented on the growth of sugar beet, and they state that the gross produce or weight of each is the same with both thick and thin sowing, but that the amount of sugar is greater when the roots are small. It is clearly, then, an advantage to sow thickly. The produce of Silesian beet per statute acre varies very much, according to conditions of climate, soil, manure, and tillage, and depends to a great extent upon the kind of seed sown. It is found that the beets richest in sugar produce seeds from which plants rich in saccharine matter can in time be developed. By attention to this point, as well as to some others, beet growers—notably M. Vilmorin—have succeeded in producing roots containing from 13 to 18 per cent. of sugar. It is not difficult to procure the seed of the varieties of beet richest in sugar; and I cannot understand why other kinds, containing only from 6 to 9 per cent. of sugar, are still largely cultivated even in France and Germany. In the early part of the century the yield of beet was very small on the Continent: only 8 tons per acre were obtained in France; whilst at the present time, according to Mr. Barruchson, 16 tons is about the average yield. In the "report of inquiry into the composition and cultivation of sugar in Ireland," by Sir Robert Kane and Messrs. Sullivan and Gages, a table is given, showing the quantity of sugar beet obtained per acre in various parts of Ireland. The beet was sown in 18 districts, and the produce in roots varied from 12 to 52 tons per statute acre. On the farm of Lord Talbot de Malahide the yield was from 48 to 52 tons per statute acre, and 12 tons of leaves were also obtained. The crop had been manured with 45 tons of farm dung per acre. Out of the 18 crops one yielded 2½ tons (this crop failed, it was stated, because it had been sown late), one gave 16 tons, one 18 tons, seven from 20 to 30 tons, and eight from 31½ tons to 52 tons. In the *Mark Lane Express* for October 4, 1852, Mr. James Reeve, of Leatherhead, Surrey, states that he obtained 38 tons 17 cwts. 96 lbs. of Silesian beet per acre; whilst the orange globe gave him a crop of 30 tons 10 cwt. 9 lbs.; and mangel-wurtzel a crop of 32 tons 13 cwt. 6 lbs. per acre. It is stated that by judicious management 40 tons of beets per acre may be obtained; but this is a very high estimate. There can be little doubt as to the suitability of Ireland as a root-producing country. Larger crops of mangels are more frequently obtained in Ireland than, *celeris paribus*, in England or Scotland, and in this respect Ireland is far superior to France and Germany. As the beet is a close congener of the mangel, and may be properly grown under almost identical circumstances, it is evident that very large crops of white beet could be grown in Ireland. The mild and moist climate of this country is favourable to the culture of the beet. In most parts of the Continent where this crop is cultivated it sometimes fails from spring and early summer droughts, and occasionally from premature frosts. In Ireland there is usually abundance of rain in the early summer months; and frost seldom appears until Christmas or later. This mildness of climate permits the growth of the beet to go on until December if necessary, and favours the conversion of the non-saccharine carbo-hydrates of the root into sugar. It is quite a fallacy to think that brilliant sunlight and tropical heat are necessary factors in the production

of sugar. They are, indeed, when the sugar is developed in the foliage, but they lessen or prevent the production of sugar in the roots. Beet roots carefully protected from the solar beams contain far more sugar than is found in those roots which are partly exposed to direct sun-light. Dr. Voelcker found in that portion of a beet root which lay completely below the soil $8\frac{1}{2}$ per cent. of sugar, and only $\frac{1}{4}$ per cent. in the portion of the root which grew above the soil. In Ireland the summers are not hot, but that is not a disadvantage, but rather the contrary in the case of beet culture; for although this plant grows indigenously in Portugal, it does not thrive as a sugar-producing crop in very warm climates. A company has recently been established in Dublin for the purpose of introducing the manufacture of beet sugar into Ireland. It has secured a large farm at Bodenstown, county of Kildare, whereon it proposes to grow beets and manufacture beet sugar. It also proposes to purchase beets from the neighbouring farmers, for which it offers £1 per ton. As it is important that only the varieties of beet richest in sugar should be grown, the company decided to make some experiments with the view of ascertaining the kind which it could cultivate with most advantage, and which it could recommend to be grown by the farmer. Accordingly, 10 kinds of seeds were sown in the demesne-farm of Mr. Hamilton, at Abbotstown, county of Dublin, which was kindly placed at its disposal by that gentlemen. The crops were manured with thirty tons of dung, some bone superphosphate, and 2 cwts. of kaimt (crude potash compounds) per statute acre; the land was well limed. The results of this experiment are given in the following table:

Numbers.	Names of the Varieties.	Culti- vated Surface in square feet.	Product.			Net Produce per Statute acre.		
			Gross Weight, Pounds.	Average tare one- fifth-of-the gross Weight.	Net Weight, Pounds.	Tons.	Cwts. Qrs.	
1	White, green-necked.....	610	784	157	627	19	19	0
2	" rose-necked.....	"	728	146	582	18	11	0
3	" grey-necked.....	"	644	129	515	16	8	1
4	German, green-necked.....	"	756	155	601	19	3	0
5	" acclimatized in France.....	"	644	129	515	16	8	2
6	Imperial (true Knauer).....	"	560	112	448	14	5	0
7	" acclimatized in France.....	"	896	179	717	22	17	0
8	Electoral (true Knauer).....	"	700	140	560	17	17	0
9	" acclimatized in France.....	"	728	146	582	18	11	0
10	Improved Vilmorin.....	"	644	129	515	16	8	1
	Totals.....	6,100	7,084	1,422	5,662	180	9	0
	Averages.....	610	708	142	566	18	1	0

I think that the amount of farm-yard manure applied to the crops was excessive, and with less manure the result would have been more satisfactory; still, on the whole, the trials were a decided success.

Some of the roots grown in each plot were submitted to me for analysis, and the following were the results obtained:

No.	Names of Varieties.	Water.	Albu- minous Sub- stances.	Sugr. Fibre, &c.	Peetose, Fibre, &c.	Mineral Matter (ash).	Total.	Produce Sugar per Statute Acre.	
								Tons.	Cwts. Lbs.
1	White green-necked.....	81.94	1.62	6.80	6.15	1.09	100	1	7 20
2	White red-necked.....	84.66	1.40	7.25	5.71	0.98	100	1	6 100
3	White grey-necked.....	83.67	1.30	10.14	3.24	1.55	100	1	13 31
4	German green-necked.....	82.02	1.20	9.20	3.35	1.25	100	1	15 26
5	" acclimatized in France.....	82.18	1.13	4.65	11.10	0.94	100	0	15 23
6	Imperial (true Knauer).....	83.68	1.32	8.50	5.40	1.10	100	1	4 30
7	" acclimatized in France.....	79.72	1.88	11.11	5.92	1.37	100	2	10 94
8	Electoral (true Knauer).....	80.84	2.04	12.40	3.74	0.88	100	3	4 30
9	" acclimatized in France.....	84.15	1.25	9.18	3.79	1.63	100	1	14 6
10	Improved Vilmorin.....	79.00	1.57	12.56	5.63	1.20	100	2	1 41
	Average.....	82.416	15.69	9.209	5.701	1.209		1	13 30

COMPOSITION OF SUGAR BEETS, GROWN AT ABBOTSTOWN, CO. DUBLIN, 1873. 100 PARTS OF EACH KIND CONTAIN:—

The analysis of each kind of beet represents the average composition of three roots; the average weight of each kind was as follows:

AVERAGE WEIGHT OF ROOTS.										
No.	1	2	3	4	5	6	7	8	9	10
	1½ lb.	1½ lb.	1 lb. 6 oz.	1 lb.	1½ lb.	1½ lb.	1½ lb.	1½ lb.	1½ lb.	1½ lb.

These results are very satisfactory. If the three best kind of beets (Nos. 7, 8, and 10), as shown by these experiments, be grown, the yield of sugar will be from 2 tons 1 cwt. 44 lbs. to 2 tons 10 cwts. and 109 lbs. of sugar per acre. The Rev. Professor Jellett has determined the amount of sugar in Irish grown beets, by means of his new saccharometer, and found the proportion to vary from 11.02 to 12.59 per cent.

THE BEET AS A PURELY FARM CROP.—The white beet is a well flavoured root, and is largely eaten by cattle. The non-nitrogenous substances which it contains are chiefly sugar, a food material probably more valuable, and certainly more palatable than starch and peetose, which constitute the greater part of the nutriment of the animals of the farm. The sole

object of converting barley into malt to be used as a cattle food is to change the starch of the grain into sugar—an operation attended by expense as well as waste of material. Some expensive articles, such as locust beans and molasses, which are often given to cattle, are valuable only for the sugar which they contain. If it be desirable, then, to feed cattle on saccharine food, why not produce it on the farm? Why not grow the Silesian beet, which contains from 8 to 13 per cent. of this valuable aliment? If there were never to be established a sugar factory in Ireland, it would clearly be to the interest of the stock feeder to grow a crop yielding him a couple of tons of sugar per acre, and in cultivating which he need not in the slightest degree interfere with his usual system of cropping. Not only does the beet crop enable the farmer to grow immense quantities of that which Mr. Banting terms the most fat-producing of all foods—namely, sugar—but it also takes out of the soil and air a greater quantity of absolute nutriment of dry matter—than a turnip crop does, and a much larger amount of absolute nutriment than a potato crop. In the following table the amounts of solid food yielded by the Imperial (the true Keaner), acclimatised in France, and by an average of the 19 kinds of beet grown at Abbotstown (some of which ought not to be cultivated), are contrasted with the amounts of dry food furnished by an acre of Swedish turnips, of mangel-wurtzel, and of the potato:

COMPOSITION OF ROOTS AND TUBERS.					
	Imperial Beet acclimatised in France.	Average of ten kinds of Beets.	Swedish Turnips.	Common Mangel.	Potato.
Water	79.72	82.416	91	89	75
Solid Matters.....	20.28	17.584	9	11	25
	100.00	100.00	100	100	100
Produce per statute acre	Tons. 22.85	Tons. 18.65	Tons. 30	Tons. 24	Tons. 8
Amount of dry food per acre	4.63	5.17	3.30	2.16	2

Professor Wilson, in his "Farm Crops," vol. I, page 309, states that the average yield of swedes in 37 farms in Morayshire during five years was 21 tons 19 cwt. 7 lbs. per acre, and he considers that 20 tons constitute a fair crop, and indicate good cultivation. I may have under-estimated the yield of common mangels: but if from 40 to 50 tons per statute acre are attainable by good management, abundance of manure, &c. we must bear in mind that by good management it is also possible to produce proportionately large crops of the sugar beet. The soil for the growth of the sugar beet may comprise every kind of land suited for root crops generally, except boggy or moory soil. The sugar beet resembles the carrot or parsnip in the manner of its growth rather than the turnip or common mangel, which are so much above ground: the lighter soils are therefore unsuitable. The clayey loams constitute the best soils for the sugar beet; the heavier soils, when not too stiff to admit of pulverization, producing the best roots. In the growth of the sugar beet quality is equally important with gross weight, and for manufacturing purposes it is still more so. Ordinarily this consideration has been too much neglected; and hence, by heavy manuring, the farmers have sought to grow large crops, altogether irrespective of quality. Direct applications of farm-yard manure in large quantity are always injurious in this respect. This manure is best applied in the autumn, before the first ploughing of the land intended for the sugar beet. Unless lime exists in the soil it should be applied during the preparation of the land for the crop, as it is an essential ingredient for the proper development of the beet plant. At the time of sowing it is advisable to use a liberal supply of bone superphosphate, as that substance not only pushes forward the young seedling plants at a time when they are peculiarly susceptible to injury, but it also forms a most suitable manure for the crop afterwards. The quantity must depend on the state of the land, but may

usually be about 4 or 5 cwt. to the statute acre. As the beet is very rich in potash salts, it is advisable, in most cases, to apply 1 or 2 cwt. of kainit to a statute acre of this crop. The soil for the sugar beet should be naturally fertile, or have been enriched by previous applications of manure, rather than direct applications for the crop, beyond that of the superphosphate just indicated. The place in the rotation may be that of the ordinary root crop, a portion of the land which would otherwise be in Swedish turnips or mangels being reserved for the sugar beet; or it may follow Swedish turnips or potatoes with great advantage—the previous preparation and treatment of the land for these crops forming an admirable preparation for the beet. The preparation of the land consists of deep and minute pulverization. A much greater depth of tilled soil is required for the beet than for the turnip, on account of the former growing in the soil and the latter on it. The sugar beet must not, in fact, be grown over-ground under any circumstances, and this condition shows the necessity of deep tillage. The preparation of land for root crops generally is so well understood by our farmers that it is quite unnecessary to enter into minute details: besides, the number of ploughings, harrowings, and cleanings must be regulated by the condition of the soil to be operated on. Pulverization, though absolutely essential to the proper development of the roots, is not more necessary than proper cleaning of the land from weeds in the preparatory stage. Unless this be done, the young beet plants are liable to be injured by the weeds growing up vigorously amongst them: and without due preparation of the land in this respect, it is expensive and difficult—indeed, almost impossible—in wet seasons to keep down the weeds during the growth of the crop. These considerations show the advantage of making the sugar beet follow a manured crop wherever it may be practicable to do so. The due exposure of the soil to the atmosphere in winter is also well known to our farmers as essential in the preparation of the land for root crops. The most approved mode of cultivating the sugar-beet is on the flat surface, after the soil has been duly prepared by the necessary ploughings, harrowings, grubblings, and rollings, in rows sixteen to eighteen inches apart—distances quite wide enough to admit of the action of the drill grubber between the rows during the growth of the crop. These distances would not suffice for raised drills, in which farmyard manure is to be applied, but, as before observed, no liberal application of farmyard manure can be made without proving detrimental to the quality of the roots. Hence, on soils exhausted by cropping, however suitable the kind of land, sugar-beet should not be grown, as heavy, direct manuring must not take place. Where raised drills are determined on, they will rarely be less than twenty to twenty-four inches apart, and, in such cases, eight to ten tons of well-rotted farmyard manure may be used in the rows, though any application in this way is not to be commended, for the reasons already explained. A greater depth of pulverised soil is obtained by using the raised drill, and it may have some advantage over the flat surface in very wet seasons; but, under ordinary circumstances, the latter is to be preferred. The proper seed time, as in the case of all farm crops, must depend a good deal on the character of the season. In the sugar-producing districts of the Continent every matter connected with the production of the beetroots has become so much the object of attention that the seed time there is frequently determined by the temperature of the soil at the depth of a few inches, as indicated by the thermometer. But farmers generally will not trouble themselves with *minutiae* of this kind. Observation, founded on long experience, enables them to determine with sufficient accuracy when seed operations should take place. In the case of biennial plants, like the beet and the turnip, they have a tendency, if sown too early, to throw up the flower-stem during the first year, instead of the first season being altogether devoted to the development of the roots, which thereby have stored up the requisite supply of nutriment for the development of the seed stem in the following year. As a rule, however, the beet tribe are sown earlier than any of the turnips, and, in fact, as early in the season as the proper germination of the seed can be reckoned on. The state of the soil at the time of sowing is of much more importance than a few days earlier or later seed time. In wet weather, as a rule, the seed cannot be safely sown on account of the injury done to the pulverisation of the land by working it when wet. On the other hand, if the soil be very dry at the time of sowing, and drought con-

tinue for some time, germination may so imperfectly take place as to lead to failure. The last week in April seems to be the most approved seed time in this country for the sugar beet, as far as the weather will permit. Moistening the seed is frequently practised to hasten germination. When the seed time has been unduly delayed, a gain of some four or five days may in this way be had; but should the sowing be further delayed by unfavourable weather, the moistened seed may be irretrievably injured. When the soil is dry at the time of sowing, and rain does not soon follow, the effect of damping the seed will be to stimulate vegetation without the circumstances being available for nourishing the young plants, by which they will become stunted in their growth, or perhaps be destroyed; whereas, without damping, the seed would have remained inert in the soil without injury till moisture would be available. The moistened seed must not be placed in heaps, where it would heat before sowing. Dilute liquid manure of the farmyard is recommended for the purpose, and ashes or fine mould should be mixed with the seeds before sowing, to prevent them from sticking together. The seed is sown continuously in the row, or dibbled in at the distances apart at which the plants are eventually to remain: in either case, good results may be had. On a large scale, the latter system will scarcely be practicable, on account of the very considerable amount of manual labour which it entails, though even this would be to some extent compensated for by the saving of seed. If sown continuously in rows, about 12lbs. to 14lbs. of seed to the statute acre will be required. The depth to which the seed is to be covered is an important consideration; but this, again, depends a good deal on circumstances, chiefly the amount of moisture present in the soil. In damp weather the covering can scarcely be too light, but in dry weather it should be at least one inch. The seed may be sown by the sowing machine or by hand, with both of which methods our farmers are acquainted. The quantity of seed mentioned may appear to many persons to be excessive, and there can be no doubt that a very much smaller quantity would suffice were it not desirable to guard against the effects of large numbers of the seeds not germinating, through defective covering in the soil or from some other cause; and the sacrifice of a few pounds extra of seed is small compared with the advantage of securing a proper supply of vigorous plants. The after culture of the crop of sugar beet presents little peculiarity from that of root crops generally. The intervals between the rows is to be kept pulverised and free from weeds, and if the crop be on raised drills the final tillage will consist of earthing up the plants, so that the crown of the roots only may be exposed to the sun. The thinning of the young plants will be performed in the ordinary way. The distances apart of the plants in the rows may be about eight inches, which distance, with the rows eighteen inches apart, would give 43,560 plants to the statute acre. With roots only 1lb. each, this would give in round numbers 20 tons to the acre; but as the roots will range from 1 lb. to over 3 lbs. each, it will be seen that by careful tillage under favourable circumstances 25 tons to the acre would be a moderate crop. When the beet is grown for the purpose of feeding cattle on the farm, the substances which it takes from the soil will be returned to the latter in the form of manure, *minus* the amount carried away in the carcases of the animals sold off the farm. Under these circumstances, the influence which the beet exercises upon the soil differs but little from that produced by other root crops. But when the beet is sold to the sugar manufacturer, a large amount of phosphates, and a still larger quantity of potash, are taken altogether away from the farm. The question, therefore, naturally arises, How is the fertilising matter withdrawn from the farm by the beets sold to the sugar manufacturer to be restored to it? It is not difficult to reply satisfactorily to this question. Sugar, as I have already stated, is composed merely of carbon and the elements of water; it does not contain nitrogen, phosphates, or potash—the three manurial agents which are of any value. The beet as a whole contains nitrogenous matters, phosphates, and potash, but these ingredients are not what the sugar-maker wants; and when he separates them from the sugar they constitute incidental or bye-products, namely, pulp and molasses. The pulp is too bulky an article to admit of its being transported to a distance greater than that from which the beets are brought to the factory; consequently the natural destination of the pulp is the farm on which the beets that produced it are grown. On the Continent the farmer brings his beets to the factory, and he returns

home with beet pulp. As the pulp contains nearly all the nitrogen and a large proportion of the mineral matter originally present in the beet, it is evident that it be returned to the farm, the fertility of the latter will be fully maintained. The molasses produced at the sugar factory contains a large proportion of the potash originally present in the beet: if it be also consumed on the farm, then everything which is of manurial value goes back to the soil. If the waste products of the beet sugar factory be consumed on the farms that supply the roots—and that is the natural and usual course of events—the farms certainly cannot decrease in fertility. The amount of plant food in the soil is practically inexhaustible; but only a very small proportion of it exists in an immediately available condition. Tillage adds to the stock of effective nutritive matter in the soil, and tillage is therefore a substitute for manure. Messrs. Lawes and Gilbert, of Rothamstead, have been growing grain crops every year in the same field for more than a quarter of a century without any manure, and the crops show no sign of a diminished yield. Every year's tillage sets free from the stony fortresses of the soil adequate supplies of phosphates, potash, and other food of plants. In growing the beet, the mechanical operations to which the soil is subjected add to its stores of effective fertilizing matters. Of these a portion is removed in the beet crop, but it is returned to it again as pulp, either directly, or indirectly in the form of animal manure. The large foliage crop produced by the beet is also a valuable source of manure. The farmer who sells milk, cheese, meat, and grain, and especially potatoes, sends off his land a greater amount of phosphates and nitrogen than he usually applies to it in the form of manure. It is clear, then, that a beet sugar factory must necessarily increase the fertility of the district in which it is situated; because it keeps in the farms on which it depends for roots, the phosphates, potash, and nitrogen—substances which ordinary crops remove in great part from the soil. At present it is found impossible to extract from beets all the sugar which they contain. A portion of it, the albuminous substances, pectose bodies, cellulose, and some other matters, remain after all the sugar that can be obtained is extracted from the roots. The residue, termed pulp, has been analysed by Voelcker and other chemists, all of whom have reported most favourably as to its nutritive properties. The following analyses of the pulp have been made by Voelcker:

(COMPOSITION OF BEET ROOT PULP (FROM THE SUGAR FACTORY).
100 PARTS CONTAIN:

	Belgian Beet Pulp one year old.	French Beet Pulp.	English Beet Pulp (Lavenham Factory).
Moisture	70.00	70.88	70.11
Albuminous compounds...	2.43	2.38	2.35
Sugar, pectose, digestible fibre, &c.....	18.67	6.59	20.45
Woody fibre	6.48	16.43	5.32
Mineral matter	2.42	3.72	1.87
	100.00	100.00	100.00

The amount of dry matter in a ton of pulp is nearly equal to that contained in two tons of fresh beets; therefore, notwithstanding the large amount of cellulose contained in the pulp, it is evidently the more nutritive food of the two. This is the general opinion amongst the farmers who grow beets for the sugar manufacturer. In Belgium and some parts of France, fattening beasts are chiefly, sometimes solely, fed on beet pulp. Dr. Voelcker considers that beet pulp would be a cheap food at 12s. per ton, but I think if farmers sell beets at £1 per ton, they would do well to buy pulp even at 15s. per ton.

Pulp is easily kept in good condition for a year or two by placing it in trenches, and covering it with earth. Mixed with palm-nut meal or decorticated cotton-seed cake, a valuable and concentrated food would be the result.

Although inverted, or uncrystallisable sugar does not occur naturally in the beet, this substance is formed from cane sugar (sucrose) during the boiling, &c., of the beet juice. It constitutes a large proportion of the molasses or portion of the beet juice which remains after the separation of the crystallisable sugar. Molasses is an excellent fat-forming food for stock, and is much used for that purpose in many parts of

England, especially in Norfolk. It is mixed with roots, and sometimes with meal or chopped straw. Beet molasses is not so palatable as that obtained from the sugar cane; but it is easy to render it fit for even human use, by successive treatment with a little sulphuric acid and chalk.

Molasses contains potash salts, and if this substance and the pulp be sold to the farmers who supply the roots, then every substance of manured value taken from the land will be restored to it.

COST OF WORKING A BEET SUGAR FACTORY.

A factory capable of working from 120 to 150 tons of beet a day would employ from 110 to 120 hands per 24 hours, including—

1 Manager, salary per week	£	s.	d.
2 Employés, salaries, 1 at £6, and 1 at £3 10s.	8	0	0
2 Men for diffusion	5	0	0
2 " filters	3	0	0
1 " attending to animal charcoal	1	10	0
2 " carbonation	3	0	0
2 Engineeers, 1 at 32., 1 at 25s.	2	17	0
The workpeople would consist of men, boys, and girls, and be paid at the rate of 1s. 6d. per day, making for 110, at 10s. per week	55	0	0
Fuel	87	0	0
Lime and animal charcoal	35	0	0
Sundries	4	13	0
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Weekly expenses	£215	0	0
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Say for 20 weeks, would make	4,300	0	0
Labour for working up the 2nd and 3rd produce	700	0	0
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Total	£5,000	0	0

which makes for 12,000 tons an expense of 3s. 4d. per ton, and the working of an additional 3,000 tons of roots can be effected by about the same number of hands, only requiring more coals, animal charcoal, and lime.

DR.	CR.
12,000 tons of roots at 20s.	£12,000
Expenses of working, including fuel, labour, charcoal, and necessaries of all kinds, 10s. per ton of roots	6,000
Rent, taxes, and insurance	500
Allowance for depreciation, &c.	1,000
Net profit from manufacture	4,070
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£23,570	
	840 tons of sugar, at £23 per ton
	3,000 tons of pulp, at 15s. per ton
	300 tons of molasses at £5 per ton
	Other products, say
	500
	<hr/>
	£23,570

In the foregoing estimate the expenses of working are stated at 10s. per ton of the beet roots; but from the detailed list of the items of the actual expenses of a factory of the size mentioned, when the most liberal provision is made in every department to secure efficiency, the actual outlay per ton of roots will be about 8s. 4d., instead of 10s.; the difference amounting exactly to £1,000 on the £12,000 tons worked up in the season. In concluding this paper, I beg to thank the Royal Agricultural Society of Ireland for its kindness in permitting me to read it before it. The subject matter of it, however, appears to me to be of sufficient importance to bring it under the notice of a society which aims at the improvement of agriculture, for I truly believe that the establishment of beet sugar factories in Ireland would react most favourably upon the husbandry of this country. To use the words of a well-known French writer, M. Basset, this industry would be

a source of riches to the agriculturalist who produces the raw material, the foundation of honourable fortunes to those who cultivate it as a business, and an element of general national prosperity.

The CHAIRMAN wished to ask Dr. Cameron what was the mode of cultivation practised on the Continent, with reference to beet root? Did they usually manure the ground before they planted it?

Dr. CAMERON replied that he had had some experience with reference to pulp. When the manufacture of this article was being carried on, he ordered several casks of the pulp, which he gave to his steward for the stock. They ate it, and he believed they improved upon it. However, at first they did not appear to relish it at all, inasmuch as it had rather an offensive smell, and he was impressed with an observation which fell from his steward, when he asked him how the pigs liked it, to which he replied that they ate it "indignantly."

Mr. BAGOT inquired of his lordship if he remembered what he paid for it?

The CHAIRMAN said he could not remember exactly, as it took place some years ago. He could not say that it was a paying speculation, as it was a mere experiment. The promoters of the project did not grow any beet themselves for manufacturing purposes, and he did not think the price they offered for the beet was sufficient to induce farmers to raise it as a speculation. They did not offer more than 10s. or 12s. a ton. From what had fallen from Dr. Cameron, the promoters of the present company proposed to give £1 a ton. Well, that would be a greater inducement to farmers to grow it. For his own part, he had no doubt, that the system pursued abroad for cultivating a considerable quantity of this article was the strongest and safest one that could be adopted.

Mr. BAGOT said the great difficulty he apprehended in inducing farmers to grow this article would be the impossibility of bringing back the pulp to the farm, unless it was grown from within a short distance from the manufactory. It would not, in his opinion, be advisable for farmers to sell off their roots, unless they could introduce some substitute. Dr. Cameron, in his lecture, mentioned that the refuse which would be sold would be worth 15s. a ton.

Dr. CAMERON: Not for manure, but for food.

Mr. BAGOT asked if a ton of turnips would not be worth a ton of the refuse? With regard to the price, he found that in the neighbourhood where the sugar factory was about being established, roots had been increasing in value. On the previous evening he met a gentleman who resided within six miles of Sallius, who informed him that he got as much as 24s. a ton for his mangels. If roots maintained this price, it would be in his opinion better and more profitable for farmers to grow mangels. No doubt, it required heavier manure for mangels than for the growth of beet, but this was a matter which the farmers would alone determine by experiment. The company would find it difficult to induce farmers to change the cultivation of a district. Under all the circumstances, he did not think they had enough of data before them to enable farmers to grow one or two acres of beet.

Dr. CAMERON observed that it would answer on any land except moory soil.

Mr. BAGOT thought it was well to have the difficulties as well as the advantages resulting from the project put before the meeting. Personally he had no wish to throw obstacles in the way, but he would not advocate a course which would induce farmers to sell roots off their farms.

Dr. CAMERON—Do they sell their potatoes off their farms?

Mr. BAGOT observed that there were one or two large potato farms in his district where the owners grow extensively, but they were able to replace them with Dublin manure. In his opinion, the best portion of the Professor's paper was that which stated that as the crop was likely to be consumed on the farm, it was likely to be more paying than turnips and mangel. In the neighbourhood where the factory was about being established, the ground was getting what was called "turnip sick," and for the last six or seven years the difficulty of growing turnips was increasing. If the doctor was certain that the growth of sugar beet would be a suitable substitute and a good thing for the farmers, in place of turnips and mangel, the paper would be a most invaluable one.

A vote of thanks to Dr. Cameron was put to the meeting, and passed unanimously.

R A T E S A N D R E N T S.

It is to be hoped that the correspondence which is now passing through our pages on the Case of the Labourer, has not escaped that attention it deserves; as, indeed, the controversy has already been taken up elsewhere, the more especially by our local contemporaries. For our own part, we are sanguine enough to believe that this after-discussion may not be without some collateral effect in demonstrating to the farmer his actual position with regard to the question of Local-Taxation. Thus, in the outset, let us grant to Canon Brereton the first of his premises, that any real improvement in the labourer's condition by the establishment of higher permanent wages might diminish by a third the assistance which he has so far required from the poor-rate. And, then, without proceeding to the proposal for the use of these savings, we may let the Canon show how any such decrease would act, or those it would benefit: "The poor-rate proper has become a permanent charge in this sense—that if it were to cease to-morrow, the chargeable property would rise in value at once to the full amount of the cancelled rate, and the owners would not be relieved of a burden, but rather presented with a bonus, which would be equal to the full capitalised value of an equal amount of net rental. Roughly speaking, the cessation of pauperism would add 10 per cent. to the value of real property in England." There can be no denying the soundness of this principle, although Mr. Sewell Read in answering Canon Brereton, says he will "not stop to discuss the old question whether the occupier or owner pays the rate." To us, however, it seems utterly impossible to carry on the discussion without touching on this "old" but still very material question. Very noticeably, Canon Brereton's argument rather tends to put the tenant's interest out of court here, and, in accordance with the rules of political economy, to confine the question of any advantage arising from a decrease of rates to the owner of the land who pays, and to the working man who receives. But here the Canon does not go far enough, as the assumption is that the labourer will require less aid from the rates just in proportion as he is paid more for his work. And from whose pocket does this increase of pay come? In the first instance, as Mr. Brereton's opponents are not slow to show, from that of the employer. "The farmer has within the past thirty years paid the increase, and I believe would pocket any reduction for many years to come. But suppose the landlord should eventually secure the whole saving. If farmers are to continue to pay higher wages for less or even for the same amount of work, they cannot long afford that extra drain upon their present small profits. Consequently the rents of arable land will fall." So says Mr. Sewell Read, who here, whether he will or not, is discussing the "old" question of how as the burdens increase the rents must fall. Then, Mr. James Trask propounds what he manifestly thinks a very awkward question, when he asks "If 'it is clear,' as Canon Brereton asserts, that the 'chargeable property' will be relieved to this extent, I should be very much obliged if he will point out from what source the 'higher permanent wages' to be paid to the labouring classes is to come from. Will it drop from the skies? or will none of it have to be got out of this 'chargeable property'?" Of course it must in common justice be got out of the property which would reap the main benefit from the change.

Wages like rates must in a degree be a matter of

rent, and any permanent rise will have to be considered in this way; although at first the farmers themselves were not inclined to regard the "agitation" in such a light. Mr. Read believes that the employer would pocket any reduction for many years to come; whereas we believe that the landlord would avail himself of any sensible reduction at the first opportunity, by the close of an agreement or the end of a lease; as Mr. Read himself shows us that the landlords as a class are not to be trusted over this business of rates, for they have systematically cleared their estates of cottages, no matter at how much detriment to the employer or the employed. Mr. Masfen, again, will want £25 out of any money saved, his rates having increased to that amount since he entered on his farm. This is not much; but let there be any tangible decrease, say of £50 or more, and we shall be bold to say that the owner would soon be quite as sensible of this as the occupier. Whether it be over Game, Rents, or Rights, the tenant is always dealing with a stronger power, who at this very moment has his energies directed to the diminution of rates—with what ultimate object but to increase the rental value of his property? A leading agriculturist in Norfolk thus writes on Saturday last in *The Norwich Mercury*: "We think that Canon Brereton's proposal was scarcely comprehended by the meeting, for we are not at all sure that it would not answer the purpose of the owners of land who will really be the recipients of any saving in the rates, to use the money so acquired in forming a benefit fund for the sick and aged labourer which would assist him in providing for those certain events, and, while it relieved their property still further from rates, would improve both the moral and physical condition of the working man. This, we understand, to be the Canon's idea, of which, we think Mr. Read and others scarcely took in the full scope, judging from his reply to Canon Brereton's explanatory letter." Our own impression when we heard Canon Brereton speak was, that he did not make himself clearly understood; at the same time the majority of the farmers would scarcely seem to clearly understand their own position here; for, as is shown in the above extract, written by one of their own order, "the owners of land will really be the recipients of any saving in rates," while they must throw back something in rent, as they should do something in return for the man who has thrown back the rates. One thing is manifest enough: if they raise rents, as they will do in proportion to the decrease of rates, then they must lower rents in proportion to the increase of wages. In fact, when fairly adjusted, the question, as Canon Brereton puts it, is mainly one between the owners and the labourers.

"Three modes have been proposed for raising Local-Taxation: first, on income; second, on personal property; and third, the existing one of taxing real property. Taking the first, a tax on incomes; is it likely that this great trading and commercial country will submit for the benefit of the proprietors of land and houses to the imposition of a second inquisitorial Income-tax? Why, it is only necessary to mention it to dispose of it. Then, as to the rating of personal property, I have never yet seen any plan propounded which is at all feasible. Take stock-in-trade, for instance. Would the tradesmen and manufacturers, yea, would the farmers of the country submit to a Government official coming round periodi-

ally to take their stock-in-trade or the value of it to assess it for Local-Taxation? And further, is it possible in this nation of shop-keepers to carry out this system? I think not. Where would you begin? You would have to assess the stock-in-trade of many of the nobility—for many of them are traders, and some of them trade even in game. I believe the proposition is perfectly Utopian and chimerical. Local-Taxation is in principle a tax upon property and not upon occupation, and therefore, although at times in practice it is levied on or paid by the occupier, I believe that the principle—and I don't think that principle can be disputed—is that local rates are rates upon property, that is upon land, houses, and manufactories, and therefore should be payable by the landlord. I believe if this principle were adopted, and it is partly adopted in Scotland, the agitation, or much of it, would cease." So said Mr. James Howard at Bedford the other day, illustrating his argument with "a very glaring case," and declaring that "even in this reformed House of Commons the interests of the tenant are very little looked after in comparison with those of the landlord." A year or two since there was a proposal made at the Central Chamber of Agriculture to look up stock-in-trade, but ready as the Chamber has been to make a catspaw of the tenant, they dropped this stock-in-trade notion like a hot potato. The simple truth is, that farmers, or some of their leaders are fighting the landlords' battle a deal more resolutely than their own; but the sooner they come to understand the actual bearings of Local-Taxation, especially in the way of rates and rents, the better prepared will they be for the next election. A correspondent of *The Stamford Mercury* thinks they are really awakening to their own interest, for speaking of the financial condition of the Central Chamber he says: "I look upon it as the most wholesome sign of the times. Taken in connection with Mr. Read's address at the Farmers' Club and the bit of his mind which he gave the landlords, I conclude that the tenant-farmers of the Chamber have had enough of subscribing money to strengthen the hands of Sir Massey Lopes in his career of landowners' statecraft, through which course tenant-farmers have been used for party purposes, and not for the good of themselves or the nation." We have pointed out all this often enough in the course of the last two or three years.

MASTER AND SERVANT.—A special meeting of the Howdenshire Chamber of Agriculture has been held to consider the propriety of taking the opinion of the Court of Queen's Bench by a special case, on the decision of the justices of the Howdenshire Petty Sessional Division on Saturday se'night, in the case of *Banks v. Crossland*. The justices decided a parol contract of service or hiring for a period exceeding one year from the time of making thereof is not valid as an agreement, but must be put into writing to be binding. Mr. J. S. Lookwood, who was in the chair, said they had no wish to reflect in any way upon the magistrates, who, they were confident, had conscientiously administered the law in giving their decision. If, however, there were defects in the law, as he believed there were, they must seek to have them remedied. Hirings, as now conducted, would be worthless, and they would be compelled to make written agreements, which servants generally objected to sign, or to have the hirings in Martinmas week, so as to bring the time of contract under rather than above the year; but this would be attended with great inconvenience both to employers and employed. He should be glad to hear the opinion of the Chamber as to the best course to be taken. Mr. W. Brown, of Highgate-house, said the question was one of vital importance to all tenant farmers and employers of labour, and it was essential that prompt and vigorous action should be taken in the matter. Mr. J. Pepper, of Yorkfleet, said the relations of master and servant had for some time been a vexed question, and if the present state of things continued, the interests of agriculture would be very considerably damaged.

The servants were as much bound to carry out their part of the contract as were the masters, and they wished to deal with them in a fair and honourable manner. If the law bearing on the point were incomplete, they must seek to get it amended. Mr. Sowby suggested that counsel's opinion should be taken, and Mr. James Banks said he had gone into court on the question on public grounds, so that the points at issue might be thoroughly tested. Mr. Pepper proposed, and Mr. Pratt seconded, "That Mr. Green be instructed to carry the case to the Court of Queen's Bench, and that the Chamber of Agriculture agree to pay any expenses incurred by him in so doing." The resolution was carried unanimously.

PARTNERSHIP FARMING.—It will be remembered that more than a year ago the Right Hon. Henry Brand, M.P. for Cambridgeshire, and Speaker of the House of Commons, proposed to the labourers on his estate in Sussex to become partners in his farming projects. Lord George Manners, senior member for the county, has, since Michaelmas, 1872, taken the labourers on his Ditton Lodge farm *volens volens* into partnership. He does not expect them to contribute anything during the years in which he may farm at a loss, but he is satisfied with five per cent. interest on his capital, and five per cent. as profit, dividing the surplus amongst the labourers and himself in two equal proportions. The share of the labourers for the year ending Michaelmas last is £36 18s. 3d., which will be about £3 a-head. Lord George has paid his labourers their ordinary wages, the item for labour being £675 8s. 3d. His lordship anticipates that in an unfavourable year his losses will be nothing like so great as they would be but for this arrangement.

THE RABBIT EVIL IN THE WEST.—The encouragement and increase of rabbits in the northern parishes of this county is a matter causing much dissatisfaction among the tenantry and loss to the public. From one property alone it is said that rabbits to the value of £15 per month, fed off the tenants' crops, are sold for the benefit of the landlord. Now, if we reckon that every rabbit consumes and damages five times its worth (a very low estimate), and that those still alive do equal damage to the rabbits killed, we have an annual loss to the tenants on the property referred to of £1,500 per annum! There is great indignation on the part of the sufferers, and a correspondent informs us that there is a firm and growing determination on the part of the tenants to use the power which the ballot will give them, and refuse to support any candidate for the future representation of this division of the county who will not pledge himself to an alteration of the law, permitting rabbits to be treated *as vermin*, and ignoring all contracts giving the right over them to the landlord.—*The West Briton*.

INDIAN CORN.—A merchant in Cincinnati having addressed a letter to the Right Hon. John Bright, urging the importance of introducing Indian corn as an article of food for the people of this country, received the following reply: Dear Sir,—I duly received your interesting letter of 28th April last, and I have submitted it to Mr. Buckmaster, who has been giving lectures on cookery at South Kensington, and have asked him to consider how far anything can be done on the subject of the use of Indian corn in this country. Hitherto nothing has been done, and there are difficulties in the way which it will take time to overcome. The greatest difficulty is that which attends all new things—the indisposition of the people to give a favourable or even an impartial attention to what is new. The chief hindrance to the use of Indian corn has always been the want of knowledge as to the various modes of cooking it. I speak now of those who are favourably disposed towards it. There must be men and women in this country who are familiar with this branch of cookery as practised with you, or, if not, it would not be difficult to engage some American man and woman cook who would undertake to instruct in it. I shall probably see Mr. Buckmaster again when I go up to London, and I shall urge him, and those with whom he is associated, to arrange for some provision by which all that is known in the States with respect to Indian corn may also be known in this country. We have always to import a large portion of our food, and it seems very strange that an article of such great consumption with you should be so very little favoured or known among us. I cannot say more on the subject now, but I will not forget it or your letter upon it.—Yours respectfully, JOHN BRIGHT

THE DORCHESTER FARMERS' CLUB.

THE CAPITAL AND LABOUR OF AGRICULTURE.

At the first meeting of the year, Mr. Richard Genge in the chair,

Mr. G. WOOD HORN read the following paper:

It is now some years since I had the honour of introducing at your Club shortly after its foundation the discussion on "The Relationship of Capital and Labour, particularly as applied to Agriculture." Although that is so extensive a subject that it was impossible to exhaust it, nevertheless it was discussed comprehensively, and I should not again bring it forward were it not that late years have been productive of many new theories respecting the holding and cultivation of land. It may well become us, as a Club, to review these theories of modern growth, in contrast with older principles, and endeavour to draw conclusions as to whether they combine the essential qualifications of true progress and strict justice. In the discussion this evening we may treat the subject of "The Capital and Labour of Agriculture" as a sequel to our former discussion to which I have referred; we shall thus be saved from retraversing well-worn ground, and no further reference need be made to great general principles than may be required in order to make our subject intelligible. Capital admits of the simple division into fixed and floating. Fixed capital comprises lands, buildings, roads, railways, &c. Floating capital consists of coin and other interchangeable commodities. The best form of national wealth is in land, and the improvements effected upon it and in the minerals which are found beneath the surface. These being almost irremovable are secure to a country. Unavoidable causes may at any time lead to a great diminution in the floating capital of a nation. It might have been thought that the immovability of land would have made it an undesirable private investment, and kept it at a low price in proportion to other securities; but such is far from being generally the case. The immovability of land has made it the safest of properties, and, together with the political and social advantages which its possession is supposed to confer, has raised its value to the highest point amongst interchangeable commodities. The ownership of land has thus become a luxury to be enjoyed by such only as can afford to receive a very small annual return from their capital. "What the eye cannot see the heart does not rue" is an old proverb which is not applicable to land. We hear of "The sea, the sea, the beautiful sea," but few there are who cannot see far more beauty in the endlessly changing varieties of landscape. Well, gentlemen, whether from "envy, hatred, malice, and all uncharitableness," whether from a sincere and honest belief that under its present holding the land is not applied to the best use, or whether to raise a revolutionary cry easy to be understood, and which is likely to find favour with that numerous class who would rather steal from others than work themselves, it is not my duty to inquire; but the fact remains that there is in this country an agitation in progress for an alteration of the laws respecting the holding and sale of land. Now those who are thus agitating admit of division into two parties, the one having far more advanced views than the other. The programme of the more moderate party is the abolition of the laws of primogeniture and entail and a simplification of title and transfer. That of the extreme party seems to be "a curtailment of private rights in land" which, carried to its necessary result, means that the State must assume the ownership of all lands. Compensation to the present owners is a question not hardly deemed of sufficient account as to deserve consideration. In order rightly to understand the ownership of land it may be necessary to trace back its history to remote ages. The primary and necessary wants of mankind are very simple. They are embraced under the four heads of food, lodging, clothing and education. In a savage state the first of these four necessities is the all important one. The lodging is the bamboo hut or the hollow tree. Education is confined to learning the arts of war, of hunting, and of simple cookery, and as for clothing—well, it is here unnecessary to lay bare the asked truth. Civilization

and accumulation are the two powers which have changed all this, the former creating the demand, and the latter supplying the means for the enjoyment of higher luxuries. It is here worthy of remark how these two powers, civilization and accumulation, go everywhere hand in hand: with the reclamation from the savage state there arises a desire to store up surplus production, and this leads to the accumulation of wealth. To have all things in common may be the *beau idéal* for those who are educated up to the proper state of perfection, but to ordinary mortals it means a return to the regions of barbarity. The natural productions of land are thorns and thistles, and wild and inferior fruits, and such like. These suffice to supply the wants of the savage, but the necessities of civilization are that these natural productions be supplanted by those of better worth. Hence the necessity for cultivating land. In treating of land it is necessary to bear in mind that there is a wide gulf between the wilderness and the fruitful field. The latter shows the transformation effected upon the wilderness by ages of toil. Look at the beautiful valleys of irrigated meadows now worth their three or four pounds per acre in annual value, and remember that these were originally bogs, morasses, and stagnant pools, fruitful of eels, and the pleasure grounds of innumerable herons. On many of those sloping fields of arable land there was originally little or no surface soil; such has been produced by working with Nature—by exposure to the action of frosts and sunshine of the original beds of gravel, flint, and limestone, together with the application of suitable manures. On the latter fields production has been stimulated by deep cultivation and subterranean waterpipes. In order to give the necessary stimulus for the reclamation and improvement of land it has been found necessary in all countries to pass the ownership from the community to which it originally belonged into private hands. Take, for example, the instances of America, Australia, and New Zealand. They each have their wilderness acres in abundance, and what temptation do they hold out to attract settlers? Come and have so many acres for your own. Thus the land, originally a national property, has been converted *pro bono publico* into a private property. It has been urged that a nation, as she advances in education and civilization, has a right to reconsider and reconstruct; to pass from the old state of things for which the present generation is not responsible, into one more consistent with modern ideas of progress; that the resumption by the State of the ownership of land, minerals, &c., would be one such necessary measure of reconstruction. This opens the question of public as against private rights. The true position appears to be that, in case of necessity private rights must give way to public convenience, full and liberal compensation being made for public interests. The principle has been admitted in the case of highways, railways, and other public works of the first importance. It would be easy to prove that no necessity exists for the resumption of the lands by the State, and further that such an operation would be impolitic and ruinous. Notwithstanding the great outcry which is made as to the high price of human food, it is very questionable whether it is not cheaper now than it was half-a-century ago, taking into consideration the fall in the value of money, and the rise in the price of labour. See the great improvements which are constantly being carried out on land. In my own neighbourhood I know of a new river having been cut and water meadows relaid at considerable cost. Not far off I have seen a poor desolate heath country of some hundreds of acres drained, broken, and manured, and thus converted into arable land. On a cold hill I have lately seen land cleansed and subsoiled at an expense of about £8 per acre. This is a small specimen of what is being done by private enterprise throughout the country. Would improvements progress in this way under State ownership? Englishmen have seen enough to know that the small line of red tape means stagnation. It would be easy to prove that the financial operation involved would, if not totally

impossible, be impracticable and ruinous. Take all the interests of country life from the capitalist class, and much will have been done towards inducing them to spend their time and their incomes in other lands. Although I have been treating of the State purchase of land as if it were a possible policy of the future, nevertheless I do not believe that with all the mad schemes and propositions of the present day this will ever be seriously entertained. I have entered on it rather to clear the way for the proper consideration of the schemes of the more moderate school of land reformers. The objects sought to be accomplished by this party are—1st, the simplification of title and transfer; 2nd, the abolition of the laws of entail and primogeniture. There are few objects more deserving of the attention of the statesman than the first of these. Circumstances make it of national importance that land should be changing ownership, and yet the State throws every impediment in the way of such changes. You may invest £2,000 or £20,000 in foreign stocks; the operation is completed by receiving the bonds in exchange for your money; but if you purchase but one small field, there must be investigation of title and bundles of stamped papers of imposing appearance—in fact, the vendor of land is generally mulcted of 5 per cent, and the purchaser of 10 per cent. of their respective capitals under the present system of legalised robbery. Is such a state of things a just and right one? Only a few antiquates could be found to defend it. Will no wise statesman arise to rid land of this most unnecessary burden? The law of primogeniture, as a manifest injustice, should be abolished. In all cases where the late owner does not signify his will with regard to his landed property it should be treated as personality, and equitably apportioned. It is true that this might sometimes lead to the division and breaking up of large landed properties, but I cannot see that such would be an injury to the State. On the contrary, do not policy and justice alike demand the change? The law of entail is of much more importance, as it has a bearing on a large proportion of the land of this country. It cannot be denied that great evils result from this law. Witness the case of a poor overgrown estate, heavily mortgaged, yet strictly entailed. Expenses of maintenance are constantly on the increase, and rent-rolls of such properties are non-elastic. The position of the owner is not enviable. With only a life interest and a decreasing income, he has no incentive to improvement, and the repairs executed are often of the most temporary character. It is true that money may be borrowed to effect improvements at 6 or 7 per cent., repayable in about 30 years; but few improvements on land will repay this annual charge, and in such cases the property becomes increasingly involved. On a property in such a case every cottage wall and roof will bear the stamp of entail. Evil as are the effects of this law it would be gross injustice by abolishing it to leave the present owners in absolute possession. Advancing years may already have made sons' or nephews' interests of more marketable value than that of the present possessor. It must not be forgotten that the law of entail is closely connected with our system of government. Hereditary rulers without hereditary property would mean hereditary paupers. It appears to me that many difficulties would be overcome and much good effected by allowing the present possessors, under some necessary restrictions, to sell a portion of an entailed property, investing the proceeds (still subject to modified entail) in Government securities. The present owner would increase his income by exchanging into a better-paying security, less expense would attend the management of the property, the stimulus given by the improvements which would probably be effected by the new owners of the realised part would often cause a rise in rentable value on the retained portion of the property, the evils of entail would be mitigated, and more land would be offering for sale. These advantages might all be secured without inflicting injustice on anyone. As tending to unfetter the capital of agriculture such a measure well deserves support. Passing to another part of the subject I would call your attention to the burdens which rest upon land in the form of local and imperial taxation. The question has arisen whether the land is not taxed far too heavily in proportion to other properties of the country. It has been urged that some of these are hereditary to land, that it has been bought and sold subject to them. True, this is the case with regard to the poor-rate, but, I ask, has this principle received any attention in recent legislation, when it would have told the other way? Small parishes and some other

properties had always been bought and sold, comparatively free from poor-rate classes, but being now full contributors to the common fund of the union, pay the same proportion as other parishes. Amongst imperial taxation, the income-tax may first be noticed. Under Schedule A the landowner pays tax upon the income which he receives from his land in the form of rents. Under Schedule B the occupier pays upon his assumed income. From no other class is this tax so strictly and fully collected. I have heard of protestations against the income-tax, and of propositions for abolishing it altogether coming from other classes, but I never knew a landowner or occupier object to this tax. It cannot be that threepence or sixpence out of every pound makes less difference to a landowner's or occupier's income than does the same amount out of incomes derived from other sources, but may it not be that the income-tax appears insignificant in comparison with the many weightier charges thrown upon land? The Malt-tax is one of these, and it presses with peculiar hardship upon the farmer. It prevents him from feeding his cattle on corn of inferior quality to the best advantage, it lowers the price of the best barley to the maltster, and it charges the farmer with a heavy tax on that portion of his produce which he has malted for the use of his labourers in the hay and harvest seasons. Take, as example, a farm of five hundred acres rented at £700 per annum. At least 20 sacks of malt would be required in the year. The duty on this would amount to about £11, equivalent to an addition of 7½d. in the pound to the income-tax of the farmer. But imperial taxation is light compared with that which passes under the misnomer of local taxation—misnomer, I say, for the taxes are imposed by the Imperial Government, and the local authorities have merely a nominal control over the expenditure of them. The land-tax, though small in amount, must be named. The oldest form of local taxation is that of the poor-rate, but into this have been gradually engrafted the charges for lunatics, for militia stores, for police, for the repairs of bridges, for the administration of justice, and for other purposes. The rates for these objects are upon the average about 3s. in the pound. A rate of 3s. in the pound upon a house may amount in the course of a year to a considerable sum, but is probably a small affair in the income of the occupier. Three shillings in the pound upon a farm is equivalent to an income-tax of 6s. in the pound to the occupier. But this was not enough. Better roads were required for public use, the Highway Act was passed, and another 6d. in the pound added to local taxation. Doubtless it was necessary for the national good that there should have been increased facilities for education throughout the country; it was by no means necessary that this should have been effected at the cost of the temporary occupiers of land. The occupiers of land owe no good feeling towards the Government by whose instrumentality this injustice was perpetrated. In many small parishes the charges for educational purposes will amount to 6d. in the pound, equivalent to an increased income-tax of 1s. in the pound to the occupiers of land in those parishes. Gentlemen, time has permitted of my alluding only to the most flagrant features of this local taxation question, but I have said enough to show that it is a matter of the most pressing interest to all who are connected with agriculture. This question will not meet with a satisfactory settlement whilst some of those who are the most deeply interested remain apathetic. It should not be forgotten that a general election of members of Parliament is approaching. Now is the time for the agricultural interest to make itself once more felt as a political power, and, making local taxation the standpoint of the day, endeavour to bring this question to a fair and satisfactory settlement. This part of the subject would not be complete without referring to the title rent charge. In the form title was taken before the passing of the Tithe Commutation Act it was most objectionable, a bar to all improvement and good farming; in its present form it is far less so. To the occupier it now forms part of his rent, rising and falling with the corn averages. I have now to speak of the relationship of landlord and tenant. The proposed bill of last session to regulate this relationship has been so lately brought before you, and in such an able manner, that it is unnecessary for us to discuss it farther. As this bill is, it is said, to be re-introduced next spring, I wish to say only a few words as to clause 12. Proposed in good faith in the interests of the tenant-farmer, it contains a direct blow at the rights of property, and doubtless as such will receive the hearty

support of Radicals and Revolutionists. Hearty as is my sympathy with every measure which tends to clear the course for good farming, yet never will I support a measure which bears on the forefront the impress of robbery. On a former occasion I brought to your notice the wonderful way in which the letting value of land had increased from time to time. Six hundred years ago sevenpence per acre was the highest ever paid. Two hundred years ago rent ranged from two shillings to ten per acre, and from then, until within the last two or three years, there has been an almost uninterrupted rise. This, however, must be discounted by the heavy outlays which have been incurred in the erection of farm-buildings, and in other permanent improvements, no matter whether effected by landlord or tenant. I have now to mention a somewhat different state of things. In the last two years there has been a considerable fall in the letting value of land, amounting from 10 to 20 per cent. The principal causes which have led to this are the following: A succession of bad crops, particularly of wheat; disease amongst stock; the increased cost of labour; and the heavy capital which it is now necessary to employ on a farm. It might be supposed that the high price of live stock would have compensated agriculturists, but such has not been generally the case. It must be remembered that live stock has not hitherto been regarded as profitable on arable land, except as manufacturers of manures. It is only within the last year or so that cattle and sheep have repaid the cost of the foods grown and purchased for them. All the expenses connected with the farm have enormously increased. Coal and iron, of which farmers are considerable consumers, have doubled in value. Extensive machinery means expensive repairs. Two thousand pounds extra capital must mean one hundred per annum more to the net returns of the farmer, and ought to mean two hundred. It has been urged that more capital is required than is generally to be found in employment on the land. If this were true the cry comes with a bad grace from the party who are seeking by every means in their power, by making the capital now employed unprofitable, to drive it from the land. But I do not admit that under present laws and regulations much larger capitals can be profitably employed. There is abundance of wealth in this country ready for investment in Russian Loans, Hungarian railways, or Venezuela mines, but it flows not to our own soil. The reasons are plain. The risks are great, the business is troublesome, and the returns are small. The farming business which turns but half its capital in the year disgusts those accustomed to the better returns from manufacture and merchandise. Joint stock companies have been brought out for carrying on nearly every description of business, and have generally paid remarkably well—not the shareholders, but those who have organized them. Farming on the joint stock principle has not yet been attempted in this country. When it is tried I do not expect to find the shares at a very high premium. A late number of *Fruiser's Magazine* has propounded the scheme of mapping out England into large square farms of some thousands of acres each, and some one else proposes to divide it into small four acre farms. If all England was level land, if all soils required the same treatment, if all seasons were exactly alike, if hedges were not required for shelter, if everything on a farm could be moved as by clockwork, if employes required no supervision, if the profits were sufficient to allow of the employment of thoroughly efficient men as bailiffs, and if shareholders only required a very small per centage upon their investment, then the former scheme might be a success, but under no circumstances could the latter succeed. Of the four acres at the least forty perches would be occupied with buildings and fences, leaving three-and-three-quarters acres for cultivation. A cottage, cow-house, pig-sties, and store-room, and all fences and gates would probably cost about £250. It is true that by spade husbandry large quantities of vegetables could be produced, but this would be useless, as there would be no market for them. It would be necessary to grow those articles for which there is a demand, such as grain, dairy produce, or meat. The latter could not be advantageously produced under such circumstances. Of grain and dairy produce under favourable circumstances the land might produce £12 per acre, or £45 per annum. Deduct £8 for rent, rates, tithes, &c., and £15 for interest at £6 per cent. on the £250 expended in buildings, together £23; the balance left for one year's labour and all other expenses would be but £22. The whole proposition is Utopian; carried out it would be a revival of the worse days

of Irish land tenure. A labourer with his spade has no more power of competing with the capitalist occupier than has the hand-loom weaver with the great steam-power manufactories of the present day. I now approach the subject of the relationship between the capital and labour of agriculture, between the employer and the employed. In briefly noticing this branch of our subject my object is not to utter angry protests or fierce denunciations; it is simply to put before you if possible some practical views of an important question. The great difference existing in the relationships of the capital and labour employed in agriculture as compared with those employed in manufacture must be at once apparent to you. In a manufactory situated in the midst of a thickly populated town the labourer is brought into contact with his employer only during the actual hours of labour; after working hours all connection between them ceases. In agriculture such is not the case. The labourer generally resides in a house found for him by his employer, is often his nearest neighbour, and living in the country, perhaps a considerable distance from a town, is dependent upon him for many little civilities and assistances. The labourer may have the care of stock which will sometimes require attention by night as well as by day; his services are sometimes required at uncertain and irregular hours, and, to be of any value, they must be cheerfully given. The question of work and wages is not the only one between a farmer and his labourers. It is often a bond of mutual obligation; it ought to be one of mutual confidence and trust. This relationship has been rudely shaken by the events of the last two years. In some instances many years of constant intercourse, yes, and of friendship, have been counted as nothing, and confidence between employer and employed has been destroyed. I am not saying such is universally the case; in my own experience it is quite the contrary. Whatever may be the agricultural labouring classes, an utterly selfish disregard of their employers' interests cannot generally be imputed to them. There is also a considerable love for old associations, and as much honesty as is to be found amongst other classes. After the first excitement to which I have referred was over, it was confessed by some who had inconsiderately severed old connections that they had since passed the most miserable time of their lives. They had discovered, as many have before them, that pecuniary advantages are purchased too dearly at the cost of dishonesty and dishonour. The principle of union is good if the end to be accomplished is also good. Agriculturists have formed unions, commonly called agricultural societies, for the purposes of improving the races of cattle and sheep, for stimulating the production of efficient machinery, and for the encouragement of clever and deserving labourers. The Agricultural Labourers' Union appears to be formed for the purpose of coercing farmers at busy seasons of the year to pay more wages than they can really afford—in fact, to rob them of a portion of their business capital. It is claimed for the Agricultural Labourers' Union that it has already done good service by raising wages, but it must be a doubtful good which increases an income by £5 per annum, and increases the price of the necessities of life by an equal or greater sum. Is it wise, is it considerate to those most deeply interested, to raise a state of things in which all employers would rather spend 20s. in seeding or manuring than 10s. in the employment of labour? I am not impugning the motives of the principal movers in what is called the labour movement. The ultimate object which they have in view may be good; but, like other enthusiasts, they have been able to see only one side of the question, and have consequently come in collision with the great inexorable law of supply and demand. Firm as a rock stands that law regulating the price of every marketable commodity. It is true that by diminishing the supply you may cause a temporary rise in value; but—wheels within wheels—the higher price diminishing the demand causes a return almost to former prices. If less labour be employed in agriculture there must be less production; all produce will lose in value, and the agriculturist will be recouped. It is only in the expectation of receiving a fair return for your capital that you employ it in agriculture. If agriculture as a business has passed from the pleasant list into the doubtful or bad list, the risks being greater, there will be less capital seeking investment, and yours must command a comparatively higher interest. But I have no fear of the great evils which some predict coming upon our country. Whilst the supply of coal holds out Great Britain will be a prosperous nation; and afterwards, with all her enor-

mous accumulation of wealth, she may fairly retire in competence from the cares of business life. Whilst still in active health her appetite is enormous. The present period forms a crisis in the history of agriculture. The question is whether present prices will further improve, admitting of still heavier expenses being met, or by retrogression compelling the adoption of the policy of retrenchment. Prices will tell which is to be the policy of the future. It may be found most profitable to cultivate by steam and to employ skilled mechanics, to keep increased numbers of live stock fed abundantly upon the best of cake and corn. On the other hand, it may be found necessary to lay many acres of the arable land to pasture, lessening the demand for machinery and labour by 75 per cent. These are eventualities which may possibly arise, and I doubt not that agriculturists will be found ready to meet them. Depend upon it that agriculture, as the oldest occupation and the most important to daily life, will continue to be carried on until the world has arrived at that state of perfection when daily food will be no more required. Gentlemen, the subject is in your hands. I have endeavoured, as well as the short time which private business has allowed me in preparation, to place before you a brief outline of the position of agriculture, an epitome of its burdens and its cares, an expression of views with regard to some political changes which are needed alike in the interest of agriculture and of justice. May we not look with confidence to the future? Public opinion is aroused as to some of the worst evils of the present system, and remedial legislation may be expected. I thank you for the attention with which you have listened to these remarks, and, in conclusion, I can only express my earnest hope that in the future capital and labour may learn more justly to appreciate each other, and, in the establishment of mutual good feeling, derive therefrom mutual pleasure and prosperity.

Mr. R. N. HOWARD took the club back to the old feudal days, and the struggles which had taken place, and the Acts of Parliament passed for the possession of land—contending that in the present day the trade and commerce of the country demanded that land should be free, and the freer land was made the better. He looked upon the laws of entail and primogeniture, not as revolutionary, but as obstructions to this free possession of land. Glancing at what commerce had done for the agriculturists, he called to mind the hundreds of millions spent on the construction of railways. Speaking on capital, he showed the difference between fixed and circulating—the more there was of the latter the better for everybody. He urged that towns—the centres of commerce—were as heavily rated, and in some instances more so, than the country. Giving a local illustration, he mentioned that while the union poor-rate valuation amounted to about £10,000 Dorchester (including Fordington, £9,000) stood at £21,000, or nearly a fourth of the whole. At Weymouth an extra rate of 2s. in the £ had been imposed for the drainage of the town. It might, he said, be taken as a general principle that it was a necessity from the growth of nations that certain properties should change. Therefore, the agriculturists must not cry out against being particularly rated.

Mr. HENRY LOCK, clerk to the Dorchester Union, who was appealed to as an authority on a point under discussion, said the rateable value of the union was about £101,000, between one-fourth and one-fifth of which was collected within the four parishes of Dorchester. But, then, as far as two of these parishes were concerned, Fordington and Holy Trinity, a large portion was of an agricultural character—he should think one-half of the former and a-third of the latter, and, taking this fact into consideration, the proportion would be reduced from one-fourth or one-fifth to about one-sixth.

Mr. J. G. HOMER pointed out that an immense tract of land, including the whole of Frouse parish, was connected with the town of Dorchester, and that throughout the union the same rate of assessment was levied, houses in the town being assessed on the rentals the same as farms. He, therefore, could not see that the town was paying more than its proportion. Every acre of land in the union was assessed.

After further comments on this point by Mr. Lock and Mr. Howard,

Mr. HOMER added that while trade and commerce were not assessed to the poor-rate the capital of the agriculturists, being invested in the land—and land was comparatively worthless without capital—was thus assessed. Townspeople only paid upon their houses as individuals; they paid nothing upon their capital, their income from their professions or busi-

nesses was not, as in the case of agriculturists, taken into account.

Mr. R. DAMEN showed that the point under discussion resolved itself more into a question between real and personal property. Regarding the lecture itself, it was so comprehensive that he (Mr. Damen) could not pretend to do anything like justice. Reference had been made by Mr. Wood Homer to the Landlord and Tenant Bill, which was likely to be introduced during the next session of Parliament, and some of the probable clauses of which had been already discussed by this Club. In the allusion to the 12th clause it was intimated that any man who supported it must be a radical, or something of that sort. Now he (Mr. Damen) did not pretend to be of any politics, although he took, he must admit, some interest in agricultural politics. But he felt strongly on one point, viz., that if the law was essential it was important to render it binding on the people. To pass a law from the obligations of which any one might be exempt seemed to him to be contrary to the spirit of all law. He considered that, if the law question were wanted at all, the 12th clause was required. Respecting the labour question, it had been already discussed, but much, he thought, remained to be said thereon; it was not yet settled. Reference was made in the course of the lecture to the amount of land the labourer should have. Now he (Mr. Damen) considered that a small portion would be an immense benefit to the poor man; that to send him across the Atlantic for a bit of land instead of providing it for him in this country was not a wise course to adopt; a bit of land here might be a great benefit to him, and might satisfy him. Regarding the law of primogeniture, upon which the lecturer had touched, he (Mr. Damen) had previously had his say elsewhere, and all he had heard this evening on the subject did not alter his opinion one iota; he contended that the law of primogeniture and entail had been to the advantage of the great middle class in this country; it was impossible that class could be supported in town and country without pretty good sized holdings, and it would be reduced to the same level as that of France if the land were divided and subdivided as in that country.

Mr. ALFRED POPE suggested that too much importance had been attached to the law of primogeniture, inasmuch as it was only called into action where a person died intestate. Not above once in a hundred cases did this law step in and say the eldest son should be entitled to the property, to the exclusion of the other children. In reference to the expenses involved in the transfer of land, it was said that the cost to the vendor in stamps and duty amounted to about 5 per cent. on the purchase money, while the purchaser incurred about 10 per cent. Now he thought this was something about which any vendor or purchaser would reasonably grumble; 1½ or 2 per cent. was as much as he (Mr. Pope), as a professional man, could get.

Mr. CHAPMAN SAUNDERS proposed a vote of thanks to Mr. Wood Homer, who, he considered, had read them an admirable paper, and deserved their warmest thanks. There seemed to be a little diversity of opinion on several points. Respecting the transfer of land, it perhaps may be made a little easier; yet he agreed with Mr. Damen that the law of primogeniture ought not to be abolished. To render the transfer of land easier might be to the advantage of the agriculturists, and indeed the general community. Agriculturists looked to their own interest, and so they ought, for it must be admitted they had burdens of which, to a considerable extent, they should be relieved. To the great commercial people, alluded to by Mr. Howard, they were doubtless much indebted; and they ought to come forward and help to bear some of the burdens at present borne by the land. He thought Mr. Howard would agree with him that the agriculturists were willing to bear their fair share, but they objected to do more than that, for they had to attend to the improvement of their stock and other matters. In conclusion, he thought they were all pleased with the paper, and ought to thank Mr. Wood Homer.

Mr. ANDREWS, hon. secretary, seconded the vote of thanks, which was carried unanimously.

The PRESIDENT occurred in thanking Mr. Homer for the care and attention which he had devoted to the subject; everybody, he said, must allow that the paper displayed great ability, and, he might add, also great common sense. He thought Mr. Homer had advanced very few arguments to which exception might be taken. Mr. Damen had criticised his opinion on small holdings, but he might be reminded that on the occasion

of the Irish famine it was ascertained that 25 per cent. of the farms in Ireland were under seven acres. Mr. Genge considered that to cut up the farms of England into divisions of four or five acres each would tend to the ruin of the country. He said they ought to thank Mr. Howard for the zest which his opinions—however much the club might differ from them—imparted to the discussion. They differed from him very considerably, but must thank him for the candour and ability with which he expressed his opinions. For instance, he (Mr. Genge) disagreed with him on the question of free land. What did Mr. Howard mean by free land? If he meant freeing it from all its burdens, then he (Mr. Genge) entirely agreed with him. Mr. Howard had directed attention to the feudal laws; but let him look back to the time when the feudal system was at its height: what other state of government would he have had? Did he find fault with the holders of land for improving their position? He (Mr. Genge) thought that was a subject for congratulation rather than censure. Then reference had been made to the struggles of agriculture. But he (Mr. Genge) thought the struggle now was between the agriculturists and another great party which had arisen in the country; he alluded to the manufacturing interest. When the agriculturists began to increase in power their children were sent out into the world, and the arts and sciences were increased and developed. Thus a great party arose in the State, and that party possessed now, he should say, rather too much of the wealth and political power of the nation—too much, certainly, for the good of the agricultural interest. He opined that by the argument as to free land was meant that the manufacturing party to which he had just referred were not content to have a large portion of the wealth of the country, but they wished to get the land also—which he (Mr. Genge) hoped would never be the case. He attributed much to the supineness of the landed interest, of which the manufacturing class were not slow to take advantage; but he hoped that the good sense of Englishmen would prevail, that the manufacturing interest would be moderate in their views, and that they would be satisfied to “live and let live.”

Mr. DAMEN explained that he would by no means advocate the same system of parceling out land as adopted in Ireland.

The expression he had used was “bit of land”—which it might be advantageous to allow the labourer for cultivation. He had not for one moment advocated the Irish system.

Mr. WOOD HOMER in reply said Mr. Howard attributed the increased size of farms to the efforts made on the part of trade, whereas he (Mr. Homer) attributed it to the introduction of machinery. No man had done more to increase the size of farms than Mr. John Fowler in inventing the double plough system; anyone who bought one of his sets could as easily cultivate three or four thousand acres as two or three hundred. Steam cultivation would tend to the extension of farms. With regard to the money expended on railways, as referred to by Mr. Howard, he (Mr. Homer) did not think it was with a view to helping agriculture, but rather to a return of some six, seven, eight, or ten per cent. into the pockets of those who invested it for their own private ends; and in thus seeking to benefit themselves they had, no doubt, benefited the whole community. If the large amount thus spent could be drawn from trade and manufacture it only showed that trade and manufacture were more prosperous than agriculture, those who followed which could not invest such money. In reference to the drainage rate, to which Mr. Howard had referred, the speaker urged that the drainage was for the exclusive benefit of the town, and that it was only fair everyone whose property was benefited should be equally assessed. But, he asked, was land exclusively benefited by the establishment of the various systems of local sanitary inspection, education, and other such matters? Regarding another point, he believed the labourer should have sufficient land in cultivation to grow potatoes for his own family use; further than that, his services would be more profitably employed in other ways. His own plan was to allow his men with families half-an-acre of land, in some cases more—that was as much as they cared about. (Mr. Chapman Saunders: Too much.) Mr. Homer touched on the salient points on the land question in the speeches of the Secretary of State for War and the Solicitor-General. He agreed with the president as to the supineness of the landed interest, referring as a striking example to the meagre support accorded to the Dorset Chamber of Agriculture.

FIELD EXPERIMENTS IN 1872 AND 1873.

At the monthly meeting of the Cirencester Chamber of Agriculture, Mr. H. J. Marshall in the chair,

Professor WRIGHTSON said: It is close upon two years since I presented you with a report upon the experimental department of this Chamber. I see by the advertisement that I am to furnish you with some account of the agricultural experiments for 1872 and 1873. I must at once say that owing to a variety of circumstances the results of the experiments of 1872 must occupy a very small portion of our attention. Previously to the present year we had undertaken experiments upon roots and cereals for five consecutive seasons. It was only, however, during the past year that we were able to conduct these experiments in a manner which appeared quite satisfactory to me, so far, at least, as root crops were concerned. The great difficulty to be met was the proper distribution and application of the manures, and since no ordinary drill is constructed for the sowing of definite quantities of manure equally over a small plot of land, we were obliged to resort to the somewhat laboured, and as it turned out ineffective method of applying the manure by hand. Year after year this system was adopted, and the manures exerted their effect with more or less power, and we were enabled to come to some conclusions embodied in my reports of 1869 in the *Royal Agricultural Society's Journal*, and in 1872

in a pamphlet reprinted from the *Wills and Gloucestershire Standard*. The hand-distribution of manure evidently prevented the manures from exerting their full effect, as was at once evident upon comparing our experimental plots with adjacent land sown with the water or with the dry drill. Some impulse was given to the experimental energies of this Chamber by a paper read last spring by my friend and colleague Professor Church, in which he pointed out the advantages of agricultural stations as centres, where scientific work in connection with agriculture might be performed. It was resolved that by way of commencing such an experimental station at Cirencester we should enlarge our capabilities with reference to field experiments, and other directions were also indicated in which the new agricultural station might be developed in connection with the Cirencester Chamber and with the Royal Agricultural College. Not to detain you with further particulars, I may remind you that the work of experimenting was lightened by the outlay of a little money. With the assistance of Messrs. Reeve, of the Bratton Iron Works, Westbury, I contrived a liquid manure drill adapted for our purpose. It, in general form, resembles the ordinary drill, but by some three or four alterations we are enabled to sow more exact quantities, and to clear the drill completely out upon every plot of one-twentieth part of an

acre, and this without any delay or difficulty. A suitable man was found to undertake the work of drilling the swedes upon every farm, so that by the use of this implement, travelling as it did from farm to farm, we were enabled to secure a more uniform method than if each farmer had been left to follow his own devices. Messrs. Proctor and Rynad, of Birmingham, were also communicated with, and courteously offered to supply their own manufactured manures free of cost, and others, which they did not manufacture, at prime cost. These manures were mixed, weighed, numbered, labelled, bagged, addressed, and forwarded to the various gentlemen who were willing to undertake experiments, and hence a regular system was introduced, thanks to the liberality of subscribers, which enabled us to start upon a new and improved footing. A circular was issued inviting attention to and co-operation with our scheme, and this was responded to by the gentlemen whose names will be presently brought before you. We still adhere to the principle which has always been our motto, viz., Repetition and Control. Perhaps the high expectation, which I at least at one time formed, has been a little damped, but in any true investigation we must accept the true answer which Nature makes to our questions, even although apparently these answers may be contradictory. It might have been agreeable to have told you that in this district a certain and absolute effect always followed the use of a particular dressing or a particular treatment. Such is not the case, and the tendency of our investigation is more and more to doubt the utility of those general recommendations to a certain course of practice with which agricultural periodicals and journals teem. First let me claim for this Chamber the solution of an important problem. I venture to assert that in this neighbourhood at least the experimental results obtained by any one agriculturist cannot be safely adopted by his neighbours. Published reports of experiments, however interesting in themselves, and however satisfactory as showing an appreciation of science on the part of the experimenter, must be looked upon with a degree of suspicion when they are presented before us as guides for our practice. Such an opinion may have presented itself to the minds of members of this Chamber. But the experiments which we have now conducted for several years give definiteness and clearness to it, relieving it from the stigma that it is rooted in ignorant prejudices. Our results have, to my mind, clearly placed agricultural experiments upon another and new footing. They cease to appear in the light of general guides for the agricultural public. No longer must we examine tables of experiments with a view to finding the best manure for swedes, wheat, or clover—no longer must we rely upon the testimony of our market acquaintances and farming friends for prescription for manures. Each for himself must endeavour by strict experiment to find the best fertilising substances for his own particular farm. What, then, becomes of our own particular system of conducting agricultural inquiry, viz., that of frequent repetition and control? Firstly, it enables us to come to the above important conclusion; secondly, it affords the interesting spectacle of simultaneous effects, and those exhibit to us the varied character of the soils which surround us; thirdly, repetition alone can bring out those marvellous effects of season, which will in one year frequently reverse the verdict of the preceding one; fourthly, does it not open up a question of deep importance, requiring much more delicate investigation than is possible to agriculturists alone, and which requires the aid of agricultural chemists? I allude to the inquiry into reasons why such extraordinary differences, as I shall have to point out to-day, exist. Why do we find one soil able to give 15 tons of swedes without manure of any sort, while another can only produce its 17 cwt., albeit with a regular plant? Why do we find a decrease from the use of superphosphate in one instance, compared with an overwhelming increase from its use in another case? Why do we find the clear dictum in favour of one manure furnished by one series of experiments completely reversed by another? The answers to these questions are perhaps beyond our knowledge, but they are *bona fide* questions, founded upon true experience, cannot be doubted for a moment by those who follow me through the results of past and previous years. I must here express my sorrow that, owing to absence from this country, Professor Church is not with us to-day, as his deep knowledge of chemistry, coupled with the great attention he has given to these experiments, might have enabled him to have thrown some light upon the points just raised. It is well, however, that

you should have the plain statement of the results obtained as early as possible, and if the interest of the Chamber is sufficiently awakened, I hope that the present report will not stand in the way of a future and more elaborate one, in which the experience of agriculturists will be blended with the theoretical explanations of an accomplished chemist. Our experiments also show us the difficulties which must beset the practical solution of the question of Tenant-Right, for how can we assign a general or universal value to a particular fertiliser, when perhaps this fertiliser, while exceedingly effective on one farm, is without effect upon another? Lastly, at the risk of repetition, I must enforce from experience the importance of each farmer testing the value of artificial manures upon his own farm for himself. Such tests are quite essential, for it seems altogether unreasonable that you should spend hundreds of pounds upon artificial fertilisers, and that upon land which could well afford to do without them. On the other hand, such tests would frequently stimulate the purchase of still larger quantities where a marked defect was observable. While we find these varying and even contradictory results brought out by our experiments, we are also able to trace certain effects which ran through the entire series of trials made during the last season. When such is the case you have evidence of extraordinary strength, which may be taken as a guide for future practice. At first sight it may appear disappointing that all our experiments do not bear each other out upon every point; but I have endeavoured to show that both the varying results obtained upon some points and the unanimous verdict upon others, may alike be turned to your advantage. With these preparatory remarks, I pass on to point out the lessons which our experience of the past year has taught us. First, I will ask your attention to the unmanured plots, 24 in number, and distributed over various parts of the district. They give a general or average yield of 8 tons 8 cwt. 74 lbs. per plot. Some of these have received moderate dressings of farmyard dung. The season being propitious, and the plant being for the most part regular, this yield may be taken as fairly indicative of what land without the help of artificial fertilisers will yield. Taking 25 inches as the width between our drills and 15 inches as the distance between our plants, we ought to find 836 plants upon each plot of one-twentieth part of an acre. The average number of plants was actually 731, and hence we may say that allowing for difference of space in hoeing, the plots carried a fair plant. The immense difference which existed between the yield of these plots is well worthy of attention, and is shown by the following table:

TABLE I.—RESULTS OBTAINED WITHOUT ARTIFICIAL MANURES.

	Tons. cwt. lbs.			No. of plants
Mr. Smith obtained ..	15	3	4	without dung ... 828
Mr. Swanwick ,,	12	0	4	,, ,, ... 766
Rev. T. Maurice ,,	1	10	80	after wheat dunged 137
Mr. Iles	5	16	18	without dung ... 803
Mr. Marshall ,,	8	9	102	,, ,, ... 960
Mr. Price	14	9	53	with dung ... 683
Mr. Price	9	0	75	without dung ... 893
Mr. Edmonds	4	0	30	,, ,, ... —

In all these cases the same seed was used and the same climatic conditions existed, and the extraordinary differences we must consider as due to the inherent qualities and agricultural condition of the soils. May we not naturally conclude that land which can grow good crops without manure is in good condition? If so, we must come to the inevitable conclusion that land in good condition is much less influenced by artificial manures, than land which is in poor condition. The knowledge that such extreme differences exist in a favourable season with the same seed and with the same regular plant is certainly worth having, and alone shows us the importance of our experiments.

I.—GENERAL RESULT OF EXPERIMENTS UPON SWEDIS, 1873, UNDERTAKEN BY MEMBERS OF THE GREENESTER CHAMBER OF AGRICULTURE.

	Earl Bathurst.	The R.A. College.	Mr. J. Smith.	Mr. E. Bowley.	Rev. T. Maurice.	Mr. L. D. Little.	Mr. Price. Manured.	Mr. Ureter. Un-manured.		Mr. Hrs.	Mr. W. J. Edmonds.	Mr. Marshall.	Mr. O'Dwyer.	Average result all 12 sets.
								T. cwt. lbs.	T. cwt. lbs.					
1. Peruvian Guano 3 cwt. per acre.	20 18 104	14 12 16	13 17 56	11 13 24	7 15 20	5 0 0	11 10 40	9 18 64	10 8 4	15 1 108	12 18 4	6 0 0	6 0 0	11 15 96
	20 19 72	15 16 28	13 17 96	11 5 60	6 0 0	4 2 16	12 4 52	9 14 32	13 8 4	15 12 76	12 13 4	5 17 76	5 17 76	
	20 19 32	15 4 22	14 17 76	11 9 42	6 17 56	4 11 8	11 17 46	9 6 48	11 18 4	15 7 36	12 15 60	5 18 94	5 18 94	
	Average	15 16 28	13 17 96	11 5 60	6 17 56	4 11 8	11 17 46	9 6 48	11 18 4	15 7 36	12 15 60	5 18 94	5 18 94	
2. Dissolved Peruvian Guano 3 cwt. 60lbs.	20 15 60	16 0 0	15 0 0	15 2 76	9 10 60	6 4 32	13 16 108	14 11 48	10 2 36	15 18 84	13 18 104	7 9 92	7 9 92	11 15 96
	21 3 84	17 14 52	17 9 13	13 3 104	8 11 8	6 4 32	12 3 84	8 15 40	11 2 76	15 6 88	13 10 80	7 18 64	7 18 64	
	20 19 72	16 17 36	16 4 63	14 3 34	9 0 90	6 4 32	13 0 40	11 13 44	10 12 56	15 12 86	13 14 92	7 14 22	7 14 22	
	Average	16 17 36	16 4 63	14 3 34	9 0 90	6 4 32	13 0 40	11 13 44	10 12 56	15 12 86	13 14 92	7 14 22	7 14 22	
3. Mineral Superphosphate 3 cwt.	18 11 8	13 6 63	17 10 100	17 12 56	14 16 8	12 5 40	15 3 84	12 9 12	13 15 20	12 16 108	13 17 16	5 14 12	5 14 12	13 14 20
	18 0 80	15 3 84	15 18 84	15 15 40	17 10 0	12 5 80	11 18 84	10 17 36	13 13 44	11 3 64	13 15 20	6 9 12	6 9 12	
	18 5 100	14 5 20	16 14 92	16 13 104	15 18 4	12 5 60	13 11 28	11 13 24	13 14 32	12 0 20	13 6 18	6 1 68	6 1 68	
	Average	15 3 84	15 18 84	15 15 40	17 10 0	12 5 80	11 18 84	10 17 36	13 13 44	11 3 64	13 15 20	6 9 12	6 9 12	
4. Mineral Superphosphate 3 cwt., Peruvian Guano 3 cwt.	20 6 8	18 1 48	17 18 64	17 13 84	14 9 32	8 16 88	15 10 40	13 5 100	13 3 64	16 1 48	15 1 88	9 4 72	9 4 72	15 6 8
	21 11 48	19 5 60	18 13 44	18 0 0	14 0 0	10 3 64	14 14 36	13 12 96	14 10 60	17 13 4	14 7 56	11 0 0	11 0 0	
	20 15 84	18 13 54	18 5 108	17 16 98	14 4 72	9 10 20	15 2 38	13 9 42	13 17 6	16 17 26	14 14 72	10 2 36	10 2 36	
	Average	18 13 54	18 5 108	17 16 98	14 4 72	9 10 20	15 2 38	13 9 42	13 17 6	16 17 26	14 14 72	10 2 36	10 2 36	
5. Mineral Superphosphate 3 cwt., Organic matter 3 cwt.	19 2 16	13 10 80	15 12 76	17 13 84	15 15 60	10 10 20	14 11 28	8 9 62	12 18 4	13 6 48	14 1 108	6 6 68	6 6 68	13 17 85
	19 16 108	14 15 60	17 1 8	18 2 76	14 11 68	11 2 96	15 3 24	11 15 100	14 6 28	13 6 48	14 3 104	8 0 100	8 0 100	
	19 9 62	14 3 14	16 6 48	17 18 24	15 3 64	10 16 58	14 17 26	19 2 81	13 12 16	12 16 48	14 2 106	7 3 84	7 3 84	
	Average	14 3 14	16 6 48	17 18 24	15 3 64	10 16 58	14 17 26	19 2 81	13 12 16	12 16 48	14 2 106	7 3 84	7 3 84	
6. Mineral Superphosphate 3 cwt., Nitrate Soda 1 cwt., Potash Salts 1 cwt., Organic matter 3 cwt.	20 17 76	14 7 36	17 9 42	18 0 0	15 10 20	11 9 12	14 0 0	12 1 6	16 0 60	14 4 72	13 3 84	6 8 104	6 8 104	14 9 161
	19 14 72	16 6 58	15 2 36	16 14 72	16 4 12	12 3 104	16 3 104	11 3 84	16 8 84	11 11 82	14 4 72	7 8 44	7 8 44	
	20 6 18	15 6 61	16 6 8	17 7 36	15 17 16	11 16 58	15 1 108	11 12 45	16 4 72	12 18 16	13 14 22	6 18 74	6 18 74	
	Average	15 6 61	16 6 8	17 7 36	15 17 16	11 16 58	15 1 108	11 12 45	16 4 72	12 18 16	13 14 22	6 18 74	6 18 74	
7. Organic matter 3 cwt., Nitrate Soda 1 cwt., Potash Salts 1 cwt.	15 5 40	11 12 36	16 6 68	13 3 4	1 0 0	8 9 92	14 3 64	9 11 68	7 16 108	5 7 36	7 13 104	2 8 4	2 8 4	9 6 36
	13 8 104	13 12 76	16 5 60	10 5 40	2 11 48	6 5 20	14 1 88	10 2 56	7 7 16	6 10 100	9 1 68	2 0 0	2 0 0	
	14 7 16	12 12 14	16 6 8	11 14 78	1 5 80	7 7 56	14 2 76	9 17 6	7 12 6	5 19 12	8 7 86	2 4 2	2 4 2	
	Average	12 12 14	16 6 8	11 14 78	1 5 80	7 7 56	14 2 76	9 17 6	7 12 6	5 19 12	8 7 86	2 4 2	2 4 2	
8. Unmanured Plots.	12 5 20	10 9 72	14 13 44	11 2 36	1 17 76	9 2 56	14 2 16	9 8 44	6 5 0	3 15 100	9 10 0	1 1 88	1 1 88	8 8 74
	11 15 60	9 12 76	15 12 96	11 13 104	1 3 84	4 1 8	14 16 88	8 13 4	5 1 36	4 4 72	7 9 92	0 13 24	0 13 24	
	12 0 4	10 1 18	13 3 14	12 18 14	1 10 80	6 16 88	14 9 53	9 0 75	5 16 18	4 0 30	8 9 102	0 17 56	0 17 56	
	Average	10 1 18	13 3 14	12 18 14	1 10 80	6 16 88	14 9 53	9 0 75	5 16 18	4 0 30	8 9 102	0 17 56	0 17 56	

II.—GENERAL RESULT OF EXPERIMENTS, 1873, UNDERTAKEN BY MEMBERS OF THE CIRENCESTER CHAMBER OF AGRICULTURE, SHOWING INCREASE OVER UNMANURED PORTION PER ACRE.

	Earl Bathurst.		The R. A. College.		Mr. J. Smith.		Mr. E. Bowly.		Rev. T. Maurice.		Mr. L. D. Little.		Mr. F. Y. M.		Mr. Price.		Mr. W. J. Edmonds.		Mr. Marshall.		Mr. O'Dwyer.		Av. incr. in the 12 sets.		Av. No. of roots over all.		
	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	T. cwt.	lb.	lb.	lb.	lb.
1. Peruvian Guano 3 cwt. per acre.	8 18	100	1 10	110	1 5	70	1 4	10	4 32	1 16	88	2 19	13	0 17	101	4 11	98	11 78	4 8	11 5	2 56						
	8 19	68	5 15	8	0 14	72	1 12	66	4 32	2 1	72	2 5	1	0 15	69	7 11	98	11 46	4 3	14 5	0 20						
	Average	8 19	28	5 3	100	1 8	81	5 6	98	2 5	80	2 12	7	0 15	85	6 1	98	11 7	4 5	70 5	1 38	3	6 61	197	2 73		
2. Dissolved Peruvian Guano 3 cwt. 60 lb.	8 15	56	5 18	91	0 3	14	2 4	62	7 19	92	0 12	56	0 12	57	5 10	4 6	18	11 54	5 9	2 6	12	56					
	9 3	80	7 13	34	2 5	111	0 5	70	0 40	0 12	56	2 5	81	0 5	56	5 6	58	11 6	5 5	90 7	1 8						
	Average	8 19	68	6 16	87	1 49	1 5	60	8 10	10	0 12	56	1 9	13	2 12	81	4 16	38	11 2	56 5	4 102	6 16	76	4 11	542	2 83	
3. Min. Super. 3 cwt.	6 11	4	3 5	45	2 7	86	4 14	42	3 50	5 8	61	0 11	31	3 8	18	7 19	2 8	16	58 4	7 26	4 16	68					
	6 0	76	5 2	61	0 15	70	2 17	36	15 32	8 104	2 10	81	1 16	65	7 17	26	7 3	34 5	28 5	11 68							
	Average	6 5	96	4 4	73	1 11	79	3 15	40	7 36	5 8	81	0 18	25	2 12	61	7 18	14 8	0 0	4 16	28 5	4 12	5 53	818	1 9		
4. Min. Super. 3 cwt. Peruvian Guano, 3 cwt.	8 6	4	8 0	30	2 15	50	1 15	70	12 18	64	2 0	0	1 0	99	4 1	25	7 7	4	12 1	18 6	11 98	8 6	16				
	9 11	14	9 4	42	3 10	30	5 1	9	12 3	6 96	0 4	95	1 12	21	8 14	4	13 12	86 5	7 66	10 2	56						
	Average	8 18	80	8 12	36	3 2	94	4 18	54	12 13	104 2	13 44	0 12	97	4 8	79	8 0	100	12 16	198 6	4 82	9 4	92	662	2 67		
5. Min. Super. 3 cwt. Organic matter, 2 cwt.	7 2	12	3 9	62	0 9	62	4 15	70	14 4	92	3 13	44	0 1	87	0 11	13	7 1	98	6 18	5 12	6 5	8	12				
	7 16	104	4 11	42	1 17	106	5 4	62	12 100	3 6	8	0 13	85	2 15	25	8 10	10 9	6 18	5 14	2 7	3 44						
	Average	7 9	58	4 1	108	1 3	81	5 0	83	12 96	3 9	88	0 7	85	1 1	6	7 15	10 8	16 18	5 13	1 6 5	285	9 11	727	2 0		
6. Min. Super. 3 cwt. Nitrate Soda, 1 cwt. Potash Salts, 1 cwt. Organic matter, 1 cwt.	8 17	72	4 6	18	2 6	78	5 1	98	13 19	52	4 12	44	0 9	53	3 0	43	10 4	42 10	4 42	4 3	94 5	11 48					
	7 14	68	6 5	30	0 9	90	3 14	57	11 13	44 5	7 16	1 14	51	2 2	33	10 12	66 7	11 52	5 14	82 6	10 100						
	Average	8 6	14	5 5	13	1 2	106	4 9	92	14 6	46 4	19 82	0 12	55	2 11	82	10 8	54 17	98 5	4 22	6 1	186	0 54	757	2 1		
7. Nitrate Soda, 1 cwt. Potash Salts, 1 cwt. Organic matter, 1 cwt.	3 5	56	1 11	18	1 3	54	0 4	102	0 10	80 1	13 4	0 5	101	0 10	105	2 0	90 1	7 6	0 15	110 1	10 60						
	1 8	100	3 11	58	1 2	16	2 12	86	1 80	0 11	68	0 7	77	1 1	93	1 10	98 2	10 70	0 11	78 1	2 56						
	Average	2 7	12	2 10	108	1 2	106	1 3	48	0 5	0 11	68	0 6	89	0 16	43	1 15	100 1	18 91	0 1	16 1	6 58	0 17	75	1 46		
8. Unmanured.	12 0	4	10 1	18	15 3	14	12 18	11 1	10 80	6 16	88	14 9	53	9 0	75	3 16	100	4 0	30 8	9 102	0 17	56	8 74	732	1 33		

* Damaged by trees from No. 1 to No. 6, and even up to No. 7 in one set.

III.—GENERAL RESULT OF EXPERIMENTS UPON SWEDES, 1873.—NUMBERS AND WEIGHTS OF SWEDES PER PLOT.

	Earl Bathurst.		R. A. College.		Mr. J. Smith.		Mr. E. Bowly.		Rev. T. Maurice.		Mr. L. D. Little.		Mr. Price, F. Y. M.		Mr. Price, F. Y. M.		Mr. W. J. Edmunds.		Mr. Marshall.		Mr. O'Dwyer.		Average Results.			
	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.	No.	lbs.
1. Peruvian Guano, 3 cwt. per acre.	676	34	585	279	357	435	556	235	253	3	181	31	414	311	407	311	552	21	652	246	816	177	474	142		
	678	34	531	323	501	353	455	233	246	2-27	142	3-33	409	355	404	27	669	225	667	243	835	17	411	146		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	677	34	568	3	430	3-94	505	244	271	2-61	162	3-2	411	3-23	405	2-92	695	2-18	659	2-61	825	1-73	441	1-31	497	2-7
2. Dissolved Peruvian Guano.	695	3-3	589	3-01	463	4-17	550	3-08	275	3-88	187	3-7	655	3-4	685	2-76	502	2-25	684	2-64	776	2-01	541	1-55		
	642	3-5	585	3-4	527	3-71	679	2-18	2-84	3-38	193	3-6	783	1-75	553	2-8	575	2-17	751	2-3	783	1-93	527	1-68		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	668	3-4	587	3-22	465	3-94	614	2-63	2-80	3-63	190	3-6	619	2-58	519	2-78	538	2-20	719	2-15	779	1-97	551	1-61	542	2-83
3. Mineral Superphosphate, 3 cwt. per acre.	647	3-1	778	1-91	807	2-44	828	2-35	897	1-85	807	1-71	877	1-94	864	1-86	912	1-7	755	1-92	999	1-14	758	1-85		
	701	2-8	785	2-17	791	2-26	783	2-26	913	2-15	681	2-02	795	1-75	866	1-4	942	1-62	675	1-86	1032	1-18	740	1-0		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	674	2-95	781	2	799	2-35	810	2-4	905	2-0	746	1-86	856	1-83	865	1-63	927	1-66	714	1-89	1015	1-16	759	1-92	818	1-9
4. Mineral Superphosphate, 3 cwt. Nitrate of Soda, 3 cwt. Peruvian Guano.	676	3-4	687	2-91	734	2-74	627	3-16	614	2-64	330	3	761	2-28	719	2-38	765	2-1	728	2-17	865	1-95	679	1-57		
	667	3-6	676	3-19	599	3-5	617	3-15	506	3-1	333	3-4	790	2-98	587	2-6	731	2-21	708	2-8	805	1-8	649	2-0		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	671	3-5	681	3-06	666	3-14	637	3-16	560	2-87	332	3-2	776	2-18	653	2-49	718	2-15	718	2-63	878	1-87	664	1-78	662	2-67
5. Mineral Superphosphate, 3 cwt. Organic matter, 1 cwt.	707	3-0	763	2-03	750	2-34	773	2-57	829	2-13	668	1-76	894	1-82	850	1-28	908	1-6	720	1-92	877	1-8	752	1-95		
	671	3-3	768	2-16	801	2-38	826	2-46	913	1-8	731	1-7	687	2-9	892	1-5	917	1-75	665	2-25	909	1-75	756	1-2		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	725	3-15	765	2-1	773	2-36	799	2-5	871	1-96	701	1-73	790	2-36	871	1-39	942	1-67	742	2-08	893	1-78	751	1-97	727	2-0
6. Mineral Superphosphate, 3 cwt. Nitrate of Soda, 1 cwt. Potash Salts, 1 cwt. Organic matter, 1 cwt.	656	3-5	804	2-0	756	2-6	795	2-54	806	2-16	578	2-22	862	1-82	858	1-82	907	1-97	741	2-15	914	1-64	742	1-98		
	688	3-2	761	2-4	672	2-52	783	2-4	839	2-1	610	2-14	836	2-17	861	1-45	928	1-98	704	1-97	897	1-77	741	1-12		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	672	3-35	783	2-2	714	2-56	789	2-17	873	2-08	609	2-18	819	1-94	859	1-63	917	1-97	722	2-06	905	1-7	742	1-95	787	2-1
7. Organic matter, Nitrate of Soda, Potash Salts, 1 cwt.	701	2-4	765	1-7	702	2-61	745	2	576	1-6	621	1-53	800	2	851	1-5	817	1-97	731	1-82	910	1-95	615	1-46		
	710	2-1	732	2-1	771	2-37	789	1-46	660	1-4	640	1-1	811	1-95	807	1-4	899	1-92	743	1-40	877	1-17	614	1-36		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	705	2-25	748	1-9	737	2-44	767	1-73	618	1-3	630	1-3	806	1-97	829	1-45	859	1-49	735	1-49	893	1-0	614	1-11	714	1-45
8. Unmanured.	701	1-8	692	1-7	813	2-02	803	1-55	666	1-4	625	1-61	783	2-01	900	1-4	854	1-81	835	1-5	950	1-12	348	1-55		
	695	1-6	749	1-46	783	2-21	813	2-02	475	1-3	657	1-7	583	2-85	887	1-1	746	1-8	612	1-78	977	1-85	465	1-66		
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	698	1-7	766	1-58	828	2-13	808	1-78	571	1-32	644	1-67	685	2-45	893	1-25	800	1-5	735	1-61	963	1-5	498	1-35	782	1-93

PERUVIAN GUANO, as is well known, diminishes the number of plants, and sometimes in a most marked degree, halving and quartering their number. This was, however, not always the case, and guano gave the heaviest crop in more than one series of experiments. Again, I attach great importance to this result. It has been borne out by previous experiments and shows that although guano is not in general favour in this neighbourhood, yet there are soils which it suits, and this is certainly the case in wet seasons, such as we have experienced during the last three years.

DISSOLVED PERUVIAN GUANO was used with still greater success, and when compared with the dressing of ordinary guano, always, with one exception, gave a better result. Taking the entire twelve series of experiments, the average yield, after a dressing of dissolved Peruvian guano, was 1 ton 5 cwt. greater than after the use of ordinary Peruvian guano.

GUANO AND SUPERPHOSPHATE MIXED: This dressing was accompanied by a considerable increase in crops over cases in which either manure was used separately. It has been accompanied by a great increase in the number of plants. When compared with guano alone superphosphate gave an average number of 818 plants over the entire series, the dressing in question gave an average of 663 plants, while Peruvian guano used alone yielded an average of only 497 plants. The average weight of plants raised with superphosphate alone was 1.9 lbs.; that of plants raised with superphosphate and guano mixed was 2.67 lbs.; while the weight of an average plant raised by Peruvian guano was 2.73 lbs. Hence, you will see that the tendency of guano, whether used alone or mixed with superphosphate, is at once to lessen the number of plants, while it increases the average weight of each root. This fact was conspicuous to anyone who examined the plants before they were weighed, and seems to show that while guano destroys the vitality of seed with which it comes in contact, it stimulates strongly the growth of the survivors, so that although much fewer plants are left, they frequently yield a crop which rivals in weight that grown by the milder superphosphate. It is worth consideration how far guano may be applied in some way which will prevent its direct contact with the seed. For example superphosphate might be drilled, while a moderate addition of guano might with advantage be incorporated with the soil previous to sowing. The effect of superphosphate alone was singularly various. In one case, upon land which had received farmyard manure, a deficiency in crop followed the use of superphosphate when compared with farmyard manure alone. A second case gave only 1½ tons increase over the unmanured plot; and in other series this dressing gave 5, 8, and even 14 tons increase over the unmanured plots. In other words, there are farms in which during the past season superphosphate has been applied without any effect, and there are others in which the entire crop is apparently due to its use!

MINERAL SUPERPHOSPHATE MIXED WITH ORGANIC MATTER: This dressing was suggested by Professor Church as a means of conferring upon mineral superphosphate a composition akin to that of bone superphosphate. It was thought that organic matter containing nitrogen added to mineral superphosphate might be beneficial, since it was generally allowed that bone superphosphate was a more effective manure than mineral superphosphate. This addition of organic matter has usually been accompanied with an increase of crop, inasmuch that in 1871, nearly a ton per acre upon an average was gained over the entire series of experiments then instituted (see report of Cirencester Field Experiments, February, 1872, page 9). Also, the Rev. T. Maurice said in the discussion that the organic matter with superphosphate seemed to have given the best results, and Professor Church was called upon to explain its effects. The past season has once more, although in a less marked degree, shown the advantage of this manure, the average over the entire series giving nearly 4 cwt. additional swedes over and above the crop obtained by superphosphate alone. The result upon some farms was much more distinctly favourable, while in others no comparable difference could be detected. Having tried organic matter with superphosphate, it was again suggested by Professor Church that a mixture of nitrate of soda, potash, salts, and organic matter should be added to superphosphate, thus giving a highly nitrogenous and fairly general dressing. Without entering into the pecuniary aspect of this question, I may say that so far as an increase in the crop was concerned this addition was attended with considerable success. Sub-

sequently we shall follow the results obtained upon each series of experiments, but for the present I must be content with stating that over the entire series an increase of 15 cwt. per acre was obtained by this means, in comparison with superphosphate alone. The number of roots on each plot was, upon an average, slightly diminished, that is by some 40 plants out of 818; but this diminution of plants, as compared with the superphosphate plots, was as nothing compared with the use of guano. The average weight of the plants was considerably augmented, inasmuch that where superphosphate plants averaged 1.9 lbs., the plants grown by this mixture averaged 2.1 lbs. It was also thought fair that while adding nitrate of soda, potash salts, and organic matter to superphosphate, the same mixture, minus the superphosphate, should be compared with the result from unmanured ground. That has been done with the general result of an increase of 17 cwt. 75 lbs., over unmanured ground, which result is eminently satisfactory, as it accounts for the increase of 15 cwt. over the superphosphate plots just recorded. Without detracting from the value of general results founded upon an extensive series of experiments, I must assign a greater value to the results obtained by each experimenter. The agriculturist naturally is anxious to know what is the best treatment for his own land. An average result is about as valuable to him as the average rate of mortality may be supposed to a man in fixing his own prospects of longevity. General results of experiments and general statistics as to life are no doubt both of general interest, but to the individual his own peculiar circumstances and requirements are of infinitely more value. I shall not, therefore, attempt to work out any more general truths, but proceed to point out, with the help of the tables before you, the results obtained by the various gentlemen who had undertaken these experiments.

EARL BATHURST'S RESULTS.—Reference to the printed tables will show that in these experiments the unmanured plots gave an average of 12 tons per acre upon land which may be spoken of as free working and fair quality, and I presume in good condition. The previous treatment, commencing with 1868, consisted of vetches fed off by sheep, followed with turnips, manured with superphosphate, and fed on the ground. Then followed barley and swedes, mown and fed; and in 1871 the seeds were fed early in the spring, afterwards mown for hay, then dressed with about 12 loads of farmyard manure per acre, ploughed up and sown with wheat. The wheat was dressed with 20 bushels of soot per acre, and the field was subsequently autumn-cleaned and cultivated. In 1873 the field received one ploughing, and the usual amount of harrowing, rolling, and quitch-picking. The experimental swedes were sown on May 30th, received an ordinary after-cultivation, and were pulled, cleaned, and weighed on November 15th, 1873. The plots carried a good and uniform plant, and the experiment was altogether very satisfactory. The duplicate plots bore each other out with uniform consistency, and gave average results very little differing from either plot considered separately. You will notice that guano gave the best results, and the very excellent yield of close upon 21 tons per acre. Thus, the use of 3 cwt. of guano per acre gave an increase of 9 tons of swedes, while the use of 3 cwt. of superphosphate alone gave only 6 tons 6 cwt. of swedes. Guano produced roots of 3.4 lbs. each, whilst superphosphate yielded plants of 2.95 lbs. weight each, showing a considerable advantage, other things being equal, of guano over superphosphate. The addition of Peruvian guano to superphosphate was not in this case advantageous; and, in fact, guano with superphosphate gave in weight per acre a result almost identical with guano alone. The addition of organic matter to superphosphate was attended by the very marked increase of 1 ton 4 cwt., supporting the conclusion arrived at in 1871 (see former report). Lord Bathurst's results in 1873, so far as guano, superphosphate, and superphosphate with organic matter are concerned, are very accordant, and speak clearly in favour of the addition of organic matter and nitrogen. This is still more clearly pointed out by plots six and seven, where nitrate of soda, potash salts, and organic matter were applied in conjunction with superphosphate, and also without superphosphate. Comparing superphosphate alone with the same substance in combination, as already explained, we find an increase of over 2 tons from the addition of the nitrate of soda, potash salts, and organic matter. These three substances applied in plot seven give of themselves an increase of 2 tons 7 cwt. on the unmanured plots, thus once more showing the advantage

of this dressing, and of the importance of nitrogen in addition to superphosphate upon the Oakley Park field. It is worthy of remark that in the series in which guano exerted so beneficial a result, the number of plants where guano was used alone and in combination remained the same as in the case of superphosphate and unmanured plots. Lastly, the capabilities of this land in answering to the whip in the case of swedes is very observable, and an extra eight or nine tons produced from a moderate dressing shows the wisdom of investing in suitable artificial manures.

THE ROYAL AGRICULTURAL FARM RESULTS.—The unmanured plots in this case yielded 10 tons 1 cwt. 18 lbs. per acre. The land is somewhat thin and brashy, but is of fair quality, free working, and in fairly good condition. In the years 1870-71 it was in seeds ploughed up and sown with wheat without farm-yard manure. The swedes were sown May 29th, and throughout the season were characterised by a vigorous growth and a good general plant. As the next neighbour to Oakley farm, the results one might expect to be somewhat similar, and they are so to a considerable extent, although the manures have not as a rule been so effective. Guano gave an increase of 5 tons 3 cwt. 4 lbs. over the unmanured plots; while dissolved Peruvian guano gave an increase of 6 tons 16 cwt. 8 lbs., thus showing for the first time what is almost invariably the case, viz., the superiority of the dissolved over the undissolved guano. Mineral superphosphate gives the increase of 4 tons 4 cwt. over the 0 plots, once more showing that guano can even in this district sometimes give a better return than superphosphate. The diminution in the number of plants owing to the use of guano is very marked; for while mineral superphosphate gives its 781 plants, averaging 2 lbs. each, guano gives 568 and 567 plants, averaging 3 lb. and 3·2 lbs. each. Again, nitrogen appears suitable, as in the case of Earl Bathurst's results, and this is borne out by reference to plots 4, 6, and 7. In the first-named a marked increase is observable from the addition of guano to superphosphate (see table 2), although a considerable diminution in the number of roots is at the same time noticeable. In plot 6, the addition of nitrate of soda, potash salts, and organic matter to mineral superphosphate at once raises the produce 1 ton 1 cwt. per acre, and that this is due to the addition of nitrate of soda, &c., to superphosphate is rendered evident from plot 7, where alone these supplementary substances gave a decided increase over the unmanured plots. Plots 2, 4, 6, and 7, in both the Oakley Park and the College farm series, point distinctly to the advantage of guano and nitrogen, both when used alone and added to superphosphate. The dissolved guano upon the College farm also gave a satisfactory result, when compared with ordinary guano. The chief difference observable between these two series are (1) that the College field appears to have responded less distinctly to the dressings than the Oakley Park field; and (2) that on the College farm guano, although still favourable, considerably reduces the number of roots per acre.

CHESTERTON FARM: MR. JOSEPH SMITH'S RESULT.—Mr. Smith occupies land still further removed from Oakley Park than that occupied by Mr. Swanwick. Oakley Park farm may be fairly said to lie on the Cotswolds; the College field is just off the hills, and Mr. Smith's field is distinctly off the Cotswold, and is of a stiffer and deeper quality. The land on which Mr. Smith's swedes were grown was the previous year in wheat. The stubble was ploughed in six inches deep about November, 1872; was ploughed again about March, 1873; then dragged and harrowed, and was not manured with dung or any other substance either for wheat or for the experimental roots. Nevertheless I will assume that this field is not only naturally rich, richer than either of the last examples, but that it is also in higher condition. The history of the farm for the last many years is well known. It was occupied by Mr. Lawrence, who cultivated according to the rules of high farming, and left much condition in the soil. It is by this assumption that I am able to explain a very remarkable result from the use of manures on this farm, during a season in which these fertilisers might be supposed to exert a high average effect. (The results were then read from the table.) The chief point of interest in these results is found in the high yield per acre given by the unmanured plots. An average of over 15 tons per acre without manure, while it indicates a high fertility for swedes, also offers a bar to any startling increase from the use of artificial fertilisers. Accordingly, the manured plots exhibited an

extraordinary uniformity, both among themselves and when compared with the unmanured plots. In no case do we find a greater increase than three tons per acre, and that is only forced from the land by the heavy application upon plots 4, viz., 3 cwt. of mineral superphosphate and 3 cwt. of Peruvian guano. Mineral superphosphate can only increase the yield by a ton and a half, dissolved Peruvian guano by 1 ton 1 cwt., and ordinary guano gives a positive loss. That even these effects are due altogether to the manures applied is a little doubtful, for plots 6, in which superphosphate with certain additions before mentioned is employed, give a comparatively low increase, and reference to plots 7 will show a curious identity when the nitrate of soda, potash salts, and organic matter were applied without any superphosphate at all. In both cases the increase is 1 ton 2 cwt. 10 lbs. I am inclined, then, to conclude that on this farm the effects of even the most suitable dressings were very slight. The effect of guano was on the whole scarcely beneficial, and certainly not remunerative, while its use was accompanied with a great diminution in the number of plants. This point will again claim our attention. Glancing at these three neighbouring farms, I would submit the following explanation of the gradual decrease in effect of the dressing applied. No. 1, in fair condition, answers quickly and distinctly to the dressings applied; No. 2, in higher condition, and approaching a stiffer quality, answers less quickly, and requires the heaviest dressing (No. 4) to produce a large increase; No. 3, in the highest condition and naturally of stiff and rich character, scarcely answers, except to the heavy dressing of three cwt. of mineral superphosphate and 3 cwt. of guano. It may also be suggested that during the cold and wet season of 1873, the gradual increase of clay passing from Oakley Park to Chesterton, may have produced a less favourable condition for the action of artificial manures. The result, however, is not encouraging to the investment of money in artificial manures upon Mr. Smith's farm.

SIDDINGTON: MR. EDWARD BOWLY'S RESULTS.—This series of experiments was not instituted under such favourable circumstances as the last three. The weather was wet and the land was wet at the time of sowing, and for a long time Mr. Bowly was in doubt as to whether the plots should not be resown. The final result was, however, a fair plant and a fair crop. As is usual, the swedes followed wheat, and received a dressing of dung. The results of Mr. Bowly's experiments will be seen in column 4, tables 1 and 2. The unmanured plots gave the high average of 12 tons 18 cwt. 14 lbs. per acre, and knowing the large head of stock maintained by Mr. Bowly, and that for so many years, I am inclined once more to attribute the somewhat low effects of the dressings applied to a high condition of soil. Guano alone was in the case of both plots directly prejudicial, and as usual their prejudicial effect must be attributed to a loss of plant, as will be seen by an examination of table 3. Dissolved guano in both cases increases the crop, though scarcely to a satisfactory extent, and in conjunction with this fact it is worth while to remark that a greater number of plants stood their ground upon these plots than upon the guano plots (see table 3). Superphosphate gave again a better result, but still only the moderate increase of 3½ tons, which compares unfavourably both with Lord Bathurst's and the College results. But I again repeat that this is probably due to a higher condition of land at Siddington. The mixture of guano with superphosphate in plots 4 forces another ton per acre from the unwilling soil, as was also the case upon the rich soil of Chesterton farm. This may appear strange when guano alone gives a minus result; it will, however, be noticed by reference to table 3, that while guano alone lowers the number of plants in a very marked degree, it does not do so to nearly the same extent when combined with superphosphate. This fact may be traced throughout the entire series of experiments, as is shown by the tables. This fact must be taken in conjunction with another, viz., that the sulphated guano also exhibited a less destructive effect upon plants than ordinary guano. I would suggest that in the case of a mixture of mineral superphosphate with Peruvian guano a partial sulphating of the guano through admixture with the superphosphate takes place. Likewise, the increase noticeable in the plots 4, viz., nearly five tons per acre, is represented by adding together the increases of plots 2 and 3, which are also, taken together, nearly five tons per acre. Hence, dissolved Peruvian guano and mineral superphosphate applied separately give a united result just equal with mineral superphosphate and guano mixed together. The addition of or-

ganic matter to superphosphate gave an increase of crop, as has frequently been observed; as, for example, in the case of Lord Bathurst's experiments, and others which will be shortly mentioned. In conjunction with my remarks upon guano, I would also draw attention to the results of plots 6 and 7. Plots 6 show some advantage from the addition of nitrate of soda, potash salts, and organic matter to superphosphate, and yet the nitrate of soda, potash, salts, and organic matter alone give a minus result. There is, therefore, a parallel between plots 1 and 4 and plots 7 and 6. In both cases the nitrogenous manure applied alone gave negative results, while in combination with superphosphate a positive good was effected.

HARNHILL: THE REV. T. MAURICE'S RESULTS.—Passing from what I have, under correction, spoken of as the high-condition farms of Chesterton and Siddington, we next find the Rev. Mr. Maurice's experiments, conducted upon land which for swedes at least seems to be in a poverty-stricken state. The field was in sainfoin for six or seven years. In 1871 it was sown with rape without manure. This crop failed, and bearing in mind the close relationship, if not identity, which exists between swedes and rape, I think this fact is of importance as showing a want of constituents for either crop. Some mustard was then harrowed in, and this, together with the rape, produced very little keep, but what there was was fed by sheep not folded. The field then had a moderate dressing of farmyard dung, and was planted with wheat in the autumn. This crop was harvested in 1873, and was then cultivated for swedes. The soil is stated by Mr. Maurice to be of the average quality of the stone-brash of the neighbourhood, and has generally grown fair crops of swedes. I presume, however, that these fair crops of swedes were always assisted by artificial manures. The extraordinary point in this series is regularity of plant upon the unmanured plots, representing crops of 1 ton 17 ewts. 76 lbs., and 1 ton 3 ewts. 81 lbs. per acre. This affords a great contrast to anything we have yet examined, and shows at once the wide difference between Chesterton land, which will grow without manure 15 tons of swedes, and the land under consideration. This field also gives by far the best instance of the profitable application of artificial manures, and when contrasted with experiments already described, shows as conclusively the wonderful difference of effect of the same manure upon different soils. Nothing comes amiss to this field, just as almost anything is food to a hungry man. The results are given in tables 1 and 2, to which I beg the attention of the meeting. Looking at table 2, column 5, we soon come to the conclusion that superphosphate pure and simple was by far the most successful application. The guano plots, No. 1, exhibit once more very beautifully the struggle between the two aspects of this manure, first, as a destroyer of seeds, and secondly as a promoter of plant growth. A gain of 5 tons 7 ewts. per acre over the unmanured plots illustrates the beneficial action of guano upon this soil, while a comparison with superphosphate plots shows it off to disadvantage. A glance at table 3 throws light upon this point. There were 274 roots only on the guano plots and 905 on the superphosphate plots. The dissolved guano plots again bear out this remark, and add their proof to the truth of this view, while the much larger increase due to dissolved guano is also in accordance with previous conclusions. The effect of superphosphate has been already mentioned, but I must here take the opportunity of noticing the extraordinary effect produced by this manure in this case. The entire crop seems due to it, and an increase of upwards of 14 tons per acre throws every other result into the shade. Mr. Edmonds has obtained 8 tons increase from the use of superphosphate, but there is no intermediate number between that and the magnificent increase obtained by Mr. Maurice. That the effect is due to superphosphate may readily be shown by comparing this result with plots 4, 5, 6, in which it will be seen that corresponding numbers give overwhelming proof as to advantage of this substance. Plots 4 again show the extreme susceptibility of this field to the destructive action of guano on the seed. There is in these plots an average of 506 plants instead of 905. No wonder, then, that guano and superphosphate together give a less weight per acre than superphosphate alone. All endeavours, so to speak, of the guano to form a crop are foiled by the unfortunate "murder of the innocents" at the commencement of the season. I take this opportunity of calling attention to the results of 1871 where guano gave more favourable results to Mr. Maurice than superphosphate. This I explain from the fact that at

that time we did not bring the guano into close contact with the seed, and therefore the struggle between guano as a destroyer of seed, and guano as a promoter of growth, did not occur, and I am inclined to think that if the guano had been applied this season a little less directly to the plant Mr. Maurice would have had a larger increase from guano than from superphosphate alone. It is sufficient to call attention to the fact that with the destruction of well-nigh half the plants, the survivors are still able to give a result little short of the superphosphate plots. Plots 5, 6, and 7 do not speak favourably of organic matter, or of the addition of nitrate of soda and potash salts to superphosphate, although in 1871 they gave good results in a neighbouring field on the same farm. Referring again to guano, I cannot but see in it essentially a "strong" manure. Brought near the seed it destroys it, but supposing the seed to escape, guano will always develop a splendid root. Surely it is worth while to attempt to apply this substance so as to avoid its dangerous and utilise its beneficial qualities.

DRIFFIELD: MR. L. D. LITTLE'S RESULTS.—Driffield adjoins Mr. Maurice's farm, and I therefore take this series next. This land is in a higher state of natural fertility for swedes than last, although it is considerably lower than any of the other series yet examined. The unmanured plots carried 6 tons 16 cwt. 85 lbs. per acre, and this naturally lowers the increase from the use of manure much below Mr. Maurice's standard. (Having called attention to the results the learned Professor proceeded). The whole lesson from these experiments is strictly Conservative, bearing out thoroughly the old dictum that 3 cwt. of superphosphate is the best dressing for swedes. Observe the distinctly injurious effect of guano as well as nitrate of soda, in the reduced yield in every case in which these substances have been added. Observe, also, the strong objection of the land to guano in any form, dissolved, mixed, or pure, and the fall in the number of roots from 746 in the case of superphosphate to 162 and 190 in the case of guano alone, and of 332 in the case of guano mixed with superphosphate. Still notice that this destruction of plants is to some extent checked by dissolving the guano and by the addition of superphosphate. I can scarcely upon this farm uphold the idea that guano may be used with good effect.

QUENINGTON: MR. PRICE'S RESULTS.—These are interesting as having been carried out upon land in two conditions: first, without farm-yard manure; and secondly, upon adjoining land dunged. Previous to the experiments, then, the land had not been dunged for some time. One portion was manured with 12 single horse-loads of ordinary farm-yard manure in January, 1873, and the other portion received no manure. In both cases the stubble was first broken up by the plough, and the manure was ploughed in about February, and all was again ploughed in the spring, worked down and sown. The swedes were hand-hoed three times, but were not horse-hoed. The soil is described as thin stone-brash, clean, and in ordinary condition, calculated to grow four or five quarters of barley per acre. The whole portion devoted to the experiments was of even quality, but the near proximity of trees unfortunately diminished the yield upon three or perhaps four of the plots. First, let us contrast the entire manured series with the unmanured. Table 1 reveals that 5½ tons was at once the result of farm-yard manure upon the 0 plots, and throughout the series it will be seen that the manured portion, that is the dunged portion, always gave a better crop than the undunged portion. It will, however, be further noticed that the effects of artificial manures upon the dunged portion is much less marked than upon the undunged portion. In other words, the application of farm-yard manure diminished the effect of subsequent dressings. The dunged portion yielded a very trifling increase from the further application of artificial manures; thus, guano gave a decrease, dissolved guano gave a decrease, superphosphate gave a decrease, superphosphate with guano gave the very slight increase of 12 cwt. 97 lbs.; superphosphate organic matter the insignificant increase of 7 cwt. 85 lbs.; superphosphate with nitrate of soda, potash salts, and organic matter gave the slight increase of 12 cwt. 55 lbs.; while nitrate of soda, &c., alone, gave a decrease. Apparently farm-yard manure had brought this land up to a condition in which it required nothing more; hence in no case was Mr. Price justified on commercial principles in applying either superphosphates or guanos. A most valuable lesson is derived from the closely-adjacent plots which received no farm-yard manure. It is true that guano gave only the very moderate increase of

15 cwt., and we can only say that here is another case in which guano had but little good effect. It also bears out what has been previously stated, for the guano plots only carried 405 plants, while the superphosphate plots carried 865 plants. No doubt the guano here might have been applied with more practical utility if it had not been drilled directly with the seed. Dissolved guano gave the respectable increase of 2½ tons; superphosphate gave an almost identical result; and the mixture of guano and superphosphate gave the highest results in an increase of 4 tons 8 cwt., 79 lbs. Additional proof can be easily adduced from this series as to the beneficial effect of mixing superphosphate with guano. Guano alone produced its 405 plants per plot; dissolved guano produced its 519 plants per plot; Peruvian guano associated with mineral superphosphate its 663 plants per plot; and mineral superphosphate alone its 865 plants per plot. The additions of organic matter and nitrate of soda were not in this series found to be of any benefit. As a whole Mr. Price's results are not particularly encouraging to him as a purchaser of artificial manures; but be that as it may, it is evident that these manures will exert a much greater effect when applied alone than in association with farm-yard dung. The crop, it is true, will be less per acre, but the money return from the use of artificial manure will be much greater. Perhaps this land would be best managed by applying farm-yard manure to wheat, and artificial manure to turnips and roots.

WHELFORD: MR. R. A. ILES', OF REEVEY RESULTS.—Mr. Iles' series gives us another example in which the manures used were without the addition of farm-yard dung. The previous treatment had been ordinary. It was in seeds, mown and fed in 1871; wheat in 1872, and experimental swedes in 1873. The land was in nice condition, although a little too dry at the time the seeds were drilled, but rain coming soon afterwards, this slight defect was remedied. The land is a medium quality of the black description, not so good as some of that soil near to it, still, much better than a very large portion of the black land in this parish, and it was clean. In every case Mr. Iles experienced a fair increase from the use of manures. The guano plots give a somewhat discordant result, viz., an increase of 4½ tons and 7½ tons, with an average of 6 tons 1 cwt. 98 lbs. The old story is here repeated of a thin plant accompanied with large size of each individual root. Mr. Iles' experiments are singular in showing both a less weight per acre and a less number of roots after dissolved guano than after ordinary guano. Superphosphate gave close upon 5 tons per acre increase, thereby showing its superiority to guano. Plots 4, in which superphosphate and guano were blended together, give fully 8 tons increase with considerable diminution in the number of plants. The addition of organic matter to superphosphate is followed with an increase of 7 tons 15 cwt. per acre, so that for practical purposes little difference is observable between superphosphate alone, superphosphate combined with guano, and superphosphate combined with organic matter, all ranging within 5 cwt. upon an increase of 8 tons per acre, and declaring certainly in favour of superphosphate alone. Very favourable indeed is the result of the mixture with mineral superphosphate, nitrate of soda, potash salts, and organic matter, plots 6, where by far the best crops were obtained, the two plots supporting each other's evidence with great distinctness, and giving an average of 10 tons 8½ cwt. increase over the unmanured plots. This will probably claim Mr. Iles' attention, but the effect must be looked for in the special requirements of the land upon the experiments there conducted, because it is not usually borne out by the remainder of the series. Another lesson which is to be learnt from Mr. Iles' results, is the contrast they afford between the meagre increase which we have met with since we discussed the grand achievement of superphosphate and guano upon Harshill farm; and the good result, it will be noticed, is obtained without farm-yard dung.

SOUTHROP: MR. W. J. EDMONDS' RESULTS.—Mr. Edmonds' experiments were conducted upon a "poor clay stone-brash," which has been subjected to the following series of cropping: 1863, turnips; 1864, oats; 1865, clover and Italian rye-grass; 1866, wheat; 1867, mangold wurtzel, manured with good farm-yard manure and superphosphate, with half the crop drawn off; 1868, barley, a poor crop; 1869, winter beans, dunged; 1870, wheat; 1871, seeds, which failed; 1872, wheat; 1873, swedes. The swedes received no farm-yard manure, the land was cultivated by steam in the autumn and in the spring, and the swedes were sown upon the

12th of June, 1873, and weighed the latter part of November or beginning of December. Here, then, we have a case once more of confessedly poor land, and I think I may add, from the previous cropping, land which cannot be in very high condition. This is borne out by the unmanured plots, which gave the very moderate yield of four tons per acre. From previous study, here we conclude should be the proper field for the use of artificial manures, and this assumption is fairly borne out by the results obtained. We must be prepared, however, to have preconceived opinions battled, and must find refuge in what I have already advanced—namely, that the more we experimentalise the more differences do we find in the effects produced upon farms even in the same district. The results are exceedingly interesting, and the more so because the duplicate plots always support each other in their evidence, so that the average obtained is never far from the separated results of each plot. First we notice a remarkable advantage from the use of guano, and this is accompanied with an exceedingly full plant. Thus, while superphosphate gave a yield of 714 plants, guano was not far behind with its 659 plants; and dissolved guano gave 719 plants; while the combination of guano with superphosphate gave rather more than superphosphate alone. This result is not only extraordinary, but repeated as it is over many plots is very difficult to shake. It is more reasonable to consider that the seed is not prejudiced in this case by guano than that the difference is in the result of accident. 11 tons 12 cwt. is the increase from dissolved guano, which keeps its usual supremacy over ordinary guano by a trifling advantage of some five cwt. per acre. Superphosphate alone, three cwt. per acre, is very deficient when compared with the guano results. Guano mixed with superphosphate, plots 4, gives the heaviest yield of all, a not very unusual result when compared with the other series, but the increase is not in proportion with the much greater weight and attendant expense of the dressing. It, however, thoroughly bears out the results of the four previous guano plots, and shows clearly the excellent effect of this manure upon Mr. Edmonds' land during the past season. Again, the mixture with organic matter is attended with very fair results, viz., an increase of 16 cwt. per acre over superphosphate used alone. The addition of nitrate of soda, potash salts, and organic matter to superphosphate again yields an increase over superphosphate alone, to the extent of close upon 18 cwt., while the nitrate of soda, &c., No. 7 plots, give an increase over the unmanured portion of nearly two tons. This I take as additional evidence of the benefit of nitrogenous dressings (guano), upon Mr. Edmonds' farm, for we find that, generally speaking, where guano has a marked effect for good, this dressing of nitrate of soda and organic matter exerts a similar beneficial action. I do not shut my eyes to the fact that Mr. Edmonds in the year 1872 rather declared against the use of guano, and in 1871 his results were not favourable to the use of this fertiliser. Mr. Edmonds is, however, a very extensive occupier, and it may easily happen that there is as much difference between various parts of his holding as between neighbouring farms. Mr. Edmonds himself will probably be able to throw some light upon this point.

POULTON: MR. H. J. MARSHALL'S RESULTS.—From the specimen of gigantic oats in the straw contributed by Mr. Marshall to the College museum, I should judge that his land is of high natural fertility, and in a letter from him I am informed that the land upon which the experiments were conducted is of good quality and in very good condition. The swedes were, owing to the land not being ready, not sown till the 25th of June, or about a fortnight later than the best season. There was, nevertheless, a fair crop of from 12 to 15 tons per acre upon most of the plots. The soil is described as cornbrash, from six inches to one foot in depth, and has been cropped as follows: 1866, swedes, fed off; 1867, mangolds, drawn off; 1868, wheat; 1869, barley; 1870, clover; 1871, beans; 1872, wheat; or live crops removed during the last six years. The land still being in good condition, we must conclude that it is of very good natural fertility. About 12 loads of dung, fresh from the yard, was drawn on in the winter and ploughed in with digging breasts, after which the land was scuffled either three or four times, and worked down. The unmanured plots yielded 8 tons 9 cwt., 102 lbs. of swedes, and both the guanos and superphosphates were applied with very good effect. Neither does the guano seem to have exerted any great destructive action upon the plants with which it was drilled, although it has done so to a limited extent.

The figures which indicate this conclusion are as follows: there were 1,015 plants on the superphosphate plots; 825 after guano; 779 after dissolved guano; and 963 on the unmanured plots. The vitality of the seed being, then, but little injured, we are not surprised to find a very considerable increase from the use of guano, and in fact when this destruction of seeds does not take place guano very generally appears as a favourable dressing. Glancing at the table you will see that the guano gives an increase over the unmanured plots of 4 tons 5 cwt. 70lbs. of swedes. Dissolved guano maintains the lead it almost always takes with reference to guano, with 5 tons 4 cwt. 102lbs. as its increase. Superphosphate alone gives an increase of 4 tons 16 cwt. 25lbs., below that of dissolved guano. Again, we find that guano mixed with superphosphate has once more a very excellent average increased crop, so that plots 4 show an increase of 6 tons 4 cwt. 52lbs. over the unmanured plots. Organic matter mixed with superphosphate is likewise apparently the cause of an increase of half a ton per acre. A glance at the results of the plots so treated will show that nitrate of soda, potash salts, and organic matter gave on the whole a minus result, which sufficiently accounts for the fact that these substances united with superphosphate did not increase the yield at all beyond that of superphosphate alone.

HILL FARM, SAPPERTON: MR. O'DWYER'S RESULTS.—Mr. O'Dwyer occupies land at a considerable distance from the series which we have been lately studying. In answer to my inquiries with reference to the quality of his land, he says, "The character is gravelly, the quality good, but the condition *very, very bad*." It had been lying fallow for the two previous years, so that one would naturally expect some freshness to have crept into it. The character given to it by its present occupier is fully borne out by the very bad crop which was grown upon the unmanured portion, an average of 17½ cwt. per acre being only obtained. The assistance of nitrate of soda, potash salts, and organic matter increased the crops to 2 tons 4 cwt. per acre, thereby showing the emptiness of the land—emptiness which made it to more than double its crop upon so unnutritious a diet. This land, so out of condition, brings of course to mind the case recorded on Harnhill, and indeed we find a very strong parallel between these two series. Any dressing seems to have been sufficient to cause this land to throw up a crop. Thus, guano alone gives 5 tons 1 cwt. per acre over the meagre crop of 17 cwt., without manure. Dissolved guano again has the advantage over ordinary guano by producing 6 tons 16 cwt. of increase. Superphosphate does not give such good results, but yields the very fair increase of 5 tons 4 cwt. By way of illustrating that land of such poor condition will gradually utilize dressings applied, take the results of plots 4, mineral superphosphate and Peruvian guano mixed, which brought up the increase of 9 tons 4 cwt. per acre, and the yield of 10 tons 2 cwt., or about 12 times the amount of the crop without manure. Again, the addition of organic matter is at once apparent by a definite increase over superphosphate alone, which is likewise borne out by the organic matter, nitrate of soda, and potash salts sown alone. Mr. O'Dwyer's land may be properly termed very susceptible, and bears out many of the conclusions which have been arrived at in studying other series. After briefly alluding to Mr. Slatter's series, which failed through want of plant, the Professor went on to refer to

THE EXPERIMENTS OF 1872.—I need hardly say, that if the results of 1872 had appeared to me to be of great interest and value, I should have willingly communicated them to the Chamber at an earlier period. From what has been already advanced you will understand my feelings with reference to those experiments, conducted, as they were, upon a principle, so far as distribution of manures was concerned, which I cease to believe in. Not that those experiments must be looked upon as useless, because, although the manures produced but little effect, yet all of them were subjected to precisely similar conditions, and, therefore, any differences which were observable in the plots might fairly be considered to be due to the manures which were used. Those differences were, however, much slighter than the contrasts which the series just laid before you afford. In 1872 Earl Bathurst (and in mentioning the name of that nobleman we must not forget Mr. Anderson) kindly undertook once more a series of experiments. Mr. Edmonds, of Southrop; Mr. Playne, of the Downs, Chalford; Mr. Parson, of Coates; and Mr. John Plumbe, of Ashton Field, undertook the work. I will deal

very briefly with these experiments, and perhaps the best method will be to say a few words upon each. We tried 3 cwt. of superphosphate, against 6 cwt. of the same manure. We also tested organic matter in association with superphosphate; and it was suggested that road-scrappings might be beneficially mixed with superphosphate, in order to throw light upon that vexed question of "reduced phosphates." Guano was also used alone, and in association with superphosphate; and there were of course, likewise, unmanured plots. In accordance with the process of applying the manures by hand, we find that the manures did not exert nearly the effect which they have this season exerted. Still we again learnt a lesson upon the truth of which I have now no doubt, that there is no utility in applying heavy dressings of 6 cwt. per acre of mineral superphosphate. Six cwt. will give no better result than three, as was shown in 1872, 1871, and every other season in which it was tried. Upon this point both Lord Bathurst's and Mr. Playne's experiments are quite conclusive, and although Mr. Edmonds' results with six cwt. of superphosphate are slightly in favour of the larger dressing, the increase is not large enough to at all guarantee the extra expense. However, with reference to Lord Bathurst's and M. Playne's experiments the yield upon the unmanured plots was so excellent, being upwards of 14½ tons and 13 tons per acre, that very little difference could be detected in favour of the application of manures. The result might be correct, as has already been shown during the past season with reference to Mr. Smith's results upon Chesterton Farm. But, on the other hand, it is open to doubt, because it is possibly due to the method of applying the manures. The season of 1872 was wet, and very similar to 1873, and should it transpire that the land upon which these experiments were instituted was in high condition, it would not be unreasonable to add this result as evidence to what has been advanced—viz., that when land is in high condition artificial manures have but little effect. Mr. Parson's results were unfortunately a failure, owing to want of plant. Mr. Edmonds's, as has been usually the case whenever he has taken part in our experiments, showed a much more marked difference between manured and unmanured plots, and this I think points out what has been abundantly shown this season, the great differences which exist in land as a vehicle for the employment of artificial manures. His unmanured plots gave 3 tons 13 cwt. and 3 tons 10 cwt. per acre respectively. Three cwt. of superphosphate gave him 7 tons 10 cwt. in both plots; 6 cwt. gave him an average of 9½ tons; so that there was a perceptible difference in favour of the heavy dressing. Organic matter mingled with superphosphate also showed a very excellent increase when compared with superphosphate alone, since this combination yielded its 8½ tons per acre increase, which was better than superphosphate in combination with guano. This last dressing, consisting of 2 cwt. of guano and 3 cwt. of mineral superphosphate, yielded 8 tons 5 cwt. and 7 tons 10 cwt. respectively upon the two plots. The road-scrappings could not be said to exert much effect in any case in which they were applied, and although Mr. Edmonds obtained upon one plot so treated a greater yield, he satisfactorily accounted for it by the fact that this plot had received an addition of ashes. Mr. Plumbe met with a vexing but not uncommon difficulty—viz., an unaccountable but widespread want of plants, which would falsify and render useless any series of experiments. With the improved methods which we have now adopted, it is to be hoped that such difficulties will be more rare, and with a propitious season and fairly cultivated soil, we may look for a fair answer to any question we may ask Dame Nature.

The Rev. J. CONSTABLE said he would like to ask the Professor if it was not the custom in the North of England to broadcast guano?

The Rev. T. MAURICE said it was his custom to sow 3 cwt. of guano broadcast, and he then bouted it up. He generally got a very good crop from that plan.

Professor WRIGHTSON said it was a very difficult matter to know how to sow guano so as not to destroy the seed. As to the custom in the North, of applying this manure, they did not exactly sow it broadcast. They ridged up the land, they then sowed the guano along the bottom of the drill by women. The drill was then split, and the seed sown in on the top. That made the seed not so close to the manure.

The Rev. T. MAURICE said no doubt there was great danger in bringing the seed and the manure into contact.

Professor WRIGHTSON said he never knew that such was the case while in the North. He first learned it on the wolds of Yorkshire, when making his first agricultural tour. They never found any loss from applying the guano with the seed in Northumberland.

The Rev. T. MAURICE said many years ago he drilled the seed with the guano, and it failed. He then drilled the seed again, and had a good crop.

Mr. SNOWSELL asked the Professor if he analysed the soil on which he experimentalised?

Professor WRIGHTSON said he did not. That would be an immense work and expense.

Mr. SNOWSELL admitted that, but thought that by so doing they would get a true result.

Professor WRIGHTSON said they did not do it, and he saw no probability of getting it done. It was not essential to the practical success of the experiment.

Mr. SNOWSELL thought it was desirable to ascertain the sort of land they worked on, for as on his farm they often found different sorts of soil in one field.

Professor WRIGHTSON said the idea of analysing the land was at one time very prevalent, and about forty years ago it was thought the royal road to obtaining correct and useful results, but a little disappointment had followed.

The PRESIDENT said the subject which the learned Professor had treated in his exhaustive report was a most extensive one, and probably the Chamber was hardly competent to discuss it just now. If they thought they would like to further consider the subject, they could adjourn the discussion to another meeting. It would no doubt be a very good thing to do so, for there were a great many points to be considered. Professor Wrightson had brought to light most startling results, and the question of the best means of using guano was important. They all knew that the broadcast of this manure was general in Scotland and the North of England. In their own case it was a question whether they might use it better by throwing it broadcast, or drilling it directly with the swedes.

Professor WRIGHTSON said the water-drill mixed the manure and the seed.

The Rev. T. MAURICE thought the water sometimes tended to wash apart the manure from the seed to a small extent.

Mr. ILES hardly saw the necessity for adjourning the meeting for the consideration of the results of the experiments; they were put in excellent form, and reflected very great credit on Professor Wrightson. He, however, hardly thought that people would be better prepared to discuss the subject than at present. As regarded guano, so far as his own experience went, he had always found that if they drilled guano with the seed it was sure to kill it. They might drill $\frac{1}{2}$ cwt. of guano with other manure without danger, but rather with good effect. His own plan of applying guano on the same land as that on which his experiment was tried was this: He always drilled the seed first with 2 cwt. of superphosphate to the acre, and directly he got the roots singled out, he treated the plants with the dressing of guano, about 2 cwt. to the acre, horse-hoed it in, and never touched it afterwards. The horse-hoe threw the guano up to the plants, and they got the

benefit of it. Whether that was a better plan than applying the guano before the seeds struck, he could not say; but he had generally got good crops of swedes, and never lost a plant.

The Rev. T. MAURICE said, as the discussion rather flagged, he would propose a vote of thanks to the Professor for the great pains he had taken. They would find he had provided them with something which they could dwell upon, and from which they could learn a good deal, and he deserved the very best thanks of the Chamber.

Mr. EDWARD BOWLY seconded the proposition. The tables Professor Wrightson had prepared had very great interest for him.

Professor WRIGHTSON said he was much obliged to the Chamber for their vote of thanks. He could only say that the Chamber might well pass another to itself, or to those members who had kindly undertaken these experiments. The work was very fairly shared. It was a great pleasure to him to draw the results together, but the gentleman who undertook the experiments had a very considerable amount of trouble. He hoped the result of this season would be not only to furnish them with something of use and interest, but to encourage them to further efforts for the next season. Such suggestions as that of Mr. Iles and other gentlemen, as to the applying of guano might well be entered into next year, and he would also say that one of their greatest difficulties in these experiments was the want of good suggestions for experiment. The results were sure to be useful, but it was important that experiments should be tried which a farmer wanted to be tried. When the plan for experiments was got out by two or three of the committee it did not embrace sufficiently the real wants of the district, for the reason that those who drew it up had not sufficient idea what those wants were, and they would indeed be very glad to have any new suggestions made to them.

Mr. EDWARD BOWLY said there was much difficulty in making so wide a series of experiments. When the seed was put in at his farm the weather was not at all fit, and when there were so many different plots to sow it was difficult to always get suitable weather.

Mr. ANDERSON said it was rather late to say anything now, but he thought although the Professor had shown them conclusively that guano had increased the weight of the crop, there was another point to be considered, and that was as to the quality of the roots produced. As far as he himself had seen, and he had also been told by others, he was of opinion that all the roots grown by guano were heavier per root than those grown by superphosphate, they were really not so well grown, and apparently not so nutritious. They must, he thought, not only look to quantity but also to quality. He must say he stuck to superphosphate for another reason. There was a much larger increase from guano, but not to the relative extent that there was from superphosphate, and the roots produced were not so good.

Mr. W. BOWLY asked if large quantities of manure were found to answer in 1871 and 1872?

Professor WRIGHTSON said he had tried large quantities, but 3 cwt. answered quite as well.

The meeting then separated.

THE FUTURE OF FARMING.

[The Farmers' Club proposes to discuss this question at its most important meeting in the Smithfield Show week, when the subject will be introduced by Mr. Herbert Little. In the meantime it may be useful to give, even as a curiosity, the following paper under the same title from *Fraser's Magazine*.]

The changes which have been crowded into the last half-century have been so numerous and so important that it would almost seem reasonable to suppose the limit had been reached for the present, and that the next few generations would be sufficiently occupied in assimilating themselves to the new conditions of existence. But so far from this being the case, all the facts of the hour point irresistibly to the conclusion that the era of development has but just commenced. The only result of this vigorous exercise of the intellectual faculties is an ever-increasing interest and even anxiety in the possible combinations of the future. No one is satisfied with things as they are: neither the one nor the other party contentedly accepts the existing order, or wishes that the world should re-

lapse into quiescence. In hard practical money-matters even, the modern habit of speculation induces an extending reliance on the times to come. Whether that reliance will be justified or not remains to be seen, for progress is not necessarily improvement. Still there is the fact—churchman, secularist, politician, capitalist, communist, all invest their capital in the future, and eagerly scan the slightest sign of fluctuations in the value of their funds. In this struggle, not so much for existence as for pre-eminence, old methods of practice handed down are found incapable of meeting the strain put upon them, and have to be relinquished for machinery and procedures founded upon theories rather than tradition. There was a time, and not so long since, when a farm was an epitome of human economy. The relation of a farmer to his landlord was that of a retainer to his baron, whom he followed to the hustings as his progenitor did the knight to the battle. The farm-house contained in itself the appliances of half a dozen trades. The bread was baked in the oven from wheat grown in the tenant's fields; the

beer was brewed in the brewhouse, often by the master himself; the bacon was bred, killed, and cured on the premises; a small bullock was slaughtered and salted, and kept the family in beef for half a year; the wood-house and faggot pile contained the fuel grown in the adjacent copse, which supplied the place of coal. In the operations of husbandry the same general idea prevailed; everything was so managed as to be self-supporting—to require no extraneous aid. The very rotation of crops was so arranged as to preclude any exhaustion of the soil and consequent necessity for outlay in the purchase of manure. The only manure employed was the *débris* of old crops or the produce of cattle living on the farm. Everything was so contrived as to come in at its own proper season, and supply a want without recourse to foreign assistance. The tenancy was a kingdom in miniature: the master, his family and servants, its population—a population which often, by the bye, was born, married, and died within its narrow limits. To some extent this system survives at the present day. A large proportion of farmers, especially those of small or comparatively small holdings, enter upon their tenancies with very faint and ill-defined ideas of making money. This is not their immediate object, nor even their favourite anticipation. They look to get a house, and garden, and orchard—plenty of solid food, and full barrel in the cellar. For themselves, a certain independence, a sense of being master—that most delicious of all feelings—a certain positive position, a welcome in the hunting field; above all a home—a home for their wives and children, a possible inheritance for one at least of them, and even if opportunity offers for second and third sons, for on some large estates to bear a particular *name* is a guarantee of guarantee of getting a farm if time only is given. The object of these men is not so much money. They do not look upon farming as a business in the same sense in which a merchant regards his trade. There is an amount of pleasure in contemplating such a picture as this; it is thoroughly English in its character. The home, the independent feeling, the good name serving as a passport to the children, the sturdy manliness of the central figure, is exceedingly attractive to the imagination, and even stirs some deeper chords in the heart; but it has its weak spot, and it is this weak spot that is fast driving it out of date. As they do not primarily look to make money, these men do not base their calculations upon the fundamental principles of pecuniary success. They begin business with too little capital: frequently men take farms of say 200, 250, or 300 acres with the goodwill of the landlord or his agent and £300 cash in hand of their own; the rest is borrowed, or the first rent days deferred by arrangement with the acting solicitor till the farm has grown its own stock, when the deficiency is made good with interest. If borrowing is resorted to, the bank holds a bill of sale or some similar instrument on the stock and implements purchased with its cash. Many a man has taken a farm with barely enough money of his own to pay the first year's labour bill. It was a well-known adage that if a competent man could but just put his foot in a farm he was sure of getting on. This practice was just successful and no more. If the conditions remained the same as they were at the first entering upon the tenancy, all went well; but the slightest derangement of those conditions pinched terribly. This explains the consternation and outcry caused by the labourers' demand for higher wages. It upset the balance. It further operated because in other matters more hard cash was wanted than formerly. The baker had superseded the family oven; the great brewer abolished the brewhouse; the sons required education; the daughters did not relish the dairy; the system of barter was gone—cash took its place. The farm was no longer entirely self-supporting. It was necessary to keep account books, a thing never done before. The words "profit and loss" were introduced and began to be thoroughly understood. To make a "profit" the farm must become a business; a business requires a certain amount of speculation; speculation means capital. These men had not got capital. A change, therefore, was imminent. These were some of the internal causes which led up to the present transition state of farming. But there were other causes externally at work far more powerful than these. The principal was and still is the increase in the population, and the almost unaccountable increasing appetite for meat. This is a singular phenomenon. We are told that in one year the amount of meat consumed per head of the population increased from 98 lbs. to 102 lbs. Therefore the increase in the population causes not only a larger *prima facie* demand, but also a higher ratio in the quan-

tity consumed by the individual; and the result is an additional demand every year. The reason of this appetite for meat does not immediately concern the subject; it may arise from several causes combined, such as the great waste from the imprudent-use of money by the artisan class, supplemented perhaps by the natural craving for a stimulant, a blood-producer, in those who are debarred from exercise and fresh air in large towns. This demand for meat was already exceeding the supply when the cattle plague and other contagious diseases destroyed the floating herds (so to speak), and compelled the dealers to fall back upon the reserve stock, and to anticipate the future returns by extending the slaughter of young cattle and sheep. The result has been that an entire recovery has never been attained from that shock, and prices then risen have never since declined. Nor does it seem probable that they will decline. The question is, how to prevent them from rising still higher, and even how to continue a sufficient supply at increased prices. Up till comparatively recently the efforts of agriculturists towards enlarging the meat supply have been stimulated simply by the necessity, introduced by the internal causes already alluded to, to extend their operations, and with the view of making profits never thought of before. Many landlords were so far influenced as to modify their agreements; more capital was put in the soil in the shape of manure, and on the soil as improved implements for steam and deeper cultivation. The results of this system have been so remarkable in particular places that it is not surprising to find the enthusiastic individuals immediately concerned firm in the belief that a remedy had been found. In some counties it is stated that the meat production on one or two farms has reached £7 per acre, which is considered as an advance of 50 per cent. on the former yield. The calculation is now applied to the whole of England, and the result is so large as to prevent all fear of a meat famine. But a very little analysis will show the utter falsity of these calculations. There are, they say, 31,000,000 acres under all sorts of crops, which taken on the average yield 30s. per acre in meat. But if the system of high farming were applied to the whole of this area the produce would be at the rate of £5 to the acre, giving rather more than double the present. But the agricultural returns published by Government show that something like 40 per cent. of the cultivated soil of England consists of permanent pasture, i.e., nearly half. Now the increased supply of meat on the exceptional farms alluded to entirely arises from high farming, chiefly of arable land. How is it possible to farm pasture so as to produce double as much as at present? It cannot all either be broken up into arable, as some gentlemen propose, because hay must be had, and it is an awkward thing to import, to say nothing of the question of cost. Nearly half, then, of this wonderful calculation falls to the ground, and we may not unreasonably doubt its accuracy to a great extent as regards the remaining half. For instance, it is notorious that all land is not capable of an equal amount of cultivation—that would disturb the calculation materially; and, again, some land absolutely will not bear too high farming, it will go stale; and there are thousands of acres which nothing but a deposit of guano six inches thick would render fertile. The matter need not be examined further. What is evident is this: a system of high farming has been perfected, which in isolated positions and under favourable conditions will very largely increase the profit of the farmer. Given a landlord with a plastic mind, good soil, large capital, and plenty of time, no doubt money may be made. But nothing like a solution of the great problem of the national demand for meat has been arrived at. Upon this system nothing would meet it but the enforced employment of the whole Imperial revenue upon the soil. But let it not be thought for a moment that any discouragement should be thrown upon high farming. On the contrary, the question is, Can it be still further perfected, till it really does rise to something like a remedy? The immediate difficulty is to keep larger herds of cattle. Cattle are fed on cake, grass, turnips, &c., &c. These materials again are produced from manure. To begin with the grass—can the crop of grass be doubled? The agricultural world was amused a short time since with a plan for producing a continuous crop of grass by means of perforated hose for water—amused, because it looked so like a toy for a gentleman's park, and so little like a serious piece of machinery. It was intended to give a short but sweet crop of grass in a few days, which was then fed off by sheep, folded by patent hurdles so as to eat a certain portion at a time. Day by day

the fold was moved a few yards farther; on returning in a circle to the same spot the crop was found ready again, simply by the application of water forced by steam in a spray over the soil. It answered so far, but it was in the summer. Would grass grow now in the early winter by such a process alone? Would it grow when the frost came by the application of water? And such a process must exhaust the soil sooner than anything that could be conceived. The strongest liquid manure would fail to keep up such a strain for any length of time. Besides, the plan was only a modification of the old water meadows. Water, too, is not always available. A larger and more extended attempt was the use of sewage from towns. The most extraordinary results were at first reported from this, but latterly little has been heard of it. The fact is, it was found that after a certain time the land became so saturated that vegetation was killed by the excess of chemicals in it, or was so rank and so coarse that no sale could be got for it. In many places the application of sewage to grass has in consequence been abandoned, and arable land used instead. But this presents much difficulty. The cost of drainage, &c., is so heavy that a return upon the invested capital cannot be expected for some time. The crops grown upon land so treated are certainly gigantic—swedes, for instance, become of immense size and the leaves enormous. In a word, it is introducing the conditions, the soil, and forcing power of tropical climates into our own latitude. If the sewage could be applied in the spring only or during the summer, possibly it might succeed. But sewage only exists under peculiar conditions, one of which is that it flows perpetually and must be got rid of somehow in the winter too. But England has no tropical heat in the winter; it is producing the soil of a swamp without the burning sun. Such unnatural conditions cannot be expected permanently to succeed. Then can the area under grass be largely extended so as to increase the grazing power? For cattle to be entirely supported and fattened on grass would require fields like prairies in extent. Larger numbers can be kept by the use of stalls and artificial food mingled with swedes, &c., and some hay. To produce these a proper proportion of land must remain arable. Sheep, too, require immense tracts of arable land. If anything, they are more important than cattle; for mutton is much more commonly consumed than beef. This restricts the area of pasture; and any very extensive alteration cannot be anticipated. Much, therefore, will evidently depend on the method of cultivating arable land. In such cultivation a rotation has to be observed—turnips, a favourite food for sheep, cannot be grown continuously. Wheat is one of the crops intervening; and wheat is the direct food of man. Foreign competition has not driven English wheat out of the market, but it has rendered wheat itself unprofitable. As a crop, it does not pay the cost of production, except in isolated instances. It appears once in a rotation of crops chiefly employed in feeding cattle: these pay, but the wheat crop, when it comes, only prevents a season of dead loss on that portion of the farm. What is wanted, then, is some new crop to take the place of wheat, and to fill up that gap with a yield of profitable animal food. This is a subject worthy the attention of chambers of agriculture throughout the country, and of agricultural stations on the Continent. Without some such new and important vegetable, or some equally new and important manure—perhaps without the two together—it is useless to expect any very much larger amount of capital to be put on the soil for the simple reason that present conditions prevent an adequate return for it. More than a given amount of capital could not be used on a farm at present, let the tenant farm never so highly. There is no scope for it, no material for it to work with. If it would pay capitalists to invest in cattle-stalls and meat production, what is to prevent capital from being so invested now? No need for compensating clauses. An acre or two of land is not much to purchase and erect stalls on. The cattle could be fed on artificial food, which could be purchased. The fact is, artificial food is too dear and too scarce. If such a course were followed, it would be dearer and scarcer still. Looked at from such a stand-point, what is wanted is more artificial food, which means more manure, and manure means force. Where is the force to come from? Where is the steam, in a metaphorical sense? where are the chemicals, the material substances to be converted into living protoplasm? For animals are merely machines for converting matter into organic substance. Coal contains a force stored from the sun in ages past: where shall we find a cattle-coal

a phrase may be coined) to put life in, and supply the food of life to additional millions of shadowy herds of the future? Till some such vegetable or some such manure can be found, all that can be done is to smoothe away the difficulties attending the production of stock by the present methods; and the principal of these is, we are told, the want of compensatory clauses. But if there really was a necessity for such clauses, they would soon be forthcoming. If a tenant offered his landlord double the rent for complete compensation, he would get it. Considering the enormous advantages that the tenant expects to get by compensatory clauses, this would not be too much. But the tenants do not do that, because they know that they could not increase the produce so largely as to warrant it. Yet, unless the production is doubled, the national demand will not be met, and this is the real question, and not the farmers' profit alone, as some gentlemen seem to forget. If the tenant did get such a piece of legislation, he would not be benefited by it. The class who agitate for reform never are immediately reached by it. If there was such a rush to invest capital in land, the tenant-farmers as a body would be driven out of the field by competition; for, as a rule, they have not got large capital. With the discovery of some method of doubling the meat production profitably, with the introduction of some such cattle-coal (as we may provisionally term it) in the shape of new foods and new manures, with compensatory clauses and so on, when farming will really give large returns for capital invested, there will undoubtedly arise a system which will almost abolish the tenant-farmer. We may then look to a time when farming will become a commercial speculation, and will be carried on by large joint-stock concerns, issuing shares of ten, fifteen, or fifty pounds each, and occupying from three to ten thousand acres. Such companies would perhaps purchase the entire sewage of an adjacent town. Their buildings, their streets of cattle-stalls, would be placed on a slope sheltered from the north-east, but near the highest spot on the estate, so as to distribute manure and water from their reservoirs by the power of gravitation. A stationary steam engine would crush their cake and pulp their roots, pump their water, perhaps even shear their sheep. They would employ butchers and others, a whole staff, to kill and cut up bullocks in pieces suitable for the London market, transmitting their meat straight to the salesman, without the intervention of the dealer. That salesman would himself be entirely in the employ of the company, and sell no other meat but what they supplied him with. This would at once give a larger profit to the producer and a lower price (in comparison) to the public. In summer meat might be cooled by the ice-house or refrigerator, which must necessarily be attached to the company's bacon factory. The great object, as every one knows who has been in warm climates, is to get the meat thoroughly cool directly after slaughtering, to extract the heat of the flesh and juices, and then it will keep much longer and be more valuable to the retail butcher, who purchases from the salesman, as he need not force a sale. The slaughter would probably usually take place in the afternoon, and the transit by the evening train. There is not the least difficulty in this: it is done now from Scotland, and many of the butchers in country towns almost daily send up baskets of meat to the metropolitan salesman. Unfortunately, they generally send their surplus stock, or unsaleable though not absolutely uneatable goods. Our company, on the contrary, having sufficient capital at command, would select their stock from the best strains, paying special attention to their meat-carrying power. It would be preferable to keep a smaller number of large animals than a larger of small-made beasts. The latter would require more buildings and more attention. Their stalls would contain a row of beasts, as their regular fock, equal in size, beauty, and meat carrying power to those he public now see at long intervals exhibited at agricultural shows, but very seldom get a chance of tasting. Such animals as these are rarely driven along roads; and it would be a question whether the general adoption of the stall system and superior cattle might not materially diminish the spread of contagious diseases. Except in particular districts it is hardly probable that the dairy would be united with the stock farm; but if so the ice-house would again come into requisition, and there would be a condensed milk factory on the premises. In the fields the policy pursued by such a company would be similar. There would be no hedges—the waste of money paid for labour in hedging and ditching throughout the country is something enormous—the land would be as far as possible laid down

level, for the use of the steam plough, the scarifier, and the drill. At present the length of time that intervenes between one crop and another is a dead loss. They might try the experiment, at least, of shortening this period, and thus increasing the number of crops produced in the year. Cucumbers, for instance, essentially summer plants, are grown by artificial means at all seasons, and almost continuously. Why should not cattle food be raised in the same way—always, of course, provided that it pay, which it probably would in the future? Heat and moisture are the primary causes of growth. Water is easily applied. Heat is more difficult of application; but, for the sake of illustration, say by iron pipes carrying hot air or steam. It may yet happen to us to find electricity employed as a means of forcing crops. It has been long well known that the effects of sending an electric current through plants are astonishing; and it has been often thought that the circumstance of a good or bad crop depends much upon the state of the electrical atmosphere; and this again is by some considered to depend upon the solar spots and phenomena. With respect to artificial crops, a great degree of heat would not be necessary, for cattle and sheep food does not always need to be brought to its full perfection; in other words, to seed. Sugar has recently been used to make the plant break ground quickly (seven or eight days is spoken of); the cheaper sorts are scarcely dearer than the high-priced artificial manures, and so large a quantity is not required. There is a cheaper sugar too in existence abroad, which it has not yet been found worth while to import. There is nothing strained in the idea of an artificial harvest: grass has already been dried into hay by blasts of hot air forced upon and through it by steam-power. Haymakers know full well that a hot wind will make hay faster than a burning sun. The quantity of artificial manure used by such a company would be so large as perhaps to justify its manufacture on the spot. Evidently, whatever is done in these ways, a larger amount of skilled labour will be required. Like the great factories and manufactories, companies such as these would run up a small street or so of four-roomed houses for their own artisans—they will scarcely be called labourers in the future. Men to drive the steam-plough, to manage the valuable stalls of cattle, to work the various and complicated machinery of such an establishment, will require to exhibit intelligence hitherto lacking—lacking, perhaps, principally for want of mental exercise. Such artisans must receive higher pay, in all probability about, or nearly equal to the wages paid in factories—from £1 and 30s. to £2. This will be far better than the very awkward method of low pay and a share in the concern. Would there be any danger in such circumstances as these of the men forming a union, and, in order to keep up their wages, insisting on restricting the out-put of meat, just as the colliers did that of coal? And what in such an event would be the policy of the Government? Of course the inevitable railway must accompany these new conditions; or, rather, a tramway from the nearest rail would be necessary to convey the daily baskets of meat for the metropolitan market, the wool, and other produce, and to bring back the coal, &c. There would be an office in London, and the shares would be quoted on the Stock Exchange. In one word, agriculture would become a commercial enterprise. Such are some of the developments possible upon the discovery of a new food, a new manure, rendering large profits for the investment of capital. Capital there is, enough and to spare in the market. The immense debt of France was so eagerly subscribed for, it was said, because the capitalists had so much faith in the vitality of the country and its power of recouping. That might be; but not a little of the success of the loans was owing to the vast amount of capital lying unemployed for want of an opening large enough. There is no want of capital, and no real restrictions to its application to agriculture; the only drawback is, that at present it will not pay to invest it in the soil. The returns are not quick enough. It may not, however, be unconstructive to contemplate the possible position of the landlord of the future. If the legislation desired by the tenant-farmers were to be carried to its logical conclusion, the landlord would be reduced to a lay figure with a rent-charge on the estate. Under the old system of farming the tenant divided the whole produce of the farm into four parts: one to pay rent, one for labour, one to live on, and the fourth to put away, unless, as too often happened, this last part was swallowed up in the payment of interest on borrowed capital. Such a division as this seemed to indicate that a farm was much more profitable

than generally supposed; and the landlord's share of the produce, considering that the largest part of the capital then invested was his—*i. e.*, the latent capital of the soil, appeared scarcely proportionable. This inequality has increased rather than decreased, for the yield is certainly very much larger, yet the share of the landlord still remains an arbitrary amount, very little, indeed, if the average produce in meat alone is to reach £5 per acre. The contemplated Tenant-Right legislation will still further reduce the landlord's interest in the farm; in fact, he will have nothing whatever to do with it, except to receive the rent. He will have practically no power over it, either legally or morally. At present it is an object with him to see that the tenant does not permit the farm to depreciate in value. The lease or yearly agreement is drawn up upon that principle, with special clauses to prevent the exhaustion of the soil; and his agents and solicitors are constantly on the watch to see that nothing of the kind takes place. But under a Tenant-Right Act, the landlord has no object except to receive his rent. He would know that if the tenant depreciates the value of the farm, the amount of that depreciation will be fixed by arbitration, and the tenant will have to recoup him. On the other hand, if the tenant increases the fertility of the soil, he knows that he will have to compensate him for these improvements, and to do so is exactly equivalent to a diminution of the rent. In other words, it acts like a graduated scale: if the tenant under-farms, the landlord is compensated and receives the equivalent of a higher rent; but if the tenant over-farms, the landlord has to compensate him—*i. e.*, to do what amounts in practice to taking a lower rent. In fact, it is a premium to the landlord to get his land under-farmed; yet this is put forward as a certain method of doubling the meat supply! A more cumbersome method of modifying the position of the landlord can scarcely be conceived. It is based upon the theory of rent. Now, under modern conditions, it would appear that rent, in the present acceptation of the term, had much better be abolished altogether. It would be presumptuous to attempt to lay down an exact and complete plan for the solution of a question so complicated, and which must evidently undergo many changes. But some general idea may be safely indicated. In the first place, then, the landlord should retain the full and complete possession of the soil. It is nonsense to talk of Tenant-Right as a right, and to deny the landlord, because he is a landlord, and for nothing else, his right. Be it observed, that if the tenant has obtained his right by ten years' occupation, the landlord has obtained his often through as many generations. The promoters of this new right are very anxious to introduce commercial principles into the matter; but what would be thought in town society if an Act were passed at the instance of lodgers or tenants enabling them to retain possession of houses and to defy the real owner? It looks very much like a scheme for the gradual absorption, not to say confiscation, of the land by the tenants. But, while retaining the landlord's full possession, perhaps it might answer to make him a partner receiving a share which fluctuated with the losses or profits of the concern. This might be peculiarly suitable if any such developments as the agricultural company described above should come into existence. Let the landlord receive a certain fixed sum under all conditions, whether of profit or loss—amounting to a per-centage say of one and a-half per cent. upon his latent capital—upon the value of the soil, which he invests in the speculation. If the land was worth £60,000, this would be a fixed share of say £1,000 per annum, equal to a low rent. Then, over and above this, let him receive a per-centage on the receipts of the tenants, which would produce a larger or smaller sum according as the year was one of profit or loss, and according as the land was well or ill cultivated. Such a plan would make it the obvious interest of the landlord to get his land as highly cultivated as possible, and might perhaps induce him to invest cash-capital in the soil, a very great advance upon the present system; there would be no necessity whatever for compensatory legislation, and it would be a natural in preference to a forced solution of the question. No stronger sign of the break-up of the old system of farming can be adduced, than the tendency to specialising. There are farms which are entirely occupied with the production of milk. The tenant of a dairy farm finds himself near a station on a great trunk line to London. The cost of labour in making butter and cheese is something considerable, especially if, as is often the case now-a-days, his wife comes from a better class, a higher social circle, and has no traditional aptitude for the

dairy. The returns are almost immediate—they fulfil the modern demand for small profit and quick returns—and there is a very small margin of loss. He therefore turns his attention to milk, and gradually eliminates all animals from his stock that do not give a good supply. The whole economy of the farm, the amount of hay harvested, and so on, is all directed in this one groove, towards this one special object. The farm becomes specialised as a milk-farm. In other districts where there is down-land, neither very fertile when broken up into arable, nor suitable for grazing, sheep are the staple, and all the energies of the place are concentrated upon them. Such a district is the Cotteswold of Gloucestershire, where there is not only a special form of farming, but a speciality in the production, *i. e.*, the well-known Cotteswold sheep. Other farms, again, are entirely devoted to meat production, to grazing, or stall-feeding; and of late there have been instances in which not a single animal has been kept on a large arable farm, the object being to grow food for the stall-feeders, or corn. The work on these farms is done almost entirely by steam, and exhaustion of the soil prevented, first, by extremely deep cultivation, and next by the use of vast quantities of artificial manure. To judge by statistics, these gentlemen make a very good thing of it. This tendency to specialise farms shows very plainly the altered and increased demand, and the efforts being made to meet it—efforts which may possibly result in unexpected future combinations, more improbable at present than an agricultural joint-stock company. It would seem as if the farmers as a body can effect very little to ameliorate or alter their condition, or the circumstances which surround them. They depend almost entirely upon the mood of the population: if that mood is for meat, they must change their arrangements to supply it; if the cry were corn, they could not resist it. It follows that their trade combinations—if they may be called by that name—are very powerless. Their feeble cohesion, the want of the union of many in the idea of one, is aptly shown in the chambers of agriculture which were to do so much and have effected so little. The utmost the most strenuous and enthusiastic member of a chamber can assert that they have accomplished is, that they have enlightened the public mind to some extent, that they introduced a bill into Parliament, and that the Government have once or twice lent half an ear to their deputations. They have achieved nothing practical—not even the suppression of the importation of live stock, and with it contagious diseases, which at one time menaced their very existence. As to enlightening the public, that public has a grave suspicion that the chambers are very one-sided in their discussions. That would, however, matter but little as far as the obtaining an was concerned; but they are not only one-sided, they are not one-sided enough. If policies are eschewed, which would have given them a much more vigorous life, let a pecuniary interest be called to their assistance. If the subscription were £5 or even £10 per annum, they might do something yet, and the new class of farmers who are gradually supplanting the old would not hesitate to pay that amount if they saw a closely compacted body of men sternly bent on an object. But some of them now only require a 5s. yearly subscription from their members. What can be expected for that? Who can expect to coerce the Government by the expenditure of one penny farthing per week? We hear from time to time of the immense crops yielded by new soil broken in America; of corn sown thirty times in succession, and yet still producing heavily. The chambers might profitably employ their money (if they have enough, which is doubtful) in causing an analysis and careful inquiry into these extraordinary statements to be made. Perhaps the most solid advantage they have afforded the tenant-farmer has been that of the analysis of manures, at a very low charge, thus securing them from imposition. Other than that it is difficult to see what influence they have exerted upon the future farm. The real pioneers of progress have been isolated gentlemen, who happen to combine in themselves capital and ingenuity. These have made the experiments, sustained the heavy preliminary losses, and their results now give us some data for predicting what may be done. Their conclusions cannot be adopted in full, but the service they have rendered agriculture is incalculable. It is just possible that the vexed question of capital and labour may find a portion of its solution in the future of agriculture. The Tenant-Right agitation is to some extent very similar to that supported by the labouring classes, and an attempt to meet the one will in some degree tend to meet the other. The tenant is the labourer;

the landlord represents the capitalist. The tenant, it is true, has capital too; but that capital is the equivalent of the tools of the labourer. If he finds his own tools, the labourer invests a certain proportion of his capital. In the development we have contemplated of an agricultural company, a share in the concern was not given to the artisans or labourers; but that would not preclude their having a considerable plot of ground attached to their houses, to be cultivated by themselves. For the cultivation of these allotments at least they would find their own tools and their own time, both of which are equal to a proportion of capital, and the resemblance between their case and that of the tenant-farmer is here complete. If a labourer receives £50 per annum, that represents the interest on £1,000 at five per cent. His labour, to pay, must therefore result in the production of £20 per cent. on this £1,000—£200, one-half of which is represented by the increased yield, and the other half represented by the skill and the time he gives. So that the fact of his employing his skill upon the farm is equivalent to his investing £100 on the soil. This is a rough calculation, not made for exactitude, but for illustration. Here, again, he resembles the tenant-farmer, because the tenant, in addition to his proportion of capital, invests his skill, his acquired knowledge of agriculture, and his time, in the cultivation of the soil. When the position of the tenant towards the landlord is determined, the position of the labourer towards the tenant is also adjusted in a great measure. It may be objected that this will not apply to manufactures, and therefore no settlement of the labour question will be arrived at, because in manufactures there are only two parties, the capitalist and the labourer, while in farming there is a third, the landlord. It may possibly be found necessary to create this third party, the landlord, in a modified form, before the difficulty in the manufacturing districts can be met. The great use of the landlord is to preserve the balance. He would say to the capitalist, "Take your share, and no more;" to the labourer the same; "for if either predominates and tyrannises, my interest suffers, and I shall therefore take care to prevent that." The landlord, in fact, represents the material itself—the interest of the public at large, who have no representative in the manufactures. These are only suggestions, but it certainly does seem as if the new conditions of farming were making a step towards the solution of that most interesting problem which, like many other great questions, will probably be adjusted by a comprised rather than by a violent change or an entirely novel state of society. The political strength of a class may be estimated by the bids or no bids made for their support by the party who believe that they are approaching power. At the present moment the agriculturists are perfectly well aware that their solid ranks are relied upon to weigh down the scale in the coming general election. But, independently of any party whatever, it is evident that, as the increasing demand for meat concentrates the attention of the nation upon them, so in proportion must their political power advance. As the population still further masses itself in huge towns and cities, and the margin of cattle stock lying in reserve narrows itself, any unforeseen disturbance in the order of things might without much difficulty produce a crisis, when, for a moment at least, the agriculturists would hold the destiny of the country in their hands.

RICHARD JEFFERIES.

NORTHAMPTONSHIRE AGRICULTURAL SOCIETY
—PRESENTATION TO THE SECRETARY.—At the annual meeting, held at Northampton, Sir John B. Robinson in the chair, in addition to a gold watch and chain and a silver salver, costing together some £50, the committee were enabled to present Mr. Lovell with 220 sovereigns. The salver contained the following inscription: "Presented with a gold watch and chain and a purse of 220 sovereigns to Mr. John Maltman Lovell, Harpole, by the members of the Northamptonshire Agricultural Society and other friends in recognition of his very efficient services as secretary. Northampton, 10th January, 1874." Mr. Lovell, who has been Secretary of the Society for 12 years, in returning thanks, said, "So long as I have my health and present salary, I will never leave you."

HEXHAM FARMERS' CLUB,

THE IRISH LAND BILL.

At the annual meeting and dinner, Mr. C. G. Grey, the president, gave in his resignation as president of the Club; and Captain Nicholson, of Halliwell Pene, was elected in his room.

The VICE-CHAIRMAN, Mr. William Trotter, read the annual report, which was adopted: In presenting the twenty-eighth annual report, your committee have again great pleasure in stating that the Club continues in a prosperous condition. The number of members on the books is 258. The income for the year has been £48 4s. 8d., including £8 15s. for arrears and £1 11s. 8d. for newspapers. The expenditure for the year was £49 18s. 4½d., leaving a balance for the year of £7 6s. 5½d., which, with the balance at the end of last year, £61 12s. 5d., made a total in favour of the Club of £68 18s. 8½d. Your committee have to report that the following papers have been read, viz., "On the Impediments to Agricultural Progress," by Mr. C. G. Grey; "On the Necessity of Security for Tenants' Capital," by Mr. John Hope, jun., Hexham; and on "Sheep-dipping," by Mr. Hall, of Stockton. Discussions also took place on the regulations of cattle traffic and on Mr. Howard's Tenant and Landlord Bill. The committee again desired to be allowed to select samples of manures and feeding cakes for analysis. In accordance with your instructions at the last annual meeting, your committee prepared a petition for the altering of Hexham corn market from Tuesday to Monday. The petition was numerously signed, and sent to the Hexham Board of Health, desiring their co-operation, but no reply had been received from that body. Application was also made to the North-Eastern Railway Company for an additional train, or an alteration of the time of running the trains, so as to suit the convenience of people attending the market. The application was not acceded to. Under these circumstances, your committee suggest that it might be advisable to take into consideration whether the present hour for commencing the market is the most suitable. The joint committee of the middle-class school scheme have taken every opportunity of keeping the subject alive. It is to be hoped, in the cause of education, that the scheme will receive attention on the part of the public of the district. Mr. Hammond, the assistant commissioner, met the joint committee, and explained the views of the commissioners, which the committee generally approved of. Upwards of £5,000 has been already promised towards the scheme. The committee beg to thank Mr. W. B. Beaumont, M.P., for the numerous Parliamentary papers which he has forwarded to the Club.

The VICE-CHAIRMAN nominated the following gentlemen to be members of the Club: Captain Charlton, Hesleyside; Mr. E. Woodman, Newton; Mr. Robt. Dinning, Nilstone Ridge; Mr. Wm. Martin, Blanchland; Mr. George Hudson, Burnside, Matfen; Mr. W. Hunter, Parmently Hall; Mr. Wm. Parker; Mr. Thomas Stephenson, Newbiggen; Mr. Benjamin Wilson, Bingfield; Mr. Wadland, Hexham; Mr. Wm. Hare, Vale View House; Mr. Wm. Oates, Causey Hill; Mr. Robt. Renwick, Whittington; Mr. James Ridley, Merryshields; Mr. Septimus Harrison, Hedley Park; and Mr. Wm. Hindmarch, Ovington Lodge. Mr. W. Cook seconded the nominations, which were carried unanimously.

Mr. GREY, the chairman, then read his paper on "Compensation under the Irish Land Act, compared with English Tenants' Claims for Unexhausted Improvements," as follows: No attempt to interfere by legislation with the freedom of contract between landlord and tenant has as yet been successful in England, and the necessity for such interference in Ireland by the act of 1870 was supposed to be justified by the helplessness of Irish tenants, and their inability to make bargains for themselves, as well as by the fact that, without the authority of Parliament, a custom actually existed by which tenant-farmers were allowed to sell their interest in their farms, though the law really reserved to the landlord the power to evict a tenant after six months' notice, without any compensation. There was, no doubt, much justice and truth in this, for land has been held for very many years by tenants from father to son, without any interruption, for several gene-

rations, so much so that there have not been wanting for many years advocates for fixity of tenure. These advocates profess to allow that the tenant should still pay "a fair rent," but how such rent could be ascertained without competition, it would be difficult to understand. There were very many cases where whole districts were let during the last century in large farms of several hundred acres each for long leases; and these farms, owing to the absence of, or the inability to, embrace prohibitions to sub-letting, and owing to the passion for holding land, and the great increase of prices at the end of the last, and beginning of the present century, were sublet at very high rents, and in several subdivisions. The original tenants reserved only their houses and a portion of land, became "middlemen," with large incomes, after deriving a larger profit from the land than the head landlord, in many instances imitating the habits and extravagancies of landowners; and when the famine came, and rents could not be collected, this class fell into great trouble, and their subtenants were generally in much worse case than the direct tenants of more wealthy landowners, who could afford to do without their rents for a few years, and even to pay for the emigration of tenants who could no longer earn a livelihood by farming. It must be said, to the credit of Irish landowners, that when such leases fell out, they almost invariably adopted the actual occupier of the land, and generally at lower rents than they had paid the middlemen, though they had an undoubted right to claim the possession of their land unincumbered by innumerable poor cotters occupying only a few acres each. It was not, however, to be expected that they should set about building a number of houses and farm offices on land which they had formerly let probably as a single grass farm; and thus the occupying tenants, having been tacitly allowed during many years to make fences, and build houses and offices, such as they were, and to do other things which they called improvements, acquired an equitable claim at least not to be evicted from their holdings without compensation for their labour. In my experience, gained during a number of years of intimate connection with estates in the South of Ireland, I heard of very few cases of such tenants being disposed without either being compensated by the landlords or being allowed to sell their goodwill as well as their "improvements" to a tenant approved by the landlord. The cases of injustice which came within my knowledge were generally on land owned by some of the extreme advocates of Tenant-Right in Parliament or their friends. The fact, however, of the landowner having this power over the tenant was a grievance, and Parliament decided to do away with it. The principle on which Parliament seems to have gone is that what may be called large farmers should receive compensation for such improvements resulting from their own labour or outlay as are unexhausted on their quitting their farms, and as are beneficial or suitable to the holding. But the very small farmers, on the supposition that when put out of farms they have nothing to fall back upon but emigration, shall receive compensation for "disturbance." Tenants who can claim for disturbance under the act of 1870 are those whose farms are valued under the Poor-law valuation under £100 a-year, this valuation being frequently 20 or 30 per cent. under the letting value, whether they are yearly tenants or have leases of less than 31 years. For 20 years from the 1st of January, 1871, tenants taking leases for less than 31 years of farms valued at less than £50 a-year, are precluded by the act from contracting themselves out of this claim. A landlord can thus protect himself against this claim by offering his tenant a 31 years' lease at "a fair rent," and any difference about this fair rent is settled by the chairman of the county, who holds a court embracing most of the duties of our quarter sessions, county courts, and bankrupt courts. There are several minor details in this part of the act with which I need not take up your time. The act prescribes a maximum of compensation under this part, which is as follows: A tenant whose farm is valued at or under £10 may be awarded seven years' rent; so that a tenant who pays £15 rent, a very con-

non case for land rated at £10, may be awarded seven times £15, or £105. A tenant who is rated at from £10 to £30 can claim only five years' rent; but as this would in some cases be less than if he had been rated below £10, he is allowed to claim the maximum of the lower scale; thus, a tenant rated at £12, but paying £18, could claim only £90 in his own division of the scale, but he is allowed to claim £105; but a tenant rated at £16, and paying £24, can claim £120. From £30 to £40 valuation, the maximum is four years' rent; from £40 to £50, it is three years' rent; and from £50 to to £100, it is two years' rent. In each of these cases the tenant may claim under the lower scale. If, however, a tenant quits a farm of his own accord, or is evicted for non-payment of rent, or breach of certain reasonable conditions, he cannot claim for "disturbance," nor if he subdivides or sublets his farm without leave in writing. There are some other exceptions to this claim, such as for land held as town parks, land let to labourers as such, and some classes of purely grass farms on which the tenant does not live. The above compensation is provided for by the third section of the act. The first section legalises the Ulster Tenant-Right, which means generally the right of a tenant to sell his interest in his holding, but with certain restrictions for the protection of the landlord. The second section legalises the "usage" when it is proved to have prevailed on estates or in districts not in Ulster, similar to the Ulster custom. Tenants who can claim under either of these two clauses may choose to exchange this right for the right to claim under the latter sections of the act, but they cannot claim under both. The Ulster custom and the other usages vary so much, and are often so indefinite, that I believe tenants and landlords not unfrequently disagree about them. I have not gone fully into the details of the first three clauses, because they have not much bearing on what is commonly understood by the Tenant-Right in England, but the fourth clause embraces all that has hitherto been demanded by Edglish farmers generally as compensation for unexhausted improvements. I do not, however, include the demands made by political agitators, unreasonable partisans, or volunteer advisers who know nothing about farming. The section describes it as compensation for improvements and the claim is open to all tenants except those who claim under clauses 1 and 2, and may be made by those who claim under clause 3, in addition to their compensation for disturbance, and includes both tenants evicted and removed on the expiration of leases and those who quit on their own accord. There is, however, a difference between tenants who are put out of their holdings on notice to quit, or on the expiration of the term, and those who quit voluntarily or are ejected upon non-payment of rent or breach of contract. In the former case the tenant's claim is direct against the landlord; in the latter case, the landlord may free himself from the claim by allowing the tenant to sell his interest to another tenant. In this and all other cases, the landlord has a set-off for all arrears of rent in respect of any "deterioration" of the holding arising from the default of the tenant, and for unpaid taxes. If a tenant is allowed to sell his interest, the landlord may alter the rent, but if he cannot get so much as he would otherwise do for his interest by reason of the rent being exorbitant, or, if he refuses to renew his lease because the rent is too high, the court has the power to decide whether it is a fair rent, and if it is, the tenant is treated as if he were voluntarily quitting, and has no claim for disturbances. There are some important exceptions to claims under the section, which, stated shortly, are as follows: (a) Improvements made twenty years before the claim is put in, except, however, for permanent buildings and improvements of waste land. (b) Improvements prohibited by the landlord as being and appearing to the court to diminish the general value of the estate. (c) Improvements made in pursuance of a contract for valuable consideration. (d) Improvements made in contravention of a contract not to make such. (e) Improvements which the landlord has undertaken to make, except where the landlord has failed to make them. A tenant holding under a lease for 31 years or more cannot claim for any improvements except permanent buildings and reclamation of waste land and tillage and manures the benefits of which are exhausted at the end of the term. A contract prohibiting a tenant from doing anything suitable to the occupation of his holding or its due cultivation is made void, but no such thing shall be deemed suitable or due cultivation which the court thinks tends to diminish the general value of

the estate; but this restriction on contract does not authorise a tenant to break up grass land or cut timber, though that might be an improvement to the particular holding of the tenant. In deciding on all or any of these claims it is directed that the court shall in reduction of such claims take into consideration the time during which the tenant shall have enjoyed the advantage of such improvements, also the rent at which such holding has been held, and any benefits which the tenant may have received from his landlord in consideration, express or implied, for the improvements so made. Section 5 provides generally that all improvements shall be deemed to have been made by the tenant until the contrary shall have been proved, but on estates where it has been customary for the landlord to do part of such improvements such presumptions shall be modified accordingly. It was thought that in Ireland the landlord would be more likely to have records of outlay than tenants, and could therefore more easily prove who had made them. There are here again several important exceptions. (1) Where the improvements were made before the estate was conveyed to the landlord by actual sale. (2) Where the tenant held under a lease. (3) Where the improvements were made twenty years before the passing of this Act. (4) Where the holding is rated at more than £100'. (5) Where it is proved to the court that it is the practice of the estates for the landlord to make such improvements. (6) Where from the entire circumstances the court is satisfied that the improvements were not made by the tenant. Section 6 declares that where a tenancy is not determined either landlord or tenant who wishes to preserve evidence of improvements may file a schedule in the Landed Estates Court; it also provides for due notice being served by one or the other for hearing objections and modifying such schedule and filling the amended schedule, this schedule is therefore to be admitted in evidence. Section 10 allows a landlord to recover possession of a limited proportion of a holding for building labourers' cottages on, and such shall not be considered a disturbance, but merely be liable for improvements and to a fair reduction of rent proportionate to the value of the land. Section 11 enables a tenant who is rated at or over £50 to contract himself out of claims for compensation. Section 13 withholds compensation from a tenant who assigns without leave or the landlord refuses to accept the assignee and the court deems such refusal reasonable. Section 14 enacts that an eviction shall not be deemed a disturbance of the tenant where the tenant persists in certain acts, such as anything not necessary to the due cultivation of his holding, or refusal to allow the landlord to exercise his right of taking minerals, timber, turf, game, or fish, or to make roads, drains, &c., or to view the premises. Section 12 exempts from compensation under section 4 all town parks, and purely grass farms on which the tenant does not live, and labourers' cottages and gardens and land let for any temporary purpose, such as one crop or a season's grassing. I shall now go to clause 70, which, besides the general definition of terms used in the Act defines more particularly the word "improvements," and as this is very important I shall give it in the words of the Act. The term "improvements" shall mean in relation to a holding; (1) any work which being executed adds to the letting value of the holding on which it is executed, and is suitable to such holding; also (2) tillages, manures, or other like farming works, the benefit of which is unexhausted at the time of the tenant quitting his holding. Section 25 prescribes the duties of arbitrators, when both parties are willing to submit to arbitration. It is often said that our law depends more on the decisions of the courts than on Acts of Parliament, and any person reading this Act carefully must come to the conclusion that there would be the widest difference between the different awards of arbitrators, till some comprehensive cases have been decided by the courts, and some leading principles have been established as guides to ascertain what may be considered the present value of permanent improvements made at various intervals of time, and what may be considered the unexhausted portion of tillage, manures, and other like farming works. Arbitrators, with the best intentions, will differ widely in their ideas of such value, and, unfortunately, there are many people with particular notions, who by forwardness and vanity, with a certain amount of flattery, force themselves into public notice, and by their confident assurance command a certain number of admirers. Such people are readily appointed arbitrators by those whose purpose it may suit. A very good illustration of

this will be found in a description of the evidence of some of the witnesses in an important case tried last year in Ireland, of which I propose to give an outline for compensation under section 4 of the Act. Section 26 defines "limited owners." Section 27 enables limited owners to charge their estates with an annuity for 35 years at 5 per cent. for all moneys paid by them for compensation under this Act, having duly served notice on the remainder man before the claims for compensation are heard. Section 28 enables limited owners to grant leases, subject to the following restrictions: (1) The term not to exceed 35 years. (2) It shall not include manions or demesne lands. (3) The rent shall be a "fair yearly rent" without taking anything in the nature of a fine. (4) The lease shall imply a condition of re-entry for non-payment of rent. (5) The lease shall contain a clause declaring whether landlord or tenant is bound to restore or keep in repair buildings. (6) The lease shall execute a counterpart covenanting for due payment of rent. The court may confirm, or refuse to confirm, any such lease, and the confirmation shall be certified. I shall not take up your time with the other clauses of the Act, which relate to the proceedings to be taken by landlords and tenants, and to the rules of the courts. The "second part" of the Act relates to the sale of land to tenants, to whom Government advances money to pay for it, taking a charge on the land of 5 per cent. per annum over 35 years to pay both principal and interest. The "third part" directs how loans are to be made by Government for drainage works, buildings, &c. "Part four" relates to legal proceedings in the Civil Bill Courts. "Part five" is miscellaneous, but a very important change is introduced in clause 65 in this part, which empowers tenants to deduct from their rent, when paying it, half the county rate which they have paid during the time such rent accrued. This is in addition to half the poor rate, which they could previously deduct. All local rates are included in these two. The club is aware that I have always advocated the extension of this law to England. Landlords' rights in existing leases are reserved. From the general description of the "Landlord and Tenant (Ireland) Act, 1870," you will see that the part which concerns our present subject is the 4th and subsequent clauses in the first part, and section 70 in "Definitions." As an illustration of the working of this Act, I propose to give you a description as shortly as I can of a case heard last summer, in which eminent witnesses were examined, and in which, on appeal from the Court of Land Session to the Assize Court, the Lord Chief Justice of Ireland gave a decision which will no doubt go far to establish rules in future cases. The case was tried on June 20th, 1870, and subsequent days, at the Athy Quarter Sessions, before Mr. Thomas Lefroy, Q.C., chairman of the county Kildare; Henry Norwood Trye, claimant; the Duke of Leinster, respondent. Mr. Trye, claimed £1,902 10s. for improvements made on the "Heath Farm," which he had quitted in the previous March, at the end of a twenty years' lease. The Duke admitted his claim only for £184 3s., against which he had a set-off of £61, leaving £123 3s. to be paid to Mr. Trye exclusive of any sum the court might award for artificial manures of which the Duke's agent could not ascertain the value. The sum awarded by the court was £80 only, besides £170 for unexhausted manure. Eminent counsel were employed on both sides, and the case was argued in all its details. The Heath Farm, as its name implies, is not good land, and is described as a rather light limestone gravel which grows very little if not well manured. It is 136a. 1r. 2p. Irish plantation, which is the measure used in this trial, and is equal to 220a. 3r. 34p. English or statute measure, and you may bear in mind that one Irish acre is equal to 1a. 2r. 19p. English, or nearly 1½. In the year 1842, it was taken by the Duke into his own hands in a wretched condition, and is described by his Grace's steward, Mr. Alexander, a very intelligent witness, who says the highest offer he had for it was 8s. the Irish acre. Mr. Alexander managed it from 1842 to 1853 on the five course shift, green crops heavily manured with dung and Peruvian guano, barley with seeds, hay, pasture, and lea oats. He then went through two courses, leaving it clean and in good condition, having subsoiled the whole fifteen inches deep. In March, 1853, it was let on a twenty years' lease to Dodds, who, however, did not enter till summer, and I believe paid nothing for the tillage or crops growing or manure, which in this country we should consider an extravagant piece of generosity on the part of a landlord. The rent to be paid by Dodds was £136, being £1

the Irish acre or about 12s. the English. The buildings were good and the tenant was bound in the usual way to good farming, but was not prohibited from selling farmyard manure—a strange omission. It appears that when Dodds died his executor was allowed to sell the lease to one Cameron. This man says he lost money by it, and from the evidence he or Dodds certainly reduced the condition of the farm very much, and in 1867 Mr. Trye came and gave Dodds £300, the valuation of the crops, and became tenant, Cameron paying all rent due up to his leaving. Mr. Trye then held the farm from 1857 to 1873, and as he refused to take it again at what the Duke considered a fair increase of rent—namely, 30s. the Irish acre, he left it. You must remember that 1853 was just after the famine, and rents were very low, and the increase required by the Duke was considered to be the increased letting value of such land, and not from the improved condition of this farm owing to the farming of the tenant. I think both the chairman and the Chief Justice were right in concluding from all the evidence that the farm was in fair condition at the end, and much about the same as it was at the beginning of the lease. Passing over for the present the extraordinary claim of Mr. Trye, it was argued on his behalf that taking the farm field by field he was entitled to all the crop-producing power left in the land at the end of the lease over and above what it would have produced if reduced to a condition of sterility, this being apparently the literal interpretation of the words of the act "Manures and tillages, the benefit of which is unexhausted." This includes "tillages" as well as manures, and it was argued for Mr. Trye that the good state of the farm when he left it was owing to his tillage as well as manures, and so he puts in a claim for the cost of all his manures, including value of dung and all his hand labour and the value of all his horse labour during six years. The remarks of the Lord Chief Justice on this are very pertinent. He gives credit to Mr. Carton, Mr. Trye's counsel, for the skillful way in which he has mixed up "manures" with "tillages." He says, "tillages were not to be confined of necessity to preparing for sowing; during the last year of the tenancy he (Mr. Carton) argued means the value to the incoming tenant, and the condition into which the land has been brought by the treatment of the tenant. Now that argument is not unfair, but it involves the consideration of the question of how much better that farm is by that very treatment than it was by the treatment of Alexander?" I take this remark in the judgment in this case to be of very great importance, for we have many people here, as well as in Ireland, who appear to think that a landlord is to be always paying for every little benefit his land may receive, though in making it the tenant was well repaid; but when land is unfortunately run out and reduced in value the landlord must quietly submit to the loss. In closing his judgment the Lord Chief Justice says, "The application of these manures (super-phosphates) yield large crops. Who got the crops? They fatten sheep, who got the sheep? Who got the oxen? Not the Duke, and, therefore, I cannot alter the decree." The decree referred to is that of Mr. Lefroy, given on the 1st July, 1873. Mr. Trye made the following claims for unexhausted improvements:

Manual labour for six years.....	£1,900	0	0
Horse labour.....	1,200	0	0
Horse made manure.....	562	10	0
Artificial manure.....	447	0	0
Oilcake, &c., for feeding.....	455	0	0
	<hr/>		
	£4,564	10	0
Repairing buildings.....	£20		
Making a road.....	30		
Putting up iron gates given by the Duke... ..	10		
Filling gravel pits.....	25		
Repairing fences.....	3		
Unconsumed manure.....	200		
Ploughing in 1863.....	50	338	0
		£4,902	10
		0	0

but he quite omits to set off against this outlay for six years any of the receipts for crops and stock sold. The wonder is that he did not include the rent paid among the unexhausted improvements. Mr. Lefroy says truly, the first observation that occurs to any one is the startling fact that more than 36 years' purchase of the rent is claimed for six years' occupation. He of course disallows all the claim for labour of which the tenant enjoyed the fruit. The claim for repairing build-

ings was disallowed, the tenant being bound by his lease to keep them in repair. Of the £30 for making a good road where an imperfect one had been he allowed £20, because he thinks it calculated to add to the letting value, taking off £10 for the time the tenant had enjoyed the use of it. He allowed the £10 for putting up the gates, though the Duke had given them. The £25 for filling gravel pits was disallowed because there were none on the farm at the beginning of the lease, and the tenant having made them was bound to restore the land. The curious claim of £200 for farmyard manure on the premises was of course disallowed, because Mr. Trye had sold it off the farm for £56, though the Duke had offered him £79 for it; and bear in mind this was the manure made during two years, none of which was applied to the land, but all laid up for sale, while superphosphates were used for forcing crops, and not only the price at these was claimed, but of the oilcake consumed in making this manure. The £50 claimed for ploughing and cleaning a fallow in the last winter was allowed. There remained thus only the claim for manures and cakes, and the evidence given on the value of these likely to be left in the farm unexhausted is extremely interesting. In the end the chairman allows £170 for this, making £350 in all. One of the greatest witnesses for Mr. Trye was a Mr. Robertson, a Scotchman, who has kept his name so constantly before the Irish public for many years by writing and speaking, and his own confidence in himself that many people now think him an authority, and he is just the man who will be sought as an arbitrator by tenants. The chairman says of him that he took a view so extreme that he could not feel safe in acting on his testimony, and the learned counsel, Dr. Battersby calls him "a sort of prophet among the tenants." Mr. Robertson, without knowing anything of the farm a few years ago, says he judges the outgoing tenant's claim by the crops he sees on the ground; thus in one case where the tenant put £86 worth of superphosphates and no dung or other manure on a turnip crop of 28 acres, and after that took a barley crop leaving the land in grass, the unexhausted value of his manure and tillage was £9 an acre or £252. After such astounding evidence no wonder Mr. Robertson is a prophet among the farmers, but unfortunately for them his evidence will in future be likely to carry little weight. Mr. Templeton and Mr. McCulloch both gave good practical evidence, and they agree that after a green crop and a white crop little or nothing is left of the value of superphosphates, but bones they allow to extend over five years. On the hearing of the appeal Professor Cameron, of the Royal College of Surgeons, an eminent analytical chemist, gave valuable evidence, as did also Mr. John Bennett Lawes, whose name is too well known by you to require any commendation from me. Their evidence is extremely interesting, and was apparently relied on by the Chief Justice. Mr. Lawes says, "If you manured with bones in 1871, and had corn in 1872, a residue would be appreciable in 1873, about a third of the value, but after superphosphates nothing;" in fact, he says, "Selling the farmyard manure off the land is exhaustion;" and "the very stimulants to the land in 1872 would be more serviceable to the outgoing than to the incoming tenant." From a consideration of the evidence of all the witnesses and the conclusions drawn from it by eminent lawyers, I think certain rules will be arrived at for the guidance of future arbitrators in Ireland, and may be made very useful in this country. It would not be doing "justice to Ireland" were I to omit telling you that Mr. Trye, whose name will be remembered as the first great claimant under this Act, is not an Irishman but an educated Englishman, and, by all accounts, a very good and successful farmer. After having occupied so much time in describing and illustrating the Irish Act, it would be impossible to enumerate even a few of the Tenant-Right customs that exist in different parts of England, nor is such necessary, as these have from time to time been subjects of discussion at this club. You will see, however, that the decisions of the Irish courts are likely in future to agree pretty well with many of the usual allowances to outgoing tenants here; for instance, that superphosphates leave nothing after a green crop, and it also agrees with the custom in this country of allowing the outgoing tenant a corn crop after his lease is out and he ceases to pay rent on land which he manured for green crops in the last year. I am doubtful about the propriety of our custom of giving the outgoing tenant an away-going crop off lea land. I think it would be better to let the incoming tenant have a claim to plough a certain quantity of grass. In leases on some estates here, and by the custom in

some counties, hoes are allowed for, divided over several years. When the manure has to be left on the farm, it is fair to allow part of the cakes used in producing it, and this is done both in leases and by custom. In the same way lime is allowed for divided over several years. It would be interesting, and probably useful, to make a complete code of all the Tenant-Right customs in England, and, if any such scale of allowances as those customary in Lincolnshire could be made applicable to all counties, it might be useful to legalise such custom in the absence of written contracts. That this would satisfy Tenant-Right agitators I very much doubt; and, in changing the customs of a country, they should be careful not to ask Parliament to give them what belongs to others, and bear in mind that any return they can honestly ask for should be only what remains in the land in excess of what they found there, or in excess of what they contracted to do. For instance, if a farm, dirty, and in poor condition, is let on lease on the condition that it is to be left clean, and in good order, the landlord and tenant have both to take this into consideration in fixing the rent, and the tenant cannot honestly turn round at the end and ask Parliament to break his contract for him, and require the landlord to pay him over again. The Irish judge expresses this clearly when he says that "a covenant to deliver up in good condition is a covenant for valuable consideration," and the Irish Act excepts improvements made for a valuable consideration. If, for instance, an Act were passed enabling an outgoing tenant here to claim the value of his dung, on the principle laid down above, he would only be awarded by a court the excess in its value over what he got without paying for on his entry. In the same way with artificial manures and cakes. If it were not so, tenants would make capital out of the pockets either of former tenants or landlords, and any law enabling them to do so would be unjust. As permanent improvements are in this country nearly always made by landlords, there is not so much demand for security for tenants' capital on this score, but if a law should be passed giving tenants such security, no one farming on lease can fairly ask to be allowed to put up any buildings he likes, and then to be repaid for them. The tenant would build what he fancied would suit him at the time; the landlord considers what is likely to be permanently useful; and even then how often may he get wrong! There are instances in this county and district of large homesteads and stables, not half occupied, owing to the changes in the price of corn, stock, and labour. These having been built at the cost of wealthy landowners, do not attract much attention; but had there been a law enabling tenants to build them and charge for them, what a burden they would have been on each incoming tenant, who would have had to pay for them! I am also satisfied, though you may not agree with me, that many more crochets and fashions of the day in building would be adopted if the control of buildings were in the hands of tenants. In the same way with draining and such works, I think these are best done by the landlord. Although arbitration is generally preferable to litigation, I think constant arbitration is subject to many abuses. Professional arbitrators or valuers are apt to become like lawyers, extreme advocates on the side of their own clients. You must yourselves know some such men, and then it is a toss up for an umpire, and another toss up whether he will not just divide the difference? If landowners generally would acknowledge that land-agency is now a profession that requires a special training, and were to employ qualified agents to settle all matters with their tenants, instead of using as agents men who are simply their servants or clerks, neither arbitration nor legislation would be required; for the business of the land agent is to make such terms between the landlord and tenant as shall best promote good farming as a permanence, and in doing this he will secure the property of the landlord as well as the capital of the tenant. No doubt when he steadily keeps this object in view he is looked on with suspicion by some few landlords, and with dislike by the extreme tenants whose violence he opposes; and, in the nature of the case, he must sometimes appear to be one-sided, for when consulting with the landlord he must fairly lay before him the tenant's view, and when bargaining with the tenant he is bound to argue against crochets, erroneous opinions, selfish interests, and sometimes ignorance. I know many such men who honestly and impartially devote their lives to the good of the landed community, and, as I have brought the Duke of Leinster's case so prominently before you, I will instance his agent,

Charles William Hamilton, than whom there is, amongst partisans, no better abused man in Ireland just now, but to whom might safely be left the decision of questions which require arbitrators, valuers, lawyers, and judges. If my views should ever become general, associations of land agents would be much more likely to arrive at a code of general rules for tenants' compensation than will ever be done by violent disquisitions at chambers of agriculture. I am not without hope that, as in other trades certain rules of dealing are established, the time will come when the dealings of landlords and tenants will not be open to the outcry against them on account of a few cases of injustice and ignorance, and that this may and ought to be done without abolishing freedom of contract, which in any other trade would be denounced as "not to be endured." I am satisfied. I wish, however, to give you on this subject an opinion which the shining lights of this club will not agree with, but which the older members will receive with some respect as being in the words used at this club by their late founder and first president, John Grey: "A communication has been placed in my hands by Mr. Shaw, well known for his connection with the London Farmers' Club. The club has taken up the question of what is called Tenant-Right, and, it seems, wishes to learn the sentiments of provincial clubs thereupon. For my part I will say at once that I do not think it by any means a fair subject for legislation. A tenant's rights are just those which he can establish by law. If any man is so absurd as to take no security for the money, and skill, and labour which he lays out another man's land, he must suffer the penalty of his folly. He must see to it, therefore, before he expends his capital, that he has security for the adequate reward of his enterprise. He must look to himself—not to the Legislature. No legislation could embrace with sufficient nicety such a delicate subject. If the owner of the land has no objection to grant a lease for years, then the security must assume the form of compensation for unexhausted improvements; all this must be a matter of individual arrangement. Legislation could not interfere with advantage. It would lead to everlasting disputes and arbitrations—arbitrations that would often be decided on the most fanciful principles. No law could place the relations of landlord and tenant on an equal basis. Each must see to his own rights; and no landlord who knew his own interest—his interest in having a good tenantry—would scruple to grant them proper securities."

Mr. T. P. DODS did not know whether it was usual for any discussion to follow the reading of the paper, or simply to proceed with the remainder of the toasts, but as he was not present at the meetings of the Club when they discussed a kindred topic, he wished to say one or two words on this matter. He thought he might say, generally speaking, he agreed very much with what the chairman had expressed in his paper. He did not know whether Mr. Grey really approved of the Irish Land Act or not; he did not know that he had exactly said he did. He (Mr. Dods) certainly thought it was necessary; and assuming it was necessary, very few men, even with able assistance, could have drawn an Act more to the purpose than the Irish Land Act. He thought, however, that the circumstances of England and the circumstances of Ireland were widely different. The farmers of England and Scotland also, if not able, should be able to make their own bargains for themselves. He had had a good deal of correspondence with his friend Mr. Howard in reference to this matter. They had turned it over and over; all the corners of it had turned up, but he was sorry to say, he had not been able to persuade him, nor had Mr. Howard been able to persuade him, that his views on the question were wrong. Mr. Dods did not think that the Legislature should interfere and stop the freedom of contract in reference to land any more than they should interfere to stop freedom of contract in anything else. If this matter was legislated on at all it should be to this extent. If there was no written contract to the contrary, in the absence of a special bargain between landlord and tenant, and the tenant went on farming thoroughly well, putting in, besides the farmyard manure, large quantities of bought manure, and the manure from bought cake as well, he thought the Legislature should enable the tenant to claim that, and they should have a court to decide the amount to be paid to the tenant for it. As to the claims in the Irish case, referred to by the chairman, they were so perfectly absurd he did not know how any Irishman could have thought of making them, let alone

an Englishman. As to Tenant-Right, it was not a new thing in this country. Those who knew the terms on which farms were let in this county thirty years ago, and who knew the terms on which farms were let now, would see that Tenant-Right, that is, the just claim of a tenant for unexhausted improvements, for real improvements, had greatly increased. Thirty or forty years ago such a thing was not known; until it was introduced by the chairman's late father, there was not such a thing known in the North of England as a claim for unexhausted manures applied to land. Since the late Mr. Grey introduced it on the Greenwith Hospital estates, it had been introduced on many other estates in this country; indeed on many estates in the northern counties they were approaching to the system followed in Lincolnshire. People sometimes said that they should do exactly as they did in Lincolnshire, but the circumstances were not applicable. A Tenant-Right which was fair in Lincolnshire might be extravagance here. Why? Because they had no away-going crop in Lincolnshire. The tenant entered at March, and paid the outgoing tenant for his feed and labour. Here no incoming tenant paid for work done, and seed that had been sown. There the tenant went out at the term, and had no further claim to the crop in the land, while in this county they had an away-going crop. Therefore, to give an out-going tenant in this county the whole of his cake bill would be extravagance. That was not so in Lincolnshire; if a tenant there used a quantity of cake he did not get the benefit of the manure in any manner of way. As the Chairman had remarked, it would require a court of land agents, and he would put in a lot of tenants along with them, to draw up a code of rules that would be applicable to the county in which they resided. With regard to arbitration, although there were many points which could be best settled by arbitration, he had a great dislike to amateur law, which they very often got in cases of arbitration. In concluding, Mr. Dods said he very much objected to any compulsory clause in any Act of Parliament with reference to Tenant-Right.

Mr. M. STEPHENSON, jun., said he rose with great pleasure to propose the next toast, "The Chairman, and success to the Club." It was always difficult to praise a man in his presence, but without exceeding the rule he might fearlessly assert that the name of Grey had always been honourably connected with the agriculture of this district, and with the annals of this Club. During the time Mr. Grey had held the presidency of the Club he had gained the goodwill and esteem of every member of it. He had not only ably officiated as their president, but he had introduced some of the most important papers they had had discussed, and which were not only read in this district but all over England. He had given these papers with his accustomed ability and moderation—moderation he thought other men would do well to follow. He gave them success to the Club, and he congratulated his friend, Mr. Trotter, on the attendance there that day. He was sorry to hear that Mr. Grey had resigned his position as president, but he hoped the new president would follow in the footsteps of his predecessor. He asked them to give the toast with three times three.

The CHAIRMAN, in responding, said he felt extremely grateful for the kind welcome they had given to his name, which was associated with the toast. He felt and appreciated thoroughly the kindness he had always received from the members of the Club, particularly at the annual meetings, when there were large gatherings, as well as at the smaller meetings, when papers were discussed, during the year. He could not be blamed by them for retiring from the presidency; he had filled the office for several years, and it was only fair that other people should take their share of the responsibility, duties, and also the honour which they were pleased to award; these things should be divided and not be monopolised by himself. He was very glad that they had appointed such a worthy person to fill this office as Captain Nicholson, a gentleman who had taken a warm interest in all matters connected with the Club. In all scientific discussions that gentleman would be especially useful, being himself a gentleman of great scientific knowledge, whilst his ability to preside over meetings particularly qualified him for the office. As to the club itself, he heartily joined in wishing continued success to it. It has existed for a good many years, and in its time had done a great deal of good. At the present time literature was so much more extended, was so much cheaper, and went so much quicker into every one's house, and farmers were more inclined to read than when the Club was founded, so that many of the objects of the Club

has been superseded by farmers being able to obtain all the information upon the different subjects sitting at home. Many farmers, who in former times went to the meetings, if asked to attend now, replied, "I will see it all in the newspapers, and I will read it over my pipe at home." That was all very well, but it caused the intermediate meetings of the club to be very badly attended. He did not wish to cast any apple of discord into the meeting, and without saying anything unfair, he might say he had felt for some time that the farmers generally had abstained from attending the meetings. There were a few—very few, regular attenders at the meetings. These were men of extreme opinions, who did not represent the feelings of the Club, and who so entirely differed from his views on many subjects, that he had thought it consistent with his own feelings of honesty, and his own dignity, for he thought he held a position in the county, to retire from the presidency of the Club. He did not think it consistent on his part to act as chairman, and to be put forth as the mouthpiece, and have to endorse such extreme and improper views as had been entertained. He wished to say fairly to the general members of the Club that unless subjects were discussed in which farmers could take part without bringing mischief to the Club, without causing the Club to be looked upon by the landowners as a nest of agitators, the Club would cease to be useful as a farmers' club. It might exist and might be useful as an organization for agitating political questions, but that was not the objects for which it was first started. Some of the persons who attended their meetings said the farmers were afraid to attend them. The Secretary said they were afraid to come to the meetings, to sit there to be looked at by their agent. He must respectfully say that he did not believe that. He knew many farmers in the county, and he knew many of them would speak the truth before him, and he might say that many of them whom he had no control over refused to attend their meeting, and said the Club "was nothing but a nest of agitators; who was going to go near them?" He wished to say that he did not intend to retire from the Club; and he hoped to see it successful and useful. He trusted that next year the papers read would be more useful, the discussions more general, and the attendance greater; and in every respect that the Club would be more useful next year than it had ever been before.

Mr. DRYDEN proposed "The gentlemen who have introduced subjects during the past year," adding that the papers had been characterised by ability and terseness of expression. He begged to couple with the toast the name of Mr. John Hope, jun.

Mr. HOPE said that doubtless every gentleman who brought before them practical subjects elicited considerable difference

of opinion. He expected that in every discussion of practical and important subjects. Referring to his own paper, he said he had endeavoured to follow the rule laid down for every honest man—"to speak the truth, the whole truth, and nothing but the truth."

Mr. T. P. DODS gave "The committee and secretary." He believed the committee had done their part diligently by looking after the interests of the Club. The secretary had been very active both in getting parties to engage to read papers for discussion, in and beating up for fresh members.

Mr. WILLIAM TROTTER, the Vice-Chairman, Secretary, and Treasurer, responded. He thanked Mr. Dods for the kind expressions towards the committee and himself. He had listened to the chairman's remarks with respect to some farmers being afraid to attend the meetings of the Club and give expression to their views. Whatever he had told the chairman he believed it to be correct, and would stand by it. Certain members of the Club had shrunk from expressing their views, and he left the cause for them to conjure up in their own minds. Such was the fact, which had been told to himself. Whether the Club had been conducted by a clique or not it was not for him to say; but he was bound to say in his defence that he had been no party to any such clique, and every subject that had been discussed had first been submitted to the Committee, and had the Committee's approbation. With regard to political subjects the very gentleman who had denounced them had brought them before the Club, such as papers on Local Taxation. If Local Taxation was not mixed up with politics he did not know what was. The security of tenants' capital was surely a question for tenant-farmers to discuss. If they, as a farmers' club, could not discuss that question, he did not know what they could discuss. It was impossible for tenants to get that security without bringing public opinion to bear upon landlords, and landlords, being human beings, were amenable to public opinion. It was only becoming and right that gentlemen who came before them to express their views, without simply endeavouring to gain the smile of those above them or fearing the censure of their equals, should have a fair hearing. Shut the mouths of the people as they did in France, and what would be the consequence? Why, they would have a revolution every twenty-four or twenty-five years. As Englishmen, they claimed the right of free speech, and so long as he was Secretary, he would fearlessly express his views on all matters brought before the Club. With regard to his position of Secretary, if he thought he had not their confidence, he would most certainly not wish for a moment to continue his services. He must strongly object to have his name branded in a censorious manner with those of political agitators (loud applause).

BOROUGHBRIDGE AGRICULTURAL SOCIETY.

At the quarterly meeting, Mr. J. D. Dent, M.P., the president, read a paper upon "Tenant-Right as affected by Legislation."

Mr. DENT stated that he did not propose to deal with the political aspect of the question. He said some persons speak of Tenant-Right as being a wrong or disadvantage to the landlord, an encroachment or interference with his rights and privileges for the advantage of the tenant; but for my own part I cannot conceive that any right, whether given by custom, agreement, or by law, which will encourage good farming can be otherwise than good for all parties concerned in the cultivation of the soil. The landlord must gain if his farms are cultivated up to the highest point, especially when he has a farm to be let, because the difficulty in letting farms is experienced when a farm which is poor falls vacant, and the landlord has either to make a permanent sacrifice in reduction of rent, or a considerable temporary outlay to assist in replacing the condition which is wanting. The tenant must profit if he lays out the capital which is really requisite for good management, and thereby increases both his gross and net returns. The labourer must profit, because more cattle and sheep, more turnips and corn, require more hands to wait upon the stock, more force to cultivate the turnips, and to gather in and thrash the corn; and the public gain, because the greater our own production of meat and corn, the less we have to pay for foreign produce, and the farmer and labourer having more

money to spend, our own trade meets with more of its best customers in the home consumers. I do not think that I can put what I desire in more clear and forcible language than was used by my friend Mr. Holland, who is this year president of the Royal Agricultural Society of England, in addressing a meeting at Evesham in 1862. He then said: "We wished the tenant to be placed in such a position as to be encouraged to farm well up to the last moment of his leaving his holding, and that when he does leave it, he shall be compensated for what he has put into the ground without deriving any benefit from it, and that by so doing he shall be enabled to pass the land in a high state of cultivation to the incoming tenant, and that there may be no stoppage in the cultivation to the incoming tenant, no risk of land getting foul, and the whole system may be beneficial to all concerned." This is all that I myself understand by Tenant-Right, and this I desire to see legally carried out. I need not expatiate to you on the necessity of our agriculture being as productive as possible; you, as farmers, know that the more you can produce the better for yourselves, while the records of importations assure us that however home production may increase, we must still rely for a substantial portion of our food supplies upon foreign sources. What, then, are the requisites in order that we may produce with profit more food from our own soil? Two things—skill and capital. The latter may be lavishly poured into the land, but if skill be wanting, the capital is wasted, and the return for

expenditure is unremunerative, and, on the other hand, the most careful and skilful farmer of our days cannot succeed if he be cramped and hampered by a want of means. The best farming does not offer such tempting returns as to attract capital at all risks; the man who expends his money in the cultivation of the soil must be content with a moderate rate of interest, and therefore has a right to ask for a reasonable security. You all know that in agriculture the processes are slow, that almost all your operations in the whole course of husbandry are performed not merely for the immediate crop, but also for the future, and that a tenant who has to give up his holding for any cause at a six months' notice, may have to leave in his farm much of his capital, for the outlay of which he has not yet received any adequate return. The customs of Lincolnshire and of Nottinghamshire have attempted to remedy this evil, and the farming of both these counties is an example and proof of the security such custom affords. In Scotland, leases under which the tenant has a permanent occupation for a term of nineteen or twenty-one years, afford a similar security. The bill introduced by Mr. Howard and Mr. Read last session, and which they propose to bring forward again this year, is designed to enforce by law a system of compensation for capital expended by the tenant upon his holding, and for which, in the course of husbandry, he has not yet received a return. The Devon Commission, in 1845, recommended such a measure for Ireland, and probably, if such a measure had been passed, then we should not have had to pass, in 1870, a Land Bill for Ireland, legalising payment for disturbance, and the Ulster system of Tenant-Right or goodwill, which enables the outgoing tenant in some cases to obtain a sum of money for his goodwill not far short of what the proprietor can obtain for the fee-simple. By the bill tenants' improvements are divided into three classes, temporary, durable, and permanent. It appears to me that the principal difficulty of the measure arises in the satisfactory determination of the value of the first class of these, viz., the temporary improvements. These are defined to be "any outlay effectually and properly incurred by a tenant in the purchase and application of manure or fertilisers to other than corn crops, or in the purchase of cake, corn, and other feeding stuffs consumed by live stock upon the holding." It is proposed that the value of these temporary improvements shall be settled by arbitrators, who shall ascertain the amount of such outlay during the last four years of the tenancy, and who may award in respect of the unexhausted value of such outlay a sum which shall not exceed the average annual amount expended during the last four years, and from this shall be deducted the value of the manure, which would have been produced from any hay, straw, roots, or green crops sold off the farm during the last two years of the tenancy, besides which, as a protection to the landlord, the valuers shall make a further deduction of such sum as under all the circumstances of the case they may consider just, if in their judgment the holding of any part of it is in a foul or neglected condition, arising from default of the tenant. The great difficulty about the compensation in all these cases, whether given by custom, private agreement, or as is now proposed by law, is the getting a fair valuation of the unexhausted benefit which is left in land from the application of manures or the consumption of food. You can probably best arrive at the value of what has been done upon, and what is left in the holding by its condition. "Condition," says Mr. Lawes, "is a quality quite distinct from natural fertility of soil; it is mainly dependent upon the amount of capital expended by the tenant in the purchase of cattle-food or manure, and is, therefore, his property; it may be easily and rapidly reduced." My experience is that it takes much time and expenditure to bring land of ordinary quality into high condition, especially if it be in grass, and that a very short period of bad management will destroy this condition, and, therefore, I am for encouraging the tenants to maintain it. I wish, however, to avoid another evil, and that is, that an incoming tenant may have too great a burden put upon him, and that he may find himself saddled with heavy bills for cake and manure of whose composition he knows nothing; and in whose future effects he has very little confidence. Our friend and neighbour Mr. Thompson, whose illness is so serious a loss to the agricultural world, in one of his most able essays wrote—"The tendency of the present day is to make agreements extremely simple to allow an incoming tenant to be as little hampered as possible by the operations of his predecessor, but to devote the

capital, whose possession ought to be a *sum quæ non*, to a thorough stocking and manuring of his farm, instead of battling about tillages and half-tillages, and expending his capital in unexhausted improvements, the existence of which is in many cases highly problematical." I admit the force of this view of the case, and I am very willing to see the capital of the incoming tenant locked up, but I hope that with a proper system of valuation, and competent valuers, the evil may be avoided. As I read these clauses, the arbitrators are not bound to award a fixed proportion of the value on the manure bill, but after looking at the general condition of the farm, at the manure left in hand, at the straw produce, at the root-crops grown, they are to allow such a proportion, not exceeding one year's average expenditure, as may meet what they believe to be the justice of the case. I cannot but think that if you have able men, who know their business as valuers, that in this manner substantial justice may be done. I have known instances myself of cake and manure bills of large amounts being paid under private agreements, where the farm has been decidedly ill-cultivated, and the crops grown so poor as to throw great doubt on the genuineness of the bills, as well as of the food and manure said to have been consumed. In such a case, if I interpret their bill aright, the valuers would not be bound to award any part of the cake or manure bills as compensation, because they would find no unexhausted improvement; but on the highly-cultivated and well-managed farm they would have the power to award the average annual outlay upon manures applied to green crops or grass, and the cost of the food consumed by stock. They would have to look at all the circumstances of the case, and the condition of the farm, therefore, should be the first basis of valuation of unexhausted improvements, and the compensation must be limited by a certain amount of expenditure. There is the more necessity for recognising condition as the basis of valuation, because the bill, as drawn, does not provide any compensation for the consumption of corn the produce of the farm itself, and it would certainly appear that if compensation be made for purchased corn, an allowance should also be made for corn grown and consumed upon the farm. Mr. Lawes has suggested that the compensation to an outgoing tenant should not be based upon a fixed proportion of his purchased food bill, but rather upon the value of the manure constituents of the particular description of food actually employed. The second class of improvements mentioned in the bill are called durable, and for these the compensation may be made to run over ten years. And amongst the other restrictions is one of considerable importance, viz., that these improvements shall in the opinion of the arbitrators add to the letting of the holding. Durable improvements comprise "subsoiling, getting up, and removing stones, liming, chalking, marling, claying, boning with undissolved bones, laying down permanent pasture, or any other improvements which have a durable effect in amending the land deepening the soil. From my own experience I think that probably the period of ten years goes back too far for most of these improvements. I have tried liming, subsoiling, and to some small extent boning grass land with undissolved bones, and I confess that I think ten years appears too long a period for the compensation of any of these improvements to run. In laying down land also to permanent pasture the loss to the occupier is not so great during the first and second years, if the land be properly prepared and well manured, but rather during the four or five succeeding years, because at this time new grass generally requires most liberal and generous treatment in order to get a good skin upon it. And this cost would be partially dealt with by considering its condition in dealing with the first class of improvements. At the same time there is no doubt that where a tenant has laid down land to permanent pasture, and done it well on suitable land, the improvement should rank amongst those that are called durable. The third class of improvements which are called permanent, includes what are properly the duties of the owner of the soil. These are reclaiming, levelling, warping, planting, otherwise than ornamental, draining, making or otherwise improving watercourses, works of irrigation, ponds, wells, reservoirs, fences, roads, bridges, or the erection or enlargement of buildings on the holding, or any other improvements of a permanent nature. The compensation awarded for these is guarded by certain restrictions. The outlay must have been made within twenty years; it must, in the opinion of the arbitrators, add to the letting value of the holding, and must have been incurred with the written consent of the landlord or his agent, except

in the case of such improvements in draining, or making watercourses as in the opinion of the arbitrators were necessary for the profitable cultivation, and suitable to the holding, and which the landlord, after written application from the tenant, had refused or neglected within a reasonable time to carry out. I consider that all the works here specified are properly landlord's improvements, and are part of the necessary equipment of the farm before it is delivered over to a tenant. At the same time every one of us knows how much is wanting on even well-managed properties in all these items. The poverty, and not the will of landlords, compels them to abstain from many necessary works, and, doubtless there are tenants who would undertake to carry them out if they felt sure of receiving remuneration for their outlay. It is objected that a tenant may have expensive ideas, and may wish to saddle his holding with unnecessary and costly buildings, or extravagant drainage; but this appears to me, in the main, to be guarded against by the necessity of the landlord's consent, and the stipulation that the improvements shall add to the letting value of the land. I should like to say a few words about drainage, for, however well executed it may have been at first, there are numerous natural causes which will soon impair its utility. I do not allude to the necessity and advantage of deep cultivation in order to assist its operations, but those who have had to overlook a large system of drainage, know that they have to contend with many other difficulties. Outfalls give way or become choked up; in some places the roots of trees penetrate for yards and completely stop up even six-inch pipes; in other places you have ferruginous deposits; in others, especially after such a season as that of last winter, sand will be washed into and choke up large mains, and in some fields even roots of water weeds will do the same. I find it necessary to keep a staff of three or four men constantly at work repairing defects and removing such hindrances; and certainly no compensation should be paid for drainage, unless the drains be all laid down upon a map, in order that the arbitrators may be able practically to examine them, and to be assured that they are in good working order. With respect to the buildings necessary for the housing of stock, or of labour, I do not see much difficulty in coming to a valuation, supposing all to be kept in good and efficient repair. I have no doubt that the principles of this bill is right, but I admit there are difficulties in the working details. Should it become an Act of Parliament, its success or failure will depend upon the judgment and skill of the valuers who have to carry it out. I will not detain you on the remaining clauses of the bill, except to say that existing Tenant-Right customs, such as those which are in force in Lincolnshire, are maintained. This I regret, for some of them, as in Surrey, and in parts of the West Riding, which include tillages, half-tillages, and other acts of husbandry, are a heavy burden to the incoming tenant, and present no compensating advantage. I should prefer a simple and elastic rule of valuation as the basis of the measure, and an attempt should be made to assimilate the terms of Tenant-Right throughout England. The great bugbear in the bill is the 12th clause, which prohibits a tenant contracting himself out of the operation of the Act. Can the bill be so framed that no fair-minded landlord would refuse to put its clauses into his agreements? If so, why leave the careless and inert, the prejudiced and obstinate, to refuse compliance? If we do not pass some such measure as this now, in a few years we may have a cry for the Irish system of payment for disturbance, and be compelled to recognise in the Tenant a sort of quasi-ownership of the soil. There is no more gratifying fact for a landlord than the retention of good tenants upon his estate, nothing which should be more satisfactory to him than high cultivation and a prosperous agriculture. This can best be attained by keeping up unimpaired the condition of the land that quality which goes beyond natural fertility, and which you may see developed in even inferior soils by the judicious application of capital and skill. You will agree with me that there are many acres of land with which we are acquainted that are not yet farmed up to the mark. The best cultivated land of our neighbourhood does not present much scope for improvement, but a great number of farms in this locality might be made to produce better crops, and feed more stock. Security for capital is not all that is needed; skill, patience, and devotion to business are also requisites. No law can give these qualities to men, but law may give security; and if the law at present does not give that, we should welcome any honest attempts to amend the law, and should endeavour to bring our

practical knowledge to bear to make such amendment as fair to all parties, and as thoroughly efficacious as possible.

MR. JACOB SMITH said that he had read the bill over two or three times, and had noticed the difficulties in it to which Mr. Dent had alluded, there being too much left to the arbitrators. It appeared to him that it would be much better if some principle was defined upon which the tenant should be paid, some element introduced which was not in the bill. They need not discuss the necessity of Tenant-Right, for that was a point admitted on all hands. As so much more capital was now expended in the cultivation of the land, it was all the more necessary there should be adequate compensation and security. Why there should be objections to the bill on the part of landowners he could not understand, for the bill, as a whole, was as much in favour of the landlord as the tenant. The discussion of the bill had mainly turned on the 12th clause which, he thought, if left out would render the bill absolutely worthless. It was said the bill destroyed freedom of contract, but he did not see any special force in the objection.

MR. LOMAS said that he could fully endorse the remarks of Mr. Smith, believing that if the 12th clause were expunged the bill would be nothing more nor less than a dead letter. Unless the bill was made compulsory it would be worthless. In its present form it was a kind of permissive bill, and he objected to all permissive bills. He preferred a twelve months' to a six months' notice and strongly objected to the system of "farming to leave," as it was termed, which was caused by the lack of Tenant-Right.

MR. BENNETT concurred in the sentiments of Mr. Dent's paper, and said he was in favour of a large Tenant-Right, which would be an inducement to a farmer to keep his farm in a first-rate condition, though it might press them rather hard on an incoming tenant in the way of limiting his capital. He considered it most desirable to cultivate well by the tenant up to the time of his leaving a farm, when he was recompensed for unexhausted improvements by the in-coming tenant. When he left his farm in Lincolnshire on 190 acres of ploughing land he was allowed £1,670. Seven years were allowed for lime and bones. The farmyard manure and the manure of the last year's produce ought to belong to the outgoing tenant, and the in-coming tenant should pay the value of it. He had the advantage in that, for the manure would be ready to his hands to place on the land.

MR. CROW considered that Tenant-Right was necessary to keep up the cultivation of a farm, and he would take the average of the last four years. He agreed with Mr. Bennett as to manures.

MR. BROGDEN was in favour of Tenant-Right, and was afraid it could not be had except by compulsory legislation. He hoped that before long the bill to which so much reference had been made would become law.

MR. SCOTT considered the bill a fair and just one to both landlord and tenant. The only point for them as practical farmers to consider was the question of compensation, its extent and principle. He thought it better for the in-coming tenant to have to pay for the manure left on the farm and put it on the land himself, for then he derived a benefit. He was in favour of Tenant-Right for unexhausted manures and tillages, as in some districts, and then expressed the opinion that Yorkshire was far behind other parts of the country in this respect. Without a Tenant-Right there was a waste of farming for three or four years, which was a loss not only to landlord and tenant, but to the community at large. He objected to a twelve months' notice, which might occasion a tenant having two farms on his hands at one time. He condemned the practice of "farming the leave," as one of the worst curses to the country. The point was how to regulate the amount of compensation to the out-going tenant by the incoming tenant.

THE REV. C. H. SALE congratulated the chairman on his moderation.

MR. GAUNT condemned "farming to leave," as a tenant on quitting had been exhausting the soil for two or three years previously, and the incoming tenant was two or three years more in getting the land into condition again, a great loss being thereby sustained by the country. Under these circumstances the main point was how could matters be so arranged between landlord and tenant that farms might be well cultivated up to the last moment when they were left and came into other hands.

MR. CROW was of opinion that if a good Tenant-Right bill

were passed, the agricultural production of the county of York would be doubled.

The CHAIRMAN, in replying to the remarks on his paper, doubted the accuracy of the last remark. He did not think they could much increase the production in that neighbourhood or that of the wolds and parts of Lincolnshire: but there were many acres of small enclosures, badly-drained lands, and a great extent of hedgerows affording room for improvement. What was wanted was a greater expenditure of capital in these respects to put the land in a better condition. Many landlords either could not or would not carry out these important improvements, and if, by legislation, they could encourage the tenants to improve the cultivation and condition of their farms,

it would, as he had said, be a benefit to the whole community. Adverting to the Irish Land Bill, he said he voted for it because he thought the landlords of Ireland had not done their duty, but left the improvements to be made by the tenants, who had no security of their holdings. He did not, however, think that the English tenant wanted anything similar to the Irish Land Act. He was not alarmed at the bugbear of doing away with freedom of contract; though he confessed that the tendency of the present day was to over-much legislation. Tenant-Right was a question that was neither Whig, Radical, nor Conservative, for Sir John Pakington and other Conservative landowners held quite as strong an opinion on the subject as he did.

PRIZES FOR LABOURERS.

At a meeting of the committee of the Suffolk Agricultural Association held in Ipswich, Mr. J. A. Ransome, the president in the chair,

Mr. H. BIDDELL said, with respect to the proposition to discontinue the premiums to labourers, horse drivers, shepherds, and servants, the sub-committee did not intend to recommend that these premiums should be discontinued at once, but that the question should be discussed. They had not appropriated the money hitherto given in these premiums to any other purpose.

The PRESIDENT said before it could be determined to do away with this class of premiums altogether, notice must be given as for an alteration in the rules, for it would really involve an alteration in the constitution of the society, and must be determined upon by a general meeting.

Mr. BOND, the Secretary, read a letter from Lord Stradbroke, in which he said, "observe that our committee of the Agricultural Association, which is to meet on Tuesday, proposes to abandon the prizes to agricultural labourers. I am a great advocate for retaining them. The Society was established to encourage labourers and others to be faithful and attached servants, and I know that those who receive the rewards are proud of them. In these days, more than ever, we wish to cement friendship between master and man, and each ought to be dependent on the other."

Mr. W. LONG said he felt very strongly with the president that this was a question of entirely breaking up the constitution of the society. One of the rules distinctly required that if a motion of this kind was to be brought forward it should be at a general meeting of the members of the Association, and that due notice of the intention to bring it forward should be given. He had taken a warm interest in the Agricultural Association, and had attended the greater number of the meetings, and the matter now before them really was one of very great interest to him. He held in his hands the reports of the society for the years 1836 and 1872, and he wished to call their attention to certain points in those reports, but before doing so he would say that some were, perhaps, hardly aware of the extreme interest which the agricultural labourers took in the annual show of the society. In proof of this he mentioned that there had been three annual shows held at Hurts Hall, and it happened that the last was held in the midst of a political crisis when the aristocracy of the country were in London and none could attend the show, but it was a remarkable fact that in that agricultural district, the population of which was poor, the number of visitors to the show was within two of the number who attended at Ipswich the year before, some 8,000 entering the show, whilst ten years before the number of visitors was 1,200, and it was a matter of the greatest possible interest to see the peasantry surrounding the animals which were exhibited and the interest they took in them. He had taken out the numbers who competed for these long servitude and other similar premiums in 1836 and in 1872, and had found that in the former year the total amount given in those premiums was £87, and the number of prizes was 46. One would have expected that in 1872 there would have been many more prizes, but he found that they numbered 41, and the total amount was less than in 1836, being £71. This was a strong argument against withdrawing the premiums, for there was no doubt that many persons not only took great interest in the splendid animals exhibited at the shows, but regarded these prizes as a great

social benefit to the labourers. He entirely agreed with what Lord Stradbroke had written, and was sure it would be a most inexpedient policy to adopt at this moment, and one which they would hereafter lament, to withdraw the prizes. He admitted that there was a difference of opinion on the matter. Those who differed from that which he had expressed did so on the ground that the Agricultural Society was extending and that farmers' clubs had taken up the improvement of the labourer. So far as he was acquainted with farmers' clubs the only point which they took up in regard to the labourer was that they encouraged him in the improvement of his garden, but he did not find it general in such clubs to give prizes to good ploughmen, &c. He felt that it would be a great disappointment to many members if the proposition were carried, and it would be equally so to the labourers, for he knew the pride with which those who had gained prizes pointed to the certificates, and said "Here am I who have been for so many years on the same farm, and I don't wish to leave the land." He hoped the committee would see both the expediency and the desirability of withdrawing the proposition.

The PRESIDENT said as he understood the matter it came simply as a suggestion from the sub-committee, in order that it might at some subsequent time be discussed. It would have been competent for the sub-committee to have made alterations in the number and amount of the prizes if they had thought it desirable, and he was not sure that it was not desirable. For instance, he understood that it usually was the case that in the dairymaids' class there were not so many applications as there were prizes offered, and he did not see why the classes of horse drivers and agricultural labourers should not be amalgamated.

Mr. H. BIDDELL said something ought to be done. It was not right that prizes of £2 each should be given to 12 people for bringing up their families with the least amount of parochial relief and that only four of those twelve should not have been pauperised. Last year £24 was given in that class, and only four of the twelve recipients came before the committee as independent people having never had parish relief.

The PRESIDENT said he had attended the meetings at which these prizes were awarded for several years, and when the recipients had received relief it was to very small amounts and in case of sickness only.

Mr. BIDDELL: It is a fact that we did not get 12 applicants who had not been paupers.

The PRESIDENT asked whether, in the case of a man who had 12s. a week and brought up 12 or 14 children, an affliction of providence such as fever would not make it an essential matter for him to ask for a modicum of relief.

Mr. A. J. SMITH said the highest amount of relief received by any of the 12 was 18s. 6d., and it was only in sickness.

Mr. LONG said he did not mean to say there were not abuses of this as of every other philanthropic institution. He did not know whether the prizes to shoeing smiths, who were highly paid workmen, might not be discontinued.

Mr. BIDDELL: Those prizes are offered for our own sakes. We are owners of horses, and it is to our interest that their shoeing should be well done.

Mr. GARRETT said that remark would apply also to the prizes to labourers, but as an employer of labour he would say that he did not think if they doubled or trebled the amount of the premiums they would have one more agricultural

labourer in the county. It had now become a hard and fast question of supply and demand. The agricultural labourer was a totally different man to what he was ten years ago; he knew his value, and the farmers were bound to pay it in money.

Mr. HEMPSON: And there is no reason why we should not.

Mr. GARRETT: So I say, and I think the time is passed for these prizes. I don't think they do any good to the employers of labour, and the agricultural labourer is quite able to take care of himself. It must be allowed to be an employers' question. Is it an advantage to the employers of labour?

Mr. LONG: That is not my experience. It benefits the labourer.

Mr. GARRETT said the sub-committee in making this report were influenced in some degree by the fact that Mr. Bond had received letters to the effect that if this amount of money was to be given in the shape of rewards and premiums to labourers the writers would withdraw from the Association. The CHAIRMAN said there was one letter to that effect.

Mr. GARRETT said there was a strong feeling among the tenant-farmers that the funds of the Association should have been applied to so large an extent in this way.

Mr. HEMPSON said another light in which these prizes might be looked at was that it might be questionable whether they were appreciated now as when they were first instituted. It was a matter that required further consideration before they came to a decision, but it was a fair subject for discussion. It would hardly be worth while for the society to offer a long list of prizes if they were looked upon in some measure with contempt, for the labourers were at the present time being taught to look upon that kind of patronage with contempt. They had repeatedly heard such criticisms as this, "Oh, the Agricultural Society gives £10 to a fat pig, and £2 to the labourer who has served his master 40 years."

The President said he recollected as long as thirty years ago such remarks as that of which Mr. Hempson spoke had been made by the *Times* and other papers, but they had no effect in reducing the attention paid by these societies to the labourers, and he could bear strong testimony to the extent to which

these prizes were valued by the recipients. He repeated his suggestion that horse drivers might be classed with the labourers in competition for long servitude prizes.

Mr. LONG said there was one point which they must consider. The poor man now was surrounded with enemies. There were persons who were rendering his position full of difficulty. Just imagine these fellows going through the country holding meetings, and addressing the labourers, many of them without learning, and unable to combat the arguments of these men, which were all delusive, but they were under the influence of these persons, and could not but be pitied. Though it gave great inconvenience there was no doubt that the labourers were much under the influence of evil counsellors, which was greatly to be deplored, and anything that tended to a union between employer and employed was of great advantage to all.

It was resolved to discontinue the shoeing prizes, the arrangements for which are the cause of considerable expense without corresponding advantage. The premiums for long servitude, &c., it was resolved to leave unaltered, for the present year at all events.

SHOEING PRIZES.—Why Mr. Garrett, of all men, should have moved to strike out the paltry £6, that I had so much difficulty in extracting three years since for shoeing prizes, I am at a loss to conceive. They produced great emulation, and no one who witnessed the smiths giving up a day's work and a day's pleasure, and toiling under the broiling sun of Bury, the drenching rains of Beeches, and on the hot hill at Woodbridge, could say the money was not well spent, and well earned, and I can speak from daily experience of the good effects our village vulcan's have derived from Professor Varnell's instructions. I hope the Committee will replace them, and think twice before they do away with the other labourers' premiums. Surely a time of growing disaffection between master and man is the time of all others to reward and encourage those who still stand steadily by us. Amend rather than abolish—let any parish relief be a bore, but do not let those who have struggled on without it, suffer for those who have accepted it.—MAJOR F. BARLOW, in *Ipswich Journal*.

LOCAL CHAMBERS OF AGRICULTURE.

At the annual meeting of the Devonshire Chamber of Agriculture after the report had been read, Mr. WADE mentioned that some of the members of the Newton Chamber thought that there should be but one Association, and that their establishment should be an offshoot of this; probably something would be heard of this before long. The further discussion of the Rev. W. H. KARSLAKE's paper on Local Taxation was the next business on the agenda paper, but the CHAIRMAN suggested that it should be further adjourned until they knew something of the measure the Government intended to introduce.—Mr. HOLLEY, in supporting this suggestion, noticed that Mr. Karslake regarded the maintenance of highways and the poor rates as permanent charges on real property, and admitted them not only to be legal claims, but those which by equity and justice they ought to bear. Now he disagreed with the rev. gentleman on these points, for he contended that if it was fair to equalise the burden in one item it was fair to equalise the whole. And he did not think that they should ask simply for what some of them might think they would get, but they should ask for all. It seemed to him that if the cost of highways and the poor went on increasing much more they would eventually swallow up the whole of the real property of England. Mercantile and trading interests were extending, but there was no extension of acres. He did not see why a man with fifty thousand a year living in a furnished house in London should be exempt from such charges as these. The highways were of as much or more use to those living in the town as to the agriculturists, and therefore they should contribute to the cost.—Rev. W. H. KARSLAKE said they must take care not to again come under the lash of those who had twitted them before now for being very general in their discussions, and he thought the discussion on the subject of

this paper had better take place when they saw what the Government were prepared to do; then they could take the Ministerial measure as the text of their sermon. The adjournment of the discussion was then agreed to, and the meeting terminated.

At the general meeting of the Worcestershire Chamber of Agriculture Lord LITTELTON moved: "That in the opinion of this Chamber, the present system of imposing taxation for universal objects on real property alone is oppressive and unjust, and calls for speedy legislative reform." He said he did not altogether approve the plan of throwing the burden on the Consolidated Fund, and would like to see assistance given more in a local form. Mr. GILLINGHAM seconded the motion, which was unanimously passed. A resolution, expressing high approval of the efforts of Sir Massey Lopes, and the Local Taxation Committee of the Central Chamber to obtain a reform of the present system, was passed on the motion of Professor WILLIS BOND, seconded by the Rev. J. PEARSON. It was resolved that the Chamber should contribute £50 towards the Local Taxation Fund. The chairman, Mr. WHITTAKER, announced that he should also hand over £10 to the same fund.

At the annual meeting of the Staffordshire Chamber of Agriculture Mr. G. A. MAY moved: "That this Chamber unanimously approves of the principle of Messrs. Howard and Read's bill, viz., that legal security should be given equally to both landlord and tenant either for bad husbandry or compensation for unexhausted improvements, and believes it necessary for the future improvement of agriculture, and the amicable relations between landlord and tenant." The Rev. E. C. PERRY seconded the motion, which was carried unanimously.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

There has been no feature of importance in the cattle trade during the past month. The supplies of stock have been about the average and have included some well-conditioned stock. The receipts of beasts have been tolerably good. The Lincolnshire season has closed, and that of the western counties has opened under favourable auspices. The arrivals from Norfolk and Suffolk have been about the same as in the corresponding month last year; but those from Scotland, although by no means excessive, have been decidedly large. The foreign importations, as usual, have been restricted, being confined to receipts from Spain and Holland. The trade has at no time been brisk. Occasionally 6s. 4d. has been paid for the best Scots, but the price has been excessive, the general top quotation being 6s. 2d. per 8 lbs.

As regards sheep, the arrivals have been rather more liberal than usual; but, at the same time, the supply of English breeds has been by no means large. The receipts of foreign have been about the average. Prime small Downs have commanded attention, and have made 7s. per 8 lbs., but this quotation must not be taken as indicating the general top price, as it merely refers to the choicest small sheep. For prime heavy sheep 6s. 3d. per 8 lbs. has been accepted.

Prime small calves have been in request, and have commanded steady prices; otherwise the market has been quiet. Pigs have been dull and without feature.

The imports of foreign stock during the past month have been as follows:

	Head.
Beasts	2,606
Sheep	16,059
Calves	549
Pigs	1,299
Total	29,513
Corresponding period in 1873	19,889
" 1872	17,850
" 1871	10,298
" 1870	21,727
" 1869	12,214
" 1868	20,000
" 1867	24,084
" 1866	25,838
" 1865	16,952
" 1864	9,967
" 1863	11,893
" 1862	8,783
" 1861	2,708
" 1860	6,760
" 1859	9,264

The bullock arrivals from our own grazing districts, as well as from Scotland and Ireland, thus compare with the three previous years:

	Jan. 1871.	Jan. 1872.	Jan. 1873.	Jan. 1874.
Norfolk, Suffolk, Essex, and Cambridgeshire	7,650	6,350	4,000	5,100
From Lincolnshire, Leicestershire, and Northamptonshire	1,200	1,750	800	400
Other parts of England	850	2,950	2,020	3,000
Scotland	910	1,120	584	909
Ireland	301	1,730	1,855	1,000

The total supplies of stock exhibited and disposed of at the Metropolitan Cattle Market during the month have been as under:

Beasts	16,850
Sheep	82,260
Calves	1,435
Pigs	545

COMPARISON OF SUPPLIES.

Jan.	Beasts.	Sheep.	Calves.	Pigs.
1873	14,940	64,300	1,376	575
1872	18,141	78,120	848	438
1871	15,028	73,840	314	365
1870	19,251	91,760	1,127	965
1869	19,880	94,930	654	1,201
1868	17,620	86,220	520	1,610
1867	18,150	82,400	756	1,508
1866	24,620	89,390	1,754	2,225
1865	20,669	73,714	1,095	2,370
1864	19,442	80,330	1,019	2,567
1863	20,455	83,422	1,637	2,456
1862	20,680	82,160	833	2,850
1861	17,612	75,340	677	2,000
1860	20,500	92,426	1067	2,045
1859	19,805	90,520	921	2,400
1858	20,312	80,742	1,108	1,756

Beasts have sold at from 4s. 6d. to 6s. 4d.; sheep, 5s. to 7s.; calves, 5s. 6d. to 6s. 10d.; and pigs 3s. 8d. to 4s. 10d. per 8 lbs., to sink the offal.

COMPARISON OF PRICES.

	Jan., 1873.				Jan., 1872.			
	s.	d.	s.	d.	s.	d.	s.	d.
Beef from	4	4	6	2	3	6	5	10
Mutton	5	8	8	0	4	4	7	0
Veal	5	6	7	4	4	6	6	0
Pork	3	6	4	8	3	8	5	0

	Jan., 1871.				Jan., 1870.			
	s.	d.	s.	d.	s.	d.	s.	d.
Beef from	3	6	5	0	3	4	5	6
Mutton	4	4	6	2	3	4	5	10
Veal	3	8	6	4	3	6	5	6
Pork	3	8	5	6	3	10	6	0

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The month of January has been characterised by unusual mildness, there having been very few frosts, and those only at night. Some quantity of rain fell towards the close, though on the whole there has been very little interruption to labour in the fields. The young wheat generally looks well and forward, and all the vegetation has been prematurely excited by the high temperature, with a proportionate risk of danger, as it can hardly be expected to get soot free at so early a period. The same sort of weather has ruled over the continent of Europe, and those northern latitudes which are used to snow as a protection, and have had none, yet very much regret its absence, and fear the consequence. Continuous exports have, therefore, been practicable in many places which are

usually frost-bound, and Odessa has been sending on supplies, more especially to Marseilles, as they have arrived from the interior of Russia, and this has been against the upward tendency of prices with which the month commenced. Still as the last four months showed our receipts in wheat and flour to be 4,167,606 qrs., and as the estimated deficiency was about 13 millions qrs., we shall want monthly to the close of August, about 1,104,000 qrs. to fill the void, and should the mild weather cause an early break-up of the frost in America, we are more likely to obtain it than seemed probable a little while back. The issue of a tabulated statement of the crops by *The Mark Lane Express* confirms the first reports of a large deficiency, as out of 452 returns

344 are "nuder average," this being about three-fourths of the whole; but it must be remembered that our deficient crop of this year was sound, whereas that of 1872 was nearly all sprouted, the damage being fully 5s. per qr.; we must therefore this season gain in the amount of flour about one-twelfth, which may equal one million quarters. But should our imports seriously diminish in consequence of the rival claims of France, Italy, and other countries, we have now no low-priced grain to use as a substitute for the principal crop, for all cereals have advanced materially—say rye and maize fully 10s. per qr., and nothing would next avail but grinding barley, which has recently risen to 35s. per qr. A disaster this season would therefore be one of magnitude, especially as our Indian Empire is partially threatened heavily with famine. Prices, therefore, we think, must rule high, should the season be ever so favourable, but with further failure would become oppressive. The following rates were recently paid at the several places named: Californian white wheat at Paris 72s.; American red spring 65s. 6d.; Berdiauski at Marseilles 68s.; native white at Bordeaux 70s.; Chili at Antwerp 68s.; native at Courtrai 71s.; wheat at Maestricht 66s.; Ghirka wheat at Zurich 71s.; Bessarabian 73s.; Saale at Hambro' 68s.; wheat at Berlin 58s.; at Cologne 62s.; at Stettin 58s.; at Danzig fine high-mixed 70s. to 73s., cost, freight, and insurance; at Petersburg 55s. 6d.; soft at Odessa 53s. 3d.; Ghirka 49s. 9d.; white at Valladolid 46s. 6d.; heavy wheat at Pesh 66s.; soft at Algiers 64s., hard 56s. 6d.; white at San Francisco 67s., cost, freight, and insurance; red spring at New York 53s. 8d. per 480lbs.

The first Monday in Mark Lane commenced on a small quantity of home-grown wheat; but there was a good supply of foreign, principally from New York and Odessa. There was but a limited show of fresh samples on the Essex and Kentish stands, and the best dry lots obtained an advance of 1s. per qr., but not very readily. The foreign trade was also improved to the same extent, and for fine Australian rather more than this was occasionally paid. Cargoes off the coast found also a more ready sale, with the turn against buyers. The advance in London was generally answered in the country by an equal rise of 1s. per qr.; and though some places were only firm, or slightly in favour of sellers, a few were 1s. to 2s. per qr. dearer. Liverpool noted an improvement of 1d. per cental on Tuesday, and on Friday the market was brisk at previous rates. Edinburgh, Leith, and Glasgow all noted 1s. per qr. advance on wheat, both native and foreign. Irish wheat at Dublin was firm, and 6d. to 1s. per qr. dearer for foreign.

On the second Monday the home-grown supply was still limited, and the foreign about equal to the preceding week, the quantity from America reaching to one-half. There was again but a small exhibition of fresh samples from the near counties, and this, with the improvement in the country markets, emboldened factors to further ask 1s. per qr. on the previous rates. On the best lots this was eventually paid, but not very readily, and everything inferior was difficult to place. The foreign trade was also again 1s. per qr. dearer, but the increased rates had the effect of checking sales. Cargoes off the coast more readily obtained a like advance. At the quietest markets this week in the country the wheat trade was firm and against buyers; very many noted an improvement of 1s. per qr., as Birmingham, Hull, Leeds, Gainsborough, Newark, Melton Mowbray, Manchester, Market Rasen, &c.; while Brigg, Louth, Spilsby, Sheffield, and some other places were up 1s. to 2s. per qr. Liverpool, however, made no change through the week. Edinburgh was 1s. to 2s. dearer, and Glas-

gow 6d. to 1s. per qr. Dublin noted an improvement of 6d. per barrel on Irish wheat, and 1s. to 2s. on foreign.

On the third Monday the English supply was again limited, and the foreign fell off to one-half the previous quantity. The show of fresh samples from the near counties was small, and the weather having been damp through the week the condition generally was very inferior. This circumstance, after the late advance, was against any further improvement; indeed, the trade in the best samples was only slow, and low qualities were next to unsaleable. It was a foggy damp day, and against a large business in foreign, and the tendency of prices was rather downward for all sorts, except fine white Australian and Danzig qualities. Cargoes all at were held at unaltered rates. The country markets this week were for the most part dull, the weather being damp, but the rates of the previous week were generally maintained, Liverpool, however, noted a decline of 3d. per cental on Tuesday, and on Friday red wheat was farther down 1d., though white was more firm. At Edinburgh and Leith the value of native and foreign wheat was scarcely maintained, and at Glasgow there was a decline of 6d. to 1s. per qr. Dublin was 6d. dearer for Irish wheat, and firm for foreign, though on Friday prices were a shade easier.

On the fourth Monday the English supply was short, and the foreign much reduced. The show of fresh samples on the Essex and Kentish stands was limited, but in rather better condition; the few dry lots that could be selected were taken at about the previous rates, but inferior sorts were neglected. The foreign trade was limited in extent, and prices generally 1s. per qr. below the previous Monday's rates, and floating cargoes went off heavily.

The imports into London for the four weeks were 16,667 qrs. English, 71,338 qrs. foreign, against 15,760 qrs. English, 100,699 qrs. foreign last year. The imports into the kingdom for four weeks ending 17th Jan. were 3,508,119 cwt. wheat, 559,579 cwt. flour, against 3,276,935 cwt. wheat, 601,297 cwt. flour in 1873. The London exports were 3,511 qrs. wheat, 2,391 cwt. flour. The London averages commenced at 67s. 10d., and closed at 66s. 11d. The general averages began at 61s. 8d. and ended at 62s. 6d.

The flour trade all through the month has scarcely varied in its aspect, being more or less firm, as was the wheat trade. The top price has continued 57s., Norfolks at 44s., and country households 47s. The best barrels 32s. to 33s., and Australian sacks 53s., the latter having been much in demand. Extra States at New York 27s. 7d. per barrel. The imports in four weeks into London were 72,120 sacks English, 7,866 sacks 28,419 barrels foreign, against 88,392 sacks English, 19,923 sacks 30,049 barrels foreign for the same period in 1873.

Maize has risen considerably—say, 3s. 6d. per qr., but on the fourth Monday there was some reaction downwards on even a very small supply, to the extent of 1s. per qr.; but for the best-mixed American 42s. was still asked, and 47s. for the best white. It is evident that the great rise has checked the demand, as beans and peas have become relatively cheaper. The four weeks' imports were, however, small—say, 28,077 qrs., against 42,220 qrs. last year.

Barley has been rising in value almost every market-day; but was checked by the general dullness of the fourth Monday. Though prime lots of malting were still held at 56s., and ordinary grinding at 35s., we cannot help thinking these high rates unsafe, more especially for malting sorts; but grinding may be kept up till the new imports of spring come plentifully to hand. The imports into London for four weeks were 26,321 qrs.

British, 50,320 qrs. foreign, against 12,616 qrs. British, 67,844 qrs. foreign for the same time in 1873.

The malt trade, in consequence of the advance in barley, has been gradually hardening, and gained about 2s. in value during the month. The London exports have been 3,895 qrs.

The oat trade from the increased demand constantly made has also been rising, and gained about 1s. to 1s. 6d. for old on former rates. But the imports recently consisting mostly of new swedes and undried corn, such have rather gone back from the extreme price, and 38lbs. new, which were recently bringing 27s., have since been selling with less freedom at 25s. 6d., while old Russian sorts of the same weight are still worth 27s. 6d., and higher weights, say 40lbs., 29s. to 29s. 6d. The Baltic still being open we may have a check for present rates by large supplies, but there seems no prospect of a serious reduction with the large London and country demand. The imports into London for four weeks were 3,875 qrs. English, 2,345 qrs. Scotch, 100 qrs. Irish, 184,489 qrs. foreign, against 6,511 qrs. English, 153 qrs. Scotch, 76,311 qrs. foreign, for the same period in 1873. This shows a large increase of foreign, but it must be remembered that last year we had heavy stocks, and these are now reduced.

Old English beans and foreign have also improved in value fully 2s. per qr., and good hard new about 1s., the rise in maize having made this grain relatively cheaper, and brought on an increased demand. Italian are worth about 4s., and Egyptian 4s. Old English Harrows 46s., fine small 50s. to 52s. As imports from Egypt this season seem likely to fall short, prices will very probably continue firm. The London imports for four weeks were 3,574 qrs. English, 10,508 qrs. foreign, against 4,367 qrs. English, 8,787 qrs. foreign in 1873.

Boiling peas have not improved so much, from the unusual mildness of the weather, but their value has increased fully 1s., fine being worth fully 16s., Canadian 45s. Hog-feed have continued scarce and firm; duns 38s. to 40s., maples 46s. The imports into London for four weeks have been 2,485 qrs. English, 908 qrs. foreign, against 2,276 qrs. English, 3,596 qrs. foreign for the same period in 1873.

Linseed, with moderate supplies, has kept very firm, but has not been notably dearer. Cakes also have found a free sale at full prices. The London imports this month were 39,309 qrs., against 16,713 qrs. in 1873.

More business has been doing in fine English red cloverseed, on rather better terms, as not much of superior quality has appeared, but for medium and poor sorts there has been scarcely any demand, or for old foreign. Spring tares are beginning to be inquired for, and worth 38s. to 40s. per qr., but so many of the winter sorts remained unsold that they are not likely to be much dearer when the season regularly begins, especially as some prefer them, even in spring, to foreign.

IMPERIAL AVERAGES

For the week ended Jan. 17, 1874.

Wheat	55,52½	qrs.	62s.	6d.
Barley	70,106½	qrs.	46s.	2d.
Oats	5,141½	qrs.	27s.	2d.

COMPARATIVE AVERAGES.

Years.	WHEAT.		BARLEY.		OATS.	
	Qrs.	s. d.	Qrs.	s. d.	Qrs.	s. d.
1870	49,626½	44 1	56,350½	36 4	3,862½	21 4
1871	71,132	52 9	75,130½	35 9	6,255½	22 9
1872	56,892½	55 8	67,448	37 2	5,608½	22 6
1873	51,186½	55 9	57,836½	40 5	5,191½	22 8
1874	55,525½	62 6	70,406½	46 2	5,141½	27

AVERAGES

FOR THE SIX WEEKS ENDING	Wheat.		Barley.		Oats.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Dec. 13, 1873	61 11	45 0	26 3	26 3	26 3	26 3
Dec. 20, 1873	61 7	44 7	26 3	26 3	26 3	26 3
Dec. 27, 1873	61 8	44 6	26 0	26 0	26 0	26 0
Jan. 3, 1874	61 8	44 4	25 5	25 5	25 5	25 5
Jan. 10, 1874	62 1	43 11	26 1	26 1	26 1	26 1
Jan. 17, 1874	62 0	46 2	27 2	27 2	27 2	27 2
Aggregate of the above	61 11	44 9	26 2	26 2	26 2	26 2
The same period in 1873	56 1	40 8	22 6	22 6	22 6	22 6

LONDON AVERAGES.

Wheat	2,563 qrs.	66s. 11d.
Barley	2,597	42s. 9d.
Oats	—	—s. 0d.

CORN IMPORTED AND EXPORTED

FOR THE WEEK ENDING JAN. 17.

	Imported into			Exported.	
	Engl'd.	Scot't'd.	Ireland.	British.	Foreign
Wheat	Cwts. 441118	Cwts. 47857	Cwts. 315950	Cwts. 8074	Cwts. 2624
Barley	112935	7028	...	200	...
Oats	130604	2160	...	1723	117
Rye	...	...	...	...	108
Peas	...	5558	...	209	...
Beans	22231	1925	...	30	...
Indian Corn	53655	15281	122932	...	60
Buckwheat	160	...	...	...	...
Total	766703	83812	468882	10236	2909
Wheat Flour	101891	28096	...	510	1296
Oat Meal	...	...	...	185	...
Ind'n Corn Meal	10	...	...	...	...
Total	101931	28096	...	705	1296
Grand Total	871634	111908	468882	10911	4205
Malt	...	...	...	704	...

CURRENT PRICES OF BRITISH GRAIN AND FLOUR IN MARK LANE.

	Shillings per Quarter.	
WHEAT, Essex & Kent, white	new	51, fine 68
" " red	"	56, " 65
Norfolk, Lincolnsh., and Yorksh., red, new	...	55 62
BARLEY	38 to 42	Chevalier, new 46 56
Grinding	34 38	Distilling 40 47
MALT, pale, new	73 78	brown 54 59
RYE	...	42 44
OATS, English, feed 24 to 32	Potato	—
Scotch, feed	00 00	Potato
Irish, feed, white 23	29	Fine
Ditto, black	24 28	Potato
BEANS, Mazagan	30 43	Ticks
Harrow	42 48	Pigeon
PEAS, white, boilers	39 47	Maple 39 to 45 Grey, new 36 39
FLOUR, per sack of 280lbs., best town households	50 57	Best country households 45 47
Norfolk and Suffolk	...	39 44

FOREIGN GRAIN.

	Shillings per Quarter	
WHEAT, Dantzic, mixed	82 to 68	extra 70 to 73
Königsberg	62 67	extra 62 72
Rostock	63 70	old 67 72
Silesian, red	58 62	white 61 67
Pomera, Meckberg., and Uckermark	...	red 63 65
Ghirka	57 to 62	Russian, hard, 64 to 58 Saxon-ka 62 63
Danish and Holstein	red 63 65	American 60 63
Chilian, white 66	Californian 69	Australian 70 72
BARLEY, grinding 32 to 35	distilling	10 44
OATS, Dutch, brewing and Poland 27 to 32	feed 24 28	24 28
Danish and Swedish, feed 26 to 28	Stralsund	26 28
Canada 23 to 26, Riga 27, to 28, Arch. 27 to 28, P'sbg.	28 30	28 30
TARES, Spring, per qr.	small 38	large —
BEANS, Friesland and Holstein	...	41 45
Königsberg	41 to 45	Egyptian 42 43
PEAS, feeding and maple	33 42	fine boilers 40 44

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AND

AGRICULTURAL JOURNAL

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RESERVE FUND (paid up)...£598,440; INSTALMENTS UNPAID, £1,560 (£600,000).

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} Managers.

No. 4, Vol. XLV.]

APRIL, 1874.

[THIRD SERIES.

Per
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THE

FARMER'S MAGAZINE,

AND

MONTHLY JOURNAL

OF

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FARMERS OF THE UNITED KINGDOM.

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THE FARMER'S MAGAZINE.

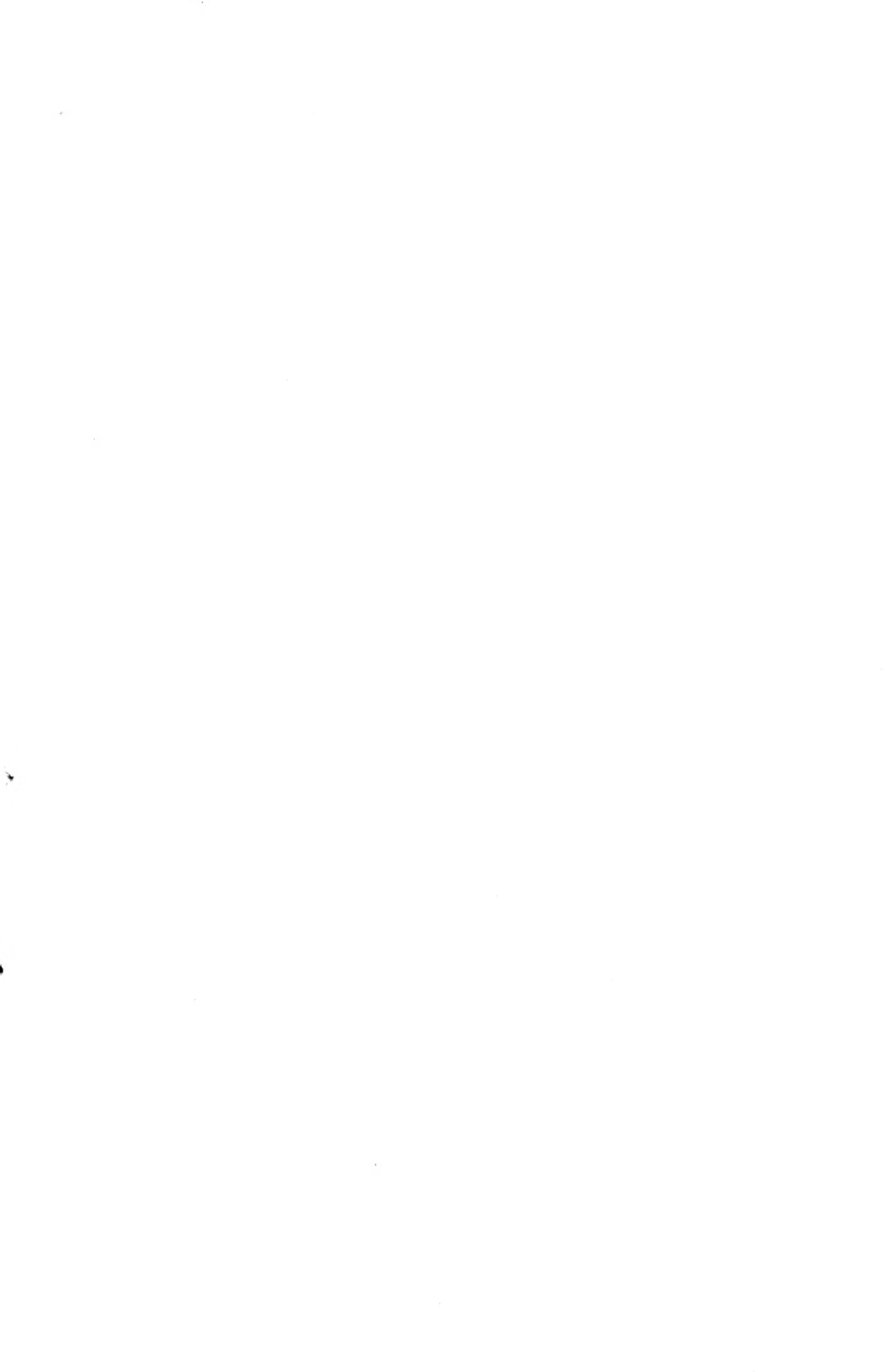
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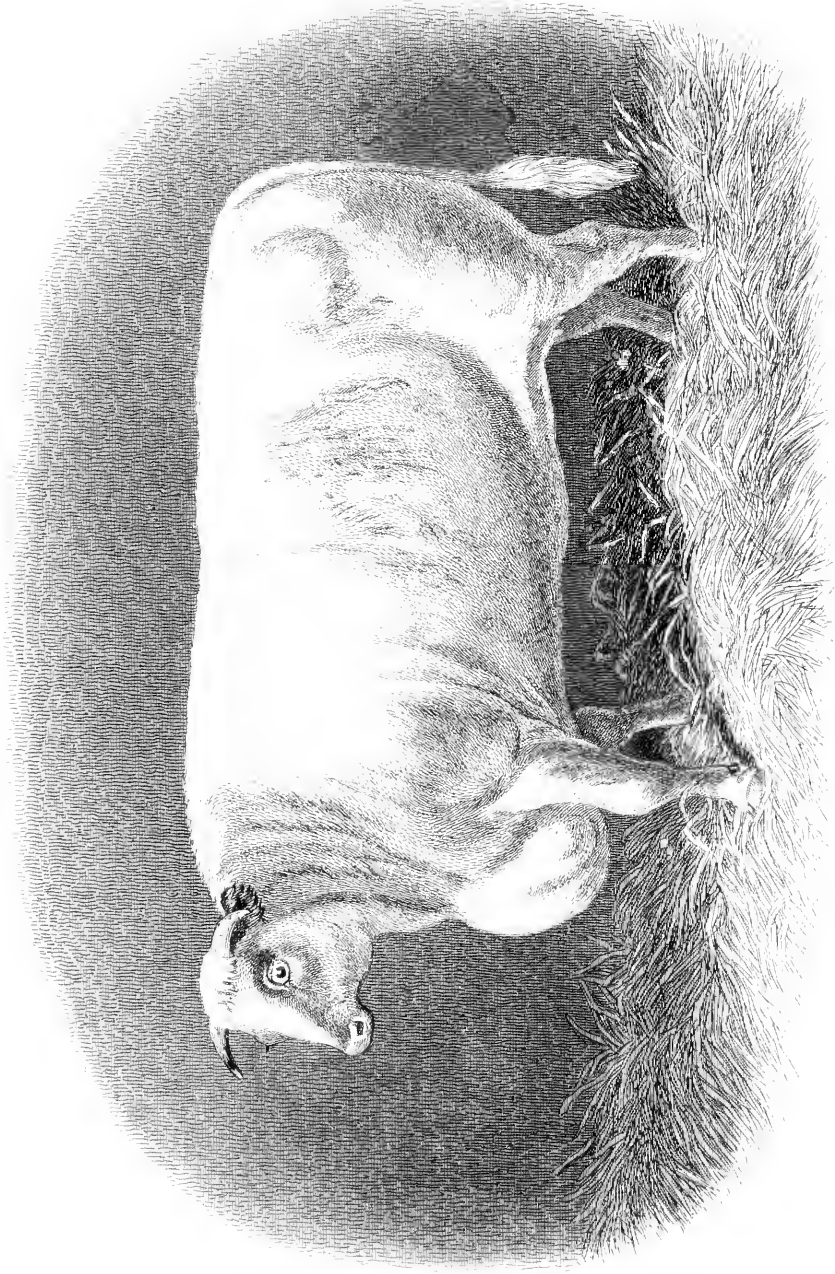
APRIL, 1874.

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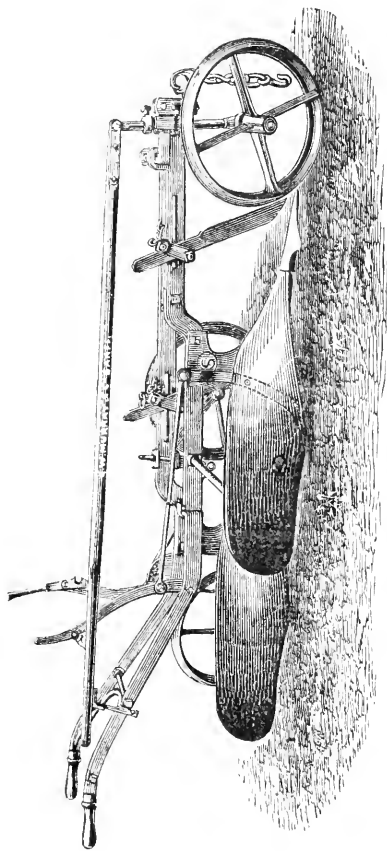
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Lady. Horia



MURRAY AND CO.'S DOUBLE-FURROW PLOUGH.

For which First Prize was awarded at the Hort Meeting of the Royal Horticultural Society, July, 1874.

THE FARMER'S MAGAZINE.

APRIL, 1874.

PLATE I.

THE CHAMPION HEIFER.

THE PROPERTY OF MR. JOHN WALTER, M.P., OF BEARWOOD, BERKS.

Lady Flora, bred by Mr. Henry Micklem, of Rosehill, Henley-on-Thames, was calved on October 1, 1870, and was by Baron Wetherby 11th (23388), out of Ringworm, by Fairleigh (19714)—Ringdove, by Wolfsband (15518), and so back to Comet. Baron Wetherby 11th, bred by Mr. E. Bowly, at Siddington, was a son of Duke of York 7th.

Lady Flora was 3 years 2 months and 2 weeks old when she was exhibited at the Smithfield Club Show in December last, where she took the first prize of £25 in the Shorthorn heifer class, the silver cup of £40 as the

best cow or heifer in any of the classes, and the champion plate of £100 as the best beast in the show. Her weight was 18 cwt., and she was fed on barley, pea and bean-meal, oil-cake, hay, roots, and Beach's food. On first seeing Lady Flora, we said, "but for her big knee and altogether gonty looks she would be quite a picture." An own brother to her, also purchased by Mr. Walter, was second in a steer class at Islington in 1872, and second at Birmingham in the ox class in 1873. At Islington, in December, Mr. Walter was also first in the Shorthorn cow class, with one of his own breeding.

PLATE II.

MURRAY'S ROYAL DOUBLE-FURROW PLOUGH.

FIRST AND FIRST AT HULL.

At the Royal Hull meeting, Messrs. Murray and Co., of Banff, took the first prizes for double-furrow ploughs in both classes, their entry in competition being distinguished by the team employed—a pair of powerful cross-bred polled oxen; and, as our report said at the

time, ploughman, plough, and oxen alike performed well. The judges' report in the Royal Agricultural Society's *Journal* further declares that "no other plough in the class appeared so strong, or capable of such good work."

THE FARMER'S CLUB.

MILK: ITS SUPPLY AND ADULTERATION.

The monthly meeting of the Club was held on Monday evening, March 2, in Salisbury-square, Mr. E. M. Major Lucas presiding. The subject fixed for discussion was "Milk, its Supply and Adulteration," the introducer being Dr. Voelcker, of Salisbury-square.

The CHAIRMAN said: Gentlemen, before I introduce the business of this evening, I wish to inform you that at a meeting of the Committee of this Club, held to-day, Mr. Trethewey proposed a resolution, congratulating our friend Mr. Clare Sewell Read on his appointment to an office in the present Government (cheers). That resolution was carried with acclamation, and I have no doubt it will be received with great pleasure by every member of this club (loud cheers). The subject for discussion this evening is, "Milk, its Supply and Adulteration." It is a subject of great importance, and when I mention that Dr. Voelcker is to introduce it, I am sure you will agree with me, that no man could handle it in a more able manner than our old friend the Professor (cheers). Before that terrible disease, the cattle plague visited our shores, the Metropolis was, I believe, supplied with milk, to a very large extent, by means of cows which were kept in and about London; but since that terrible visitation a much larger amount of milk has been obtained from the provinces. We all know very well that a regular supply of good milk is as essential to the community as a regular supply of good bread and good beer (Hear, hear). I recollect that in reading a paper on the adulteration of feeding stuffs and artificial manures, Professor Voelcker told us that a manufacturer of artificial manures once came to him and told him that, owing to the high price of nitrate of soda, he was obliged to put something into his manures—I believe it was a large amount of salt—or else the farmers would not buy them. That implied, of course, that there was adulteration; but in the case of milk, at all events, I would say that it is so essential to the community in a pure condition, that it should always be "*luc et præterea nihil*" (cheers and laughter). I could almost wish the Doctor would tell us of some mode by which, after milk has been cooled, we might add some chemical which would not be deleterious, and not affect the quality of milk, and would ensure its transit to London in a sound state during hot weather. I am, however, perhaps rather anticipating what our friend is about to say, and therefore, without any more prefatory remarks, will call upon him to introduce the subject (cheers).

Dr. VOELCKER said: Gentlemen, I do not wish to put myself at the outset in apparent opposition to the chairman, but I cannot help saying that the less chemistry has to do with milk the better (cheers). The Doctor then proceeded to read the following paper:

All men share alike the opinion that an article of food of such universal and large consumption as that of milk should be delivered to the consumer in a perfectly wholesome condition, and of as good a quality as it can be procured, either from the country or from town-fed cows. Milk may be regarded as a kind of model food. It supplies all the various elements of nutrition which are required to build up the bony frame and muscular tissue of the young, and, at the same time, supplies materials for the support of respiration and keeping

up the animal heat of the body. Undiluted with water, milk is both a readily digestible and valuable, if not indispensable, article of food for children. Breeders of high-priced Short-horns know full well how essential it is to the early development of a sound and strong frame, round which the flesh and fat may be afterwards deposited in symmetrical forms, not to stint the calf in milk; and hence breeders of pedigree stock not unfrequently keep cows as nurses, for the purpose of providing an extra quantity of milk for their calves. It is to be feared that the children of the artisan and the poor in towns and of the agricultural labourer in the country frequently are not nearly so well supplied with milk, both as regards quantity and quality, as the progeny of a well-cared for herd of Short-horns, or Ayrshire or Devon cows. Even the wealthier classes of a town population, not objecting to the payment of an additional 1d. or 2d. per pint, in the hope of being supplied with extra rich *nursery milk*, cannot always rely upon the unexceptionally good and rich quality of the milk which finds its way into the nursery. If it be remembered that the bodily health of the adult is affected in no small degree by the amount and quality of the food with which the infant from the time of its birth and throughout the period of childhood is fed, and also that much physical suffering might unquestionably be prevented if the children of the poor were not stinted in a milk diet, it is doubly desirable that the scanty allowance of milk in which the children of the poor are generally indulged should be unadulterated and of the best quality that can be procured. We hail, therefore, with pleasure the enforcement of the Food Adulteration Act, for there can be no question that before the Act came into practical operation the milk sold alike to rich and poor in London and other large towns was watered much more generally, and to a greater extent, than it is at present in places where public analysts keep a watch over the milkman. Every honest dealer in milk, if I am not mistaken, entertains the same feeling with regard to the intentions of this Act, and the measure of success with which it has been carried into practice; for it cannot be to the interest of the upright dealer to have to meet the competition of the unprincipled retailer who waters his milk in the barefaced manner so prevalent in London and other towns a few years ago. The honest dealer has nothing to fear from having the milk which he supplies examined; and a wholesome check upon milk adulteration is put by the infliction of a penalty imposed by the magistrates, still more by the publicity which is given to cases in which persons have been convicted of having sold adulterated milk. Nevertheless, the Food Adulteration Act, like some other Acts of Parliament which had to be amended before they could be carried out in practice to the manifest interest of the public at large, requires to be carefully scrutinised, and to be revised in not a few of its details, if it is not to defeat, in a great measure, the very object for which it was passed. In carrying out legislative measures of the nature of the Food Adulteration Act, you will agree with me that great care should be taken to make provisions which shall render it impossible to inflict undeserved injury upon the honest trader. Unfortunately purveyors of milk, in not a few instances, are placed at the mercy of men whose want of practical knowledge of the various circumstances which affect the quality of milk is well matched by their inexperience and want of skill in conducting chemical operations. Numerous recent trials afford convincing proofs of the fact that the presiding magistrate at times knows as little about milk as a new-born babe, and that the greater the ignorance of the analyst the more positive he is generally in making wanton statements. No wonder, then, that the honest dealer is alarmed by the reckless operations of medical inspectors and the reports of food analysts, in consequence of which occasionally the innocent has to share the fate of the guilty. To my mind it is somewhat surprising that nothing has been done as yet either by the dairy farmers in the country or by

the proprietors of town dairies, or by the milk trade generally, to expose the arbitrary decisions which have been given in milk prosecutions during the last twelve months on the strength of analytical reports, which bear internal evidence of gross ignorance of a practical acquaintance with milk and its chemical constitution. I can only explain this in a measure by assuming that the milk dealers who have been unjustly mulcted into penalties or sent to gaol probably are painfully conscious of their malpractices in former years, and that they now look upon the unjust punishment as a righteous retribution for past sins. In the course of the evening I shall have to enter more fully upon the subject of milk adulteration, and find opportunity to show that several of the assertions which have been made by milk analysts are based on gross ignorance, and that in the interest of the fair and upright dealers, no less than in the interest of the consumer, it is desirable at once to relieve analysts who display such a degree of practical unacquaintance from their functions of food analysts. Before entering upon this part of my subject, allow me to direct your attention to the supply of milk; for the subject on the card is not merely the adulteration of milk, but also the supply of milk. With regard to the supply of milk, we have to consider—1, the country supply; 2, the town produce; 3, the supply of preserved or condensed milk. The question frequently asked is, Should milk be supplied exclusively from the country, or may it not be supplied equally well from town-fed cows? Another question is, Is country milk better than town produce, or vice versa? And a third question frequently addressed to me is, What is the best food for milk cows? Let us examine briefly these questions:

1. COUNTRY MILK.—Cows kept on nutritious grass and hay, and abundantly and exclusively supplied therewith, as a rule produce richer milk and of a finer flavour than town-fed cows. An example of such extremely rich country milk was brought under my notice a good many years ago by Mr. Harrison, of Froecroter Court, Gloucestershire. This milk, produced from cows kept on very good pasture land, contained in 100 parts:

Water	83.90
Fatty matters (pure butter)	7.62
Caseine (curd)	3.31
Milk-sugar	4.46
Mineral matter (ash) .....	.71
	100.00

Per-centage of solid matters 16.10

Such rich country milk, however, seldom finds its way into the hands of milk dealers, nor does milk from cows fed exclusively upon grass often contain as much as 7½ per cent. of pure butter. On the contrary, if pastures are overstocked, and the herbage is naturally poor, and the food supply in consequence is insufficient to keep cows in a thriving condition, the deficiency of food tells immediately both upon the quantity and the quality of the milk. A striking instance in point came under my notice when I resided at the Royal Agricultural College, Cirencester. The cows (16 or 18) were out in September on grass, but the pasture was poor and overstocked, and hardly enough grass was grown to meet the demand for restoring the daily waste to which the animal body is subject, and the supply of food consequently was ill adapted to meet an extra demand of materials for the formation of milk. Under these circumstances I found both the morning and evening's milk very poor, as the following analyses made with average samples from the milk of all the cows will show:

	Morning.	Evening.
Water	89.95	90.70
Fat (pure butter).....	1.99	1.79
Caseine (curd).....	2.94	2.81
Milk-sugar	4.48	4.04
Mineral matter (ash) ...	.64	.66
	100.00	100.00

Solid constituents 10.05 ... 9.30

Here we have two practical illustrations showing how largely the quality of the milk is affected by the amount and richness of the natural pasture upon which the cows are kept. In the case of the cows kept in the rich pastures of Froecroter Court the milk contained, in round numbers, 7½ per cent. of butter; whilst the badly-fed cows, also out on grass, gave milk so poor as to yield in one instance barely 2 per cent., and in the other about 1½ per cent. of butter. For reasons which will appear

in the sequel, I mention specially that my analyses were not made with the milk-produce from a single cow, but with a fair average sample of the whole produce from some 16 or 18 cows which were milked in my presence. It thus appears that country milk may be either very rich or be very poor. All depends upon the number of grazing cows which are kept on a given space and the nature of the herbage. Speaking generally, country milk from cows out on rather poor and overstocked pastures, I believe, is poor, and compares very unfavourably with the milk from town-fed cows. Mr. J. C. Morton informs us, according to Mr. Harrison's careful records, 245,458 gallons of milk were produced in seven years by a herd, averaging 65 cows (Shorthorns), or 535 gallons were produced by each cow per annum, the food being grass and hay, with roots and straw in winter. Taking the Gloucestershire experience as our guide, for every 100 acres (22 being arable, as ascertained by Mr. Harrison in the case of 23 farms) in a district where the average crop of meadow hay is probably 28 cwt. per acre, the stock kept is about 20 cows, four two-year-olds, four yearlings, four calves, 20 sheep, and three horses, equal in consuming power to about 32 cows. The hay crop represents perhaps rather less than 7 tons of grass, and the aftermath (at ⅓ the first cut) is probably less than 3 tons per acre. The whole cattle-food of the 100 acres, half the arable land being taken as in turnips and clover, may thus be put at 900 tons of grass, or 23 tons of green food per cow per annum, equal to 170lbs. of grass a-day to each. This, however, is where the grass is depastured—that is, fed in the most wasteful way; and it is probable that if the calculation had had to deal with the case of house-fed cows, it would appear that 150lbs. of green food daily, of the quality of ordinary meadow-grass, or its equivalent, would suffice for ordinary Gloucestershire dairy cows. Putting, however, 530 gallons of milk against 23 tons of this green food we have 1lb. of milk to every 11 or 12lbs. of grass, or as nearly as possible 100 gallons of milk to every ton of hay. If the object of the dairy farmer is to produce milk for the town, it will not pay him to keep grazing dairy-stock on growing grass, and he will find it to his advantage to feed the cows in houses upon cut grass, supplemented by oilcake meal, brewers' grains, and similar purchased food. As a matter of economy milk can be produced as economically in or close to large towns as in the country, for any extra expense to which a town dairy-farmer may be put is made good by the expense of carriage to the nearest railway station, and the railway charges. The advocates for the town produce of milk maintain that in warm weather a good deal of milk is spoiled during its transmission by railway. However, by observing the following simple rules, country milk may be sent by rail on long journeys without spoiling even in very hot weather. 1. The milk should be drawn from the cow in the most cleanly manner, and strained through wire-cloth strainers. 2. The milk should be thoroughly cooled immediately after it is drawn from the cow. This may be done by a milk-cooling apparatus, specially constructed for rapidly cooling milk, or simply by placing the can in which it is contained in a vat of cold water, deep enough to come up to the height of the milk in the can containing it, and by using at least three times as much cold water as the milk to be cooled; the milk should be occasionally stirred until the animal heat is expelled. The milk should be cooled down as rapidly as possible to a temperature of about 55 degrees. 3. The evening's and morning's milk should be cooled down separately, and be sent in separate cans, and not mixed together if it can be avoided. 4. No milk should be kept over to deliver at a subsequent time. 5. The pails and strainers employed on the farm should be thoroughly cleaned, scalded in boiling water, and dried morning and night. 6. Immediately before the milk is placed in the cans they should be thoroughly rinsed with clean cold water, and great care be taken to keep the cans and milk free from dirt or impurities of any kind. When the cans are not in use they should be turned down on a rack with the tops off. 7. Before the cans are returned to the country they should be thoroughly rinsed out with clean water and scalded with boiling water. 8. In very warm weather it is well to put the milk cooled in cans covered over with a coarse flannel casing, which may be kept wet for a considerable time.

2. TOWN PRODUCE.—Many persons naturally enough are prejudiced in favour of country milk; they believe that cows are healthier and better, and yield a more wholesome and richer milk in the open field than cows kept in towns, and they

maintain that town-dairies are a nuisance which ought to be abated, and be all removed outside. However, town dairies need not necessarily be a nuisance, and as a matter of fact many are kept scrupulously clean, and are as well managed as the best dairies in the country. As regards the quality of milk from town-fed cows I, would observe that I have had a very large experience in the examination, both of country and town-milk, and am bound to say that, as a rule, London milk, when undiluted, is considerably richer in cream than country milk. I ascribe this to the fact that cow-keepers in large towns mostly are men of business, who find it profitable not to stint their cows in food, and to supply them with a better and richer description of food than that which the ordinary run of dairy farmers provide for theirs. In this respect I cordially endorse the remarks which Mr. J. C. Morton made in his lecture on London Milk, delivered in 1865, before the Society of Arts. Mr. Mortons says "Even in the midst of green fields the cow-keeper finds it the best policy for the production of good, abundant, and wholesome milk, to keep the cows in houses; and in London, where the supply of brewers' grains is so abundant, it being the constant food all the year round wherever milk is produced for direct consumption, wherelarge markets for mangolds and for hay exist, and where grass can be supplied in abundance during summer at the cow-house for 20s. to 25s. a ton, the means of keeping cows are especially good. Here, too, we have the guarantee of the quality of milk which is afforded by a high premium in keeping cows in good condition; there is here the best market in the world for cattle of all kinds, if they are fit for the butcher, and probably as poor a market as there is anywhere for poor dry cows; moreover, the risk of infectious disorders—necessarily greatest in the crowded cow-house—makes it especially necessary for the town cow-keeper to keep his stock in fattening condition, that they may be disposable at a moment's notice. And all these circumstances secure the best feeding being adopted here—much better feeding than satisfies the ordinary country dairyman. I have no doubt, therefore, that the milk yielded by a London cow is better than that which the same cow would produce under ordinary Gloucestershire or Cheshire management."

3. PRESERVED AND DESICCATED MILK.—When milk is evaporated at a low temperature, and a little sugar is added when the process of evaporation is nearly completed, the residue which is left on final evaporation on being reduced to powder constitutes a white powder with a yellow tinge, which dissolves for the greater part in boiling water. The solution resembles in appearance and taste milk, and answers pretty well as a substitute for milk for ship's use, or when fresh milk cannot be obtained. Desiccated milk, if well prepared and perfectly dried, may be kept in closed bottles for many months without undergoing any change, but it does not dissolve perfectly in water, and is deficient in the agreeable taste which characterizes good fresh milk. Usually a portion of the cream is removed before the evaporation of the milk, for if the whole milk is condensed by slow evaporation, the desiccated milk is very apt to assume after a short time a bad taste resembling rancid butter. The following are analyses which I made some time ago of two samples of desiccated milk:

	No. 1.	No. 2.
Moisture	4.06 ...	1.78
Fat (pure butter)	8.73 ...	16.32
Caseine	20.25 ...	20.37
(containing nitrogen)	(3.24) ...	(3.26)
Phosphate of lime and magnesia ...	2.34 ...	2.33
Alkaline salts	2.48 ...	2.91
(containing phosphoric acid) ...	(0.26) ...	(0.31)
Sugar	62.14 ...	56.29
	100.00	100.00

The second sample, it will be seen, contains nearly twice as much fat (pure butter) as the first, which was evidently produced from skim-milk. The sample No. 1 had a nice taste, and, notwithstanding the deficiency of butter, was a superior preparation in comparison with the second sample, which had a disagreeable taste of rancid butter. A much better description of concentrated milk has been prepared for a good many years past in America under Borden's patent, and a few years since an American Company—the Anglo-Swiss Condensed Milk Company—has established a factory at Cham, near Zug, in Switzerland, for the production of pure Swiss preserved milk. This company, with a capital of £12,000, employs about 60 operatives in their factory.

The number of cows hired for the year is 1,440, and the average amount of condensed milk prepared daily during each of the 365 days of the year is 110 cases, of four dozen each of 1lb. cans; these equal 1,927,200 cans as the product of the year. The price of the crude milk is about 2d. per quart; and the daily cost of the tins or cans made at this establishment amounts to £16 10s. About one-half of the product is sent direct to London, where one-half is consumed, while the remainder goes for ships' stores, is exported to the colonies, and sent to the provincial towns of England. One half of the produce not sent to London is distributed over Germany, and there is some demand from France and Russia. The success of the condensing factory depends entirely upon the ability to put a fine flavoured perfect article into the market. The milk must be uniformly good, and a fastidious neatness and cleanliness must be observed in the establishment. The milk is evaporated down in vacuo at a uniform temperature of 160 deg. Fahr., with the addition of the best refined white sugar, until it reaches the consistency of thick syrup or honey. It takes about seven hours to condense the milk, 75 per cent. of its original bulk in water being driven off. The condensed milk thus prepared has been preserved in good condition for years. Mixed with three to four pints of water it readily dissolves yielding a somewhat sweet but agreeably tasting fluid having a flavour of boiled milk. It consists of nothing but cows' milk and the best white sugar and is well adapted for use during long voyages and in all other situations where good cows milk is not readily procurable. A sample of preserved milk prepared by the Anglo-Swiss Company on analysis yielded the following results in my laboratory:

Water	24.89
Fat (pure butter)	8.36
Caseine (curd)	10.15
(containing nitrogen)	(1.624)
Milk and cane-sugar	54.18
Mineral matter (ash)	2.42
	100.00

About one-half of the solid substances of the condensed milk consists of sugar added in the process of condensation. The remainder consists of butter, caseine, milk sugar and ash constituents. It is but right to state that the analyses of other samples of preserved milk prepared by the Anglo-Swiss Company show about ten per cent. of butter and somewhat less water than I found in the sample analysed by me. Those who take a special interest in the manufacture of condensed milk will find a full account in a highly interesting paper, illustrated by many woodcuts giving a full description of the necessary apparatus and the processes of manipulation, by Mr. X. A. Willard, of Kerkimer, New York, published in vol. xv., new series, part 1, 1873, of the Journal of the Royal Agricultural Society of England. The success of the Anglo-Swiss Company naturally created competition. Condensed milk factories were established at Gruyères and half-a-dozen other places in Switzerland, in Bavaria, in Holstein, in Ireland, and in England; but failing to produce first quality preserved milk, and waiving in prestige and other causes they have ceased to manufacture, with the exception of Mr. Newman's Irish Condensed Milk factory at Mallow, near Cork, and the English Condensed Milk Company, whose works are at Aylesbury, Buckinghamshire. The two last put their milk into the market in 1870, and it is stated upon good authority that neither the Swiss nor the English Company has lately been able to supply the demand for their products.

REMARKS ON FOOD APPROPRIATE FOR PRODUCING MUCH AND GOOD MILK.—The time at my disposal will not allow me to enter fully into this part of the subject, bearing upon milk supply. The influence of food on the quality of milk is very striking. A half-starved cow yields but little milk and poor milk. On the other hand, the liberal supply of peas or bean-meal, or oil-cake, and other food rich in nitrogenous and phosphatic elements of nutrition, tells directly, both on the quality and quantity of the milk. Nothing, therefore, can be more injudicious, because unprofitable, than to stint milch cows in food. The finest flavoured milk and butter, I need hardly remark, are produced by cows fed in summer entirely on grass and rich permanent pastures, and in winter on nothing else but hay, made of fine sweet grass. Few persons, however, have either the opportunity or can afford the luxury of keeping cows all the year round on grass or hay, and dairy farmers, either in towns or in the country, in order to carry on a profitable trade, find it

necessary to make use of turnips, mangolds, meal, brewers' grains, bran, rape, linseed, and cotton-cake, palm-nut meal, and other auxiliary kinds of food. Turnips yield a watery milk, and are objectionable, on account of the turnip flavour which they give to the milk. Mangolds are less objectionable, but should not be given to milk-cows without an allowance of 3 to 4 lbs. of meal per head. Of all kinds of meal, none is equal in milk-producing properties to bean or pea-meal—a fact which finds a ready explanation in the circumstance that bean or pea-meal contains on an average from 25 to 28 per cent. of nitrogenous constituents, or the same class of compounds to which the curd of milk belongs, and that it is likewise rich in phosphates, or bone-earths in which milk abounds. Egyptian lentils, when they can be procured, answer equally well with bean-meal, for they resemble intimately in composition beans or peas. Linseed-cake produces much and rich milk, but unless it is pure and fresh cake of the finest description, it seriously injures the quality of the milk, and I would warn especially against the use of inferior, rixed, or adulterated cheap linseed-cakes, which are so frequently sold as genuine linseed-cakes, for such cakes give a bad flavour to milk, and often injure the health of the cows. One of the best and most economical kinds of cake for milk-cows is decorticated cotton-cake. Fine decorticated cotton-cake is both rich in fat and in nitrogenous constituents, and like all food rich in nitrogen it also contains a large proportion of phosphates, and is thus admirably well adapted for milk-cows. In order to make the best use of decorticated cotton-cake, it is desirable to reduce it to a coarse powder, and to mix the powdered cake with Indian corn or barley-meal in about equal parts. If the cake cannot be conveniently reduced to powder I would suggest its being soaked in water after having been passed through a cake-breaker. By this means the cake becomes softened and is rendered more digestible than it is when it is given to cows in hard, dry, rough pieces. Rape-cake is likewise an excellent food for milk-cows, provided it is free from an undue admixture of wild-mustard seed, which frequently occurs in rape-cake made from Indian seed to an extent which renders it perilous to stock. The best rape-cake is green German rape or Rubsen cake, one of the cheapest and best concentrated kind of food that can be given to milk-cows. Bran or pollard, as is well known, produce good and rich milk. Nothing can be better as an auxiliary winter food for milk-cows than 4 lbs. of bran made into a thin mash, to which about 3 to 4 lb. of bean-meal is added. Along with this about 25 lbs. of mangolds, and a due proportion of hay or straw and straw chaff will supply a food-mixture which produces much and first-quality milk. Brewers' grains are the staple food to town-dairies, for at the price at which grains can be bought in large towns, there is no food which equals brewers' grains for producing good milk in the most economical manner. Brewers' grains, I find, are much more nutritious than their appearance seems to warrant. Even in the wet condition in which they are obtained from the breweries, and holding from 75 to 77 per cent. of water, they contain a fair proportion of ready-made fat and flesh-forming matters. Desiccated grains contain from 7 to 8 per cent. of oil, and about 18 per cent. of nitrogenous compounds. Dried brewers'-grains make good milk, and, in my judgment, are fully as valuable as a food for milk-cows as barley-meal. Another useful and, comparatively speaking, cheap food for milk-cows is palm-nut meal. The quality and value of different samples of palm-nut meal differ greatly. Some contain a large proportion of oil and fatty matter; others, like all the samples which come from abroad, contain seldom more than 12 per cent., and occasionally as little as 2 or 3 per cent. of oil and fatty matter. The best palm-nut meal is made in England by Messrs. Alexander Smith and Co., Kent-street Oil-Mills, Liverpool, who guarantee 19 to 20 per cent. of oil and fat in the meal they sell. This meal is made from the partially-expressed kernels of the palm-nut, and its value as a food for fattening stock or for milk-cows depends principally upon the proportion of fatty matter which is left in the meal. The fatty matter in palm kernels is a white, agreeably-tasting fat, of almost the same consistency as butter. English palm-nut meal, when rich in fat, added to bean-meal, or decorticated cotton-cake reduced to powder, is an excellent auxiliary food for milk-cows, producing much and good milk, rich in butter. Brewers' grains, together with an allowance of 20 lbs. of mangold, 3 lbs. of palm-nut meal, and 3 lbs. of decorticated cotton-cake or 3 lbs. of bean-meal, and a sufficient quantity of mixed

straw and hay chaff, is perhaps as cheap and good a diet for milk-cows as any. This diet yields much in rich milk, and keeps the cows in a first-rate condition. One word respecting the use of grass from land irrigated by sewage. A good deal has been said and written for and against feeding milk-cows upon sewage-grass. On the one hand, sewage-grass has been praised as the most nutritious kind of grass for milk-cows; and, on the other, the adversaries to all schemes of applying sewage to land, in the face of actual special experiments with sewage-grass, and the experience of dairy farmers at large, have endeavoured to prejudice the public mind by denouncing the produce from grass land irrigated by sewage as innutritious and a highly dangerous food for milk-cows. Like all very succulent produce, the grass from sewage land is more watery, and, in consequence, not so nutritious as the produce from rich permanent pastures. It is, nevertheless, a most acceptable food to the dairy-farmer, who usually gives along with it to his cows some bean or other descriptions of meal or auxiliary concentrated food, and, under proper management, there is not the slightest ground for suspecting that sewage-grass when given to milk-cows will render the milk they yield unwholesome or dangerous to the youngest child. If sewage could not be usefully applied to Italian rye-grass to be turned into milk and butcher's meat, all sewage-irrigated schemes would long ago have fallen to the ground. Convinced as I am that the produce from a properly-managed sewage-farm supplies an increased amount of good and wholesome food, the greater part of which is especially useful to cow-keepers, I can only express the hope that all town authorities, who at present allow large quantities of plant-food to run to waste, polluting our rivers and watercourses, will ere long set apart a portion of land, if such can be found appropriate for sewage irrigation, on which Italian ryegrass, cabbages, and mangolds can be raised in large quantities by means of sewage, for the special advantage of cow-keepers, and the benefit of the community at large.

MILK ADULTERATION.—Milk is a whitish liquid, of an agreeable, sweetish taste, and faint but pleasant odour, depending in some measure upon the nature of the food upon which the cows are fed. It is essentially an emulsion of fatty particles in a solution of caseine and sugar of milk. The fatty matter is not contained in milk in a free state, but enclosed in little cells of caseine, which occurs also in milk in a state of solution, and is precipitated spontaneously as curd when milk gets sour. Viewed under the microscope, milk appears as a transparent fluid, full of small, round, or oval, and more or less angular bodies—the so-called milk globules. When milk is left undisturbed for some time, these milk globules rise to the surface, forming the cream of milk. Skim-milk has a bluer colour, and is more transparent than new milk, containing its full share of milk globules, or cream or butter globules. In the course of my experience as an agricultural chemist, I have made, as may be supposed, a great number of milk analyses, and paid special attention to the various circumstances which effect the composition and quality of milk. As already stated, the amount and quality of the food given to cows exercises a most remarkable influence on the quality and composition of milk. Besides this, the season of the year, distance from the time of calving, the breed and size of the cows and several other circumstances which will suggest themselves to practical men have a greater or less influence on the yield of milk, and its quality. Admirable illustrations of this will be found in my paper "On Milk," published in the *Journal of Royal Agricultural Society* of 1863. I may, however, be allowed to refer to a series of milk analyses which I made when residing at Cirencester College with a view of ascertaining what may be the variations in the course of a year in the quality of milk on one and the same farm. I took samples of the milkings of all our milch cows, and analysed the mornings' and evening's milk of the first or second day of each month. The milch cows were out at grass from May till the end of October, and as the herbage then became so scarce as not to afford sufficient nourishment, they were fed in the evening at the stall on roots and hay, &c. It will be seen by the appended analyses that both the morning's and evening's milk in September were extremely poor. The poverty of this milk was therefore evidently due to an insufficient supply of food. The milk produced on two other farms in the neighbourhood during the same month, on being analysed, was found to contain 12½ per cent. of solid matter, including 3½ per cent. of fat (pure butter), and the same percentage of curd; shows

ing that on both farms where the cows were supplied with a sufficient amount of nutritious food the milk was of good quality, whereas on the college farm the scanty supply of poor grass had the effect of producing poor milk containing 90 per cent. of water, and only 2 per cent. of fat. The influence of food on the quality of milk was also clearly visible in the cows of the college farm. On account of the insufficiency of the grass, the cows were driven into the stall and there supplied with roots, hay and meal. The milk became better at once, for the morning's yield then contained $12\frac{1}{2}$ per cent. of solid matter, and in this nearly 4 per cent. of butter. The concentrated food which the cows received in the evening was evidently made into good rich milk during the night. At this time the cows were put on grass early in the morning and allowed to pick up what they could. This was not much, as their anxiety in the evening to be let into their stalls clearly showed. The influence of a stinted supply of grass was noticed at once in the poverty of the evening's milk. The percentage of solid matter fell to $9\frac{3}{4}$ instead of $12\frac{1}{2}$ per cent., and the butter to 3 instead of 4 per cent. I would direct especial attention to the fact that these analyses were not made from the milk of a single cow, but of the whole herd, and as the milch cows were kept entirely for the use of the college, there can be no question as to the genuineness of the supply.

COMPOSITION OF MORNING AND EVENING'S MILK PRODUCED ON THE ROYAL AGRICULTURAL COLLEGE FARM, CIRENCESTER.

	Percentage of						
	Water.	Butter (pure fat).	Caseine and albumen.	Milk-Sugar.	Mineral Matters (ash).	Nitrogen.	
January	Morning	87.70	2.60	2.94	5.82	.94	.47
	Evening	87.40	2.23	2.87	6.56	.89	.46
February	Morning	87.50	2.58	3.44	5.44	1.04	.55
	Evening	86.40	3.53	3.37	5.56	1.14	.54
March	Morning	88.60	2.71	2.43	5.35	.91	.39
	Evening	88.16	2.96	2.62	5.55	.77	.42
April	Morning	87.50	3.15	2.94	5.60	.81	.47
	Evening	89.00	2.47	2.69	5.08	.76	.43
May	Morning	88.20	2.42	3.12	5.49	.77	.50
	Evening	87.80	2.71	2.87	5.85	.77	.46
June	Morning	87.30	3.05	3.00	5.89	.76	.48
	Evening	87.30	2.94	2.87	6.05	.84	.46
July	Morning	88.70	2.22	2.94	5.38	.76	.47
	Evening	87.80	3.61	2.81	5.10	.68	.45
September ..	Morning	89.91	1.99	2.94	4.48	.64	.47
	Evening	90.70	1.79	2.81	4.04	.66	.45
October	Morning	87.60	3.90	2.87	4.84	.79	.47
	Evening	90.30	2.99	2.37	3.76	.58	.38
November ..	Morning	87.10	3.41	2.94	5.41	1.14	.47
	Evening	86.20	3.78	3.19	5.68	1.15	.51
December ..	Morning	86.70	3.74	2.87	5.92	.77	.46
	Evening	86.00	4.12	3.62	5.46	.80	.58

I have alluded specially to these variations in the quality of milk as influenced by food, because some statements have lately appeared in a little work on milk—analysis written for the special benefit and instruction of food-analysts, "a new class of men," which has lately been "constituted to watch over the food of the country." I leave it to you to form your own opinions from the following extracts taken from this treatise. According to the author, country milk of average quality contains in 100 parts by weight:

Water	87.55
Fat	3.08
Caseine	4.04
Milk-sugar	4.62
Ash .....	.71
	100.00

Town-fed milk, according to his analysis, contains in 100 parts by weight:

Water	85.94
Fat	4.00
Caseine	5.02
Milk-sugar	4.31
Ash .....	.73
	100.00

It will be seen that the latter milk shows a difference of one-third more of fat and one-quarter more than the amount of caseine contained in the former, and a correspondingly smaller

amount of water. These differences are sufficiently striking to show, at all events, that milk has not a uniform composition. Nevertheless, our author says, "Milk exhibits great constancy of composition; the effect of variations in the diet of the cow, showing itself in the amount of the secretion, rather than in its quality;" and again, "As will be readily comprehended, this constancy of composition is a cardinal fact in milk analysis. If milk were variable in strength, as urine is, chemical analysis would fail to detect the watering of milk. That milk is a secretion of constant, or only slightly varying, composition, lies at the very root of the subject of this treatise." In the face of the evident contradictions between the facts given and the opinions expressed by this same author, I think I need not detain you by criticising other portions of the treatise, but leave you to draw your own conclusions of the value of the frequent use he makes of what he calls "normal milk." One might as well talk of a "normal potato," or a "normal cabbage," or a "normal pig." On passing along on the top of an omnibus a short time ago, I was somewhat amused at seeing an advertisement of a wine merchant of his "standard sherry," and I am surprised that standard or "normal" milk is not advertised, as it might be with quite as much reason as "standard sherry." A great deal has been said and written about milk adulteration. Sheep's brains, starch, chalk, and pipe-clay, which are said—on what authority nobody has ever decided—to have been found in milk, only exist in the imagination of credulous or half-informed scientific men, who, in want of, more profitable occupation, take to book-writing. It would be difficult to understand where all the sheeps' brain, should come from; nor is it probable that chalk or other insoluble substances not easily kept in suspension, should be employed in adulterating milk. I have never found myself, nor have I ever met any chemist who has found any of the clumsy adulterations often referred to in popular treatises on food. Milk adulteration resolves itself into one of two things—either the addition of water, or the abstraction of cream; and the question which naturally arises is, Can we detect to a nicety how much water has been added, or how much cream has been abstracted from a given sample? I have, perhaps, had as much experience in the examination of milk as anybody in England, and I fearlessly say that, owing to the natural variations in milk, it is utterly impossible to ascertain whether in all cases a small quantity of cream has been removed from milk, or an inconsiderable proportion of water has been added to it; and I further maintain that it is a reckless proceeding on the part of any analyst to assert that milk has been adulterated with exactly 8 per cent. of water, or with 13.75 per cent. of skimmed milk, as in one case, or with 16.25 per cent. as in another. Such assertions can only be made by young and inexperienced men, for whose special instruction such milk treatises as I have above referred to are compiled. No wonder that men who entertain such inconsistent views of "normal milk" should be led to give reports in which they positively assert that they have found 16.25 per cent. of skimmed milk, because the amount of fat did not come up to their standard by a few decimals. I may state, in passing, that in a recent case the milkman, who was accused of selling milk adulterated with 16.25 per cent. of skimmed milk, was fined in the "mitigated penalty of £5," with the alternative of ten days in gaol. In the course of the trial, testimony was given by a worthy town councillor, who had carried on business as a temperance hotel-keeper, that the accused had been known to him for the last twenty years, and had during the whole of that time supplied him with milk. He further expressed his opinion that no better milk was to be obtained than that of the accused, against whom he had never known any complaint. A well-known chemist, moreover, was called for the defence, and, on the strength of the analysis, pronounced the milk to be of the quality of good ordinary country milk, and quoted, in support of his opinion, no less an authority than that of the late Professor Johnstone, apparently to no purpose, because the amount of fat contained in the milk differed in a trifling extent from what the food analyst conceived to be the amount contained in "normal milk." A medical man, called in support of the prosecution, gravely stated that milk containing 16.25 per cent. of skimmed milk would be prejudicial to the health of the very young, although its effects would be hardly appreciable on an adult. Instances of this kind would be very ludicrous but for the serious consequences involved, and the injustice which, no doubt, is fre-

quently dealt to honest dealers. Let it, however, be clearly understood that I have no intention of throwing cold water upon the system of chemically examining milk. All I desire to show by these observations is that milk analyses should be conducted by men upon whose practical experience and acquaintance with the subject reliance can be placed. Chemical analysis can do much in the way of revealing adulteration of food, and there is no difficulty in discovering whether milk has been skimmed or watered to any great extent. As the result of my own experience, I may state that milk may be considered rich when it contains from 12 to 12½ per cent of solid matters, 3 or 3½ of which are pure butter. If it contains more than 12½ per cent. of solid matter and has 4 per cent. or more of fat, it is of extra rich quality. Such milk usually throws up from 11 to 12 per cent. of cream by bulk after standing for 12 hours at 62 degrees Fahr., and has a specific gravity varying from 1.028 to 1.030. Good milk of fair average quality, as has been stated already, contains from 10½ to 11 per cent. of dry matter, and in this about 2½ per cent. of pure fat. It yields 9 to 10 per cent. of cream, and has a specific gravity of about 1.030. Poor milk contains 90 per cent. or more water, and has a lower specific gravity than 1.027. Such milk yields not more than 6 to 8 per cent. of cream. Skimmed milk throws up still less cream, has a bluer colour, and is more transparent, and when undiluted with water has a slightly higher specific gravity than new milk. Good skimmed milk has a specific gravity of about 1.033, and poor skimmed milk 1.028 to 1.030. Milk purposely watered yields only 5 to 6 per cent. of cream, and invariably has a lower specific gravity than 1.025. If milk is both skimmed and watered, it yields less than 4 per cent. of cream, and possesses as low a specific gravity as 1.025 to 1.026. A great many experiments have led me to the conclusion that within certain limits the specific gravity is the most trustworthy indicator of quality. Some of the objections to the use of hydrometers or instruments for taking with accuracy the specific gravity of milk, are based on the mistaken opinion that cream is lighter than water. This, however, I have ascertained is not the case. Cream, I find, is lighter than milk, but denser than water, in the proportions of 1012, or even 1019 to 1000. The addition of cream, therefore, cannot depress the specific gravity of milk in the same degree as the addition of water. A low specific gravity thus always indicates a large proportion of water; at all events I find that milk rich in butter is of a specific gravity a good deal higher than that of milk adulterated with even a little water. Some years ago I made some accurate gravity determination of pure milk before and after skimming, and of samples mixed purposely with 10 to 50 per cent. of water.

	Sp. Gr. at 62°	Sp. Gr. at 62°
	Fahr.	Fahr.
	Before Skimming.	After Skimming.

Pure milk.....	1.0314	1.0337
With 10 per cent. water	1.0295	1.0308
With 20 per cent. water	1.0257	1.0265
With 30 per cent. water	1.0233	1.0248
With 40 per cent. water	1.0190	1.0208
With 50 per cent. water	1.0163	1.0175

It appears from these results that good pure milk has a specific gravity of 1.030; skimmed milk is a little higher; and, further, that milk, having a specific gravity as low as 1.025, is either mixed with water or is naturally very poor. If the gravity should sink to 1.023 or less, it is unmistakably mixed with a considerable quantity of water. A useful instrument for approximately determining the percentage of cream is a graduated glass tube, at the top of which the cream may be allowed to collect, and its quantity may be read off. There can be no doubt about the fact that, before the late Adulteration Act, the milk of London was shockingly adulterated, and that it was high time that a check should be placed upon the malpractices of milk-dealers. I am, however, anxious that the Act should not become ridiculous in the eyes of a discriminating public, for several recent milk-prosecutions have shown that the wisdom of the wise (food analysts) in more than one or two instances is truly foolishness, even in the sight of any ordinary dairyman. I should advise rigorous prosecution in every case of flagrant or unmistakable adulteration; but whilst those entrusted with the enforcement of the Act draw the line so finely as they too frequently do at present, between pure milk and that which has been tampered with, serious mistakes must and will necessarily arise, to the discredit of all concerned in the matter, and sometimes, per-

haps, to the irrecoverable loss of the reputation of an innocent man. The limits of the time which may be reasonably devoted to the proper introduction of the subject on the card have not allowed me to discuss as fully as I should have wished some of the points to which I have referred. The subject has a very wide range, and I am painfully conscious of the imperfections and omissions, which the members of our club will not fail to recognize in my discourse. I trust, however, that the discussion which will follow the reading of this paper will make amends for the defects, which could not be avoided altogether.

Mr. H. NEILD (The Grange, Worsley, Manchester) said he thought the whole community would acknowledge their indebtedness, first to the Farmers' Club, and next, and especially, to the learned Professor, for the lecture and instruction which had just been given. He quite anticipated much which the Doctor had said with respect to many of the analyses of milk, and his truthful hits at those gentlemen who had incurred the responsibility of damaging men's characters, and of injuring an important trade. That was simply a repetition, in another form, of what had been experienced at the hands of inspectors of the cattle-plague. The farmers had come there that evening to pick up valuable information. The Doctor had very wisely, in accordance with his calling, taken more particularly a scientific view of the question, while he encouraged men like himself, who were practically connected with the production of milk, to make such practical remarks as were suggested by their own experience; and he hoped that if on some points he ventured to differ from him, or to say something which was not quite in harmony with what had fallen from such a high authority, he would have credit for being sincerely actuated by a wish to impart useful information. He was very much surprised to hear that gentleman eulogise brewers' grains to the extent that he did, because in Lancashire and Cheshire they had found that cows which were fed largely on that article were most undesirable animals to buy for the purpose of feeding (Hear, hear). Cows largely fed with brewers' grains were cows which a feeder of stock would do well to avoid. Then as regarded the effect of pastures in forming milk, he would observe that it was by no means the richest pastures that were best adapted for the production of cheese. On the contrary, some of the very finest cheese made in Cheshire came from land which would no doubt be severely condemned by many, because it abounded with rushes (Hear, hear). The cause of that was a mystery yet to be solved. Speaking from his own experience, he would say that a mixture was the best. In dealing with their stock, it would not do to think only of the cheese and the butter, or to wear out the animal by continually pulling at the udder. He found that a mixture of food was the best means of at once making milk and keeping cows in order for other purposes. Great losses were sustained through keeping dairy cows exposed to the severity of changes of weather. He had no less than sixty dairy cows, and he kept them all in-doors at night during summer, and both day and night during the winter season. He had always found that when cows were fed upon mangolds instead of turnips less care was required at the dairy to prevent flavour in the butter. The butter was apt to be paler and poorer with mangold than with swedes, but he had corrected that defect by a large addition of provender to the pulping and chopping. He had always used a fair quality and a large quantity of malt-combs. He had used thousands of bushels of the latter, and had employed an immense quantity of boiling water to get food into proper condition. He did not believe that either pea-meal or bean-meal was equal to crushed oats. Oats made, in his opinion, the sweetest butter, and having a large quantity to make he had been obliged to be very careful. All who had had experience in the matter perfectly acquiesced in his opinion as to the value of a generous use of oats. In Cheshire they looked on both sides of the question; they used bean-meal, and they used pea-meal, but as a rule oats were preferred to both. The value of malt for feeding purposes was evident, and he could not conceive a stronger argument in favour of the repeal of the Malt-tax (laughter and cheers). He could not enter into the subject any further, but conclude by remarking that the expenses of farmers having increased about 33 per cent. within the last two or three years, if they could not increase the amount of production the prospects of agriculture must be poor indeed (Hear, hear).

Mr. G. M. ALLENDER (Bayswater) said he would commence by saying, in reference to a remark of the chairman, that he

agreed with Dr. Voelcker that they did not want the help of any chemical whatever to enable them to keep milk in good condition; all that was needed was common sense and ordinary care (Hear, hear). There might be great prejudice in the minds of some medical men, as appeared from their writings, and on the part also of a large portion of the public, against country milk, but he believed that prejudice arose not from any fault in the milk itself or from any difficulty in sending it a considerable distance so that it would still remain in a good condition, but simply from the treatment which it received in transit, and from bad packing. We received in London a large amount of excellent beef from Aberdeenshire, but it would not be good meat when it arrived in London if no care were taken to secure proper packing and transit. As regarded milk, there was in many cases no care whatever exercised in these respects. Dr. Voelcker had alluded incidentally to two cans which were then in the room. He did not stop to describe them, but any one who would examine them would see how great a difference it must make whether milk was sent to London in one of those cans or the other. One was the old-fashioned churn in which milk was liable to receive all sorts of impurities during the journey, including grit and dust; the other was a modern can, which perfectly prevented the introduction of any extraneous matter whatever (Hear, hear). The last-mentioned was exhibited by him at the Society of Arts four or five years ago, and the Society's medal and £10 was awarded to it. Although no obstruction has been put on the manufacture of it, the design not being even registered, the maker told him that he had received no orders for them. Mr. Allender then entered into a minute description of the modern can, which is furnished with an inner lid, and appears to provide entirely against the introduction of rain-water and all other foreign substances. The price of the old pattern was about 38s., and that of the new one about 48s., and considering that a can would last two or three years, the additional price was certainly small compared with the advantages afforded. Through using such a can as that producers of milk in the country might send it to London in as good condition as milk which came from a suburban dairy-farm only four miles from London, because the churn could be quite filled, and thus all the shaking prevented (Hear, hear). There was another way in which milk from the country had got a bad name. He alluded to the course pursued in reference to the milk supply by the authorities of hospitals, workhouses, and other large institutions in London. Those authorities periodically put forth notices inviting tenders for a supply of milk for six or twelve months. They invariably accepted the lowest tender, and he could state from positive personal experience that some of the leading institutions of London had for several years been receiving milk at prices far below those which honest London dealers had to pay to honest country farmers (Hear, hear). He had been taken to one institution in London where he found a large quantity of milk was received every day at a lower price than the company with which he was connected—the Aylesbury Dairy Company—was paying to farmers in the Aylesbury district for the milk which it supplied in London. While Boards of Guardians had on the one hand been encouraging prosecutions, they had on the other been encouraging adulteration by accepting tenders for milk at prices at which pure milk could not be sold (Hear, hear); and the profit on the article supplied was so great that there was an abundant margin for any amount of "palm" to cover any amount of complaint. (Hear, hear). There was not the slightest doubt that country milk could be brought to London in as good condition as milk delivered in London from cows which were kept within three or four miles. As regarded the milk obtained from the country to be supplied to some of the institutions to which he had alluded, he believed there was a sort of tacit understanding between the farmers and the dealers that the evening skimmed milk was mixed with the new morning milk (laughter). It was the interest of all concerned, consumers and vendors alike, that the Act for the prevention of adulteration should be carried out impartially. Having been engaged in making experiments, not scientifically, but practically in reference to milk for fourteen or fifteen years, he believed that a long time was required to understand the temperature and the specific gravity of milk. It was well known that the makers of the best instruments, even such men as Negretti and Zambra, would not guarantee their hydrometers, or, as they were termed, lactometers, unless they were specially ordered,

or at all events at the low price at which they were commonly sold. Every one knew that for anything like accurate work the common ordinary thermometers and hydrometers were a mere waste of wood and glass. If the discussion of that evening should tend to aid them in arriving at definite views as to how milk should be analysed, and what standard should be adopted, their time would not have been badly spent. As the word "analysis" was so much heard in the present day, it was important to inquire who our food analysts were. On that point he would read an extract from an article which appeared in *The Times* of that day in relation to a prosecution for the adulteration of food: "It is manifest that it is necessary to surround the Adulteration Act by provisions which, while they leave it effectual against offenders, may prevent it from becoming an engine of oppression against those who have done no wrong. It is not difficult to imagine that the framers of this most necessary and, theoretically, most useful Act, while they recognised how much its working must depend upon analysts, were not fully aware how limited the first supply of competent analysts would be, how difficult and costly are some of the processes required for the detection of very common forms of adulteration, and how little these circumstances would be appreciated by some of the authorities by whom analysts were to be appointed. The Act may almost be said to have created a new profession, and, in obedience to the demand, 'public analysts' have sprung up like mushrooms during a summer night. Some of them are said to have no higher qualification for their duties than that they have attended a short course of instruction in a laboratory" (Hear, hear). That was perfectly true. Before men were convicted of dishonesty, there should be some reasonable assurance that they deserved to be convicted. In the case which formed the ground of those remarks in *The Times*, the parties proceeded against were bakers; and the accused being enabled to obtain competent professional assistance, the result was that the magistrates decided against the prosecutors, but, as appeared most unjustly, did not allow the accused their costs. It was, he contended, very important that the standard of the analysts should be raised. The other day, when a food analyst had to be salaried for the parish of Marylebone, a parish as large as Liverpool or Manchester, the vestry begrudged assigning to a gentleman, who had for twelve months performed the duties for nothing, a salary of only £100 a-year, though ultimately that rate of remuneration was, it appeared, sanctioned by a large majority. Some analysts had declared that milk could not be pure unless it contained 12 per cent. of solid matter. As a practical man, who spoke from considerable experience in connection with that subject, he must say that he thought the amount of solid matter contained in milk afforded the truest test of whether it was pure or not. In order to gain information on this point, a few days ago he sent samples of milk to three well-known analysts. He selected as good a cow as he could find, and sent to each gentleman two samples of her milk. The one, as milked; the second, after it had stood six hours and had had ten per cent. of cream taken off it, and he carefully avoided giving to either gentleman any clue. The three analysts were Dr. Voelcker; Dr. Redwood, of the Pharmaceutical Society of London; and Dr. Hardwicke, Public Analyst for Paddington; and it was satisfactory to find that these gentlemen reported very nearly the same percentage of solids. The results given ranged for the "whole milk" from 12.43 to 12.0, or as nearly as possible 12½ per cent. Now, it must be remembered that this was from a selected animal and most exceptionally rich milk, and the result was only 12½ per cent.; yet some analysts maintained that all milk should give at least 12 per cent. He maintained this was too high, and he agreed with Dr. Voelcker, that milk containing less solids might be perfectly pure. Indeed, he had sent in October last a sample of milk which he knew to be quite pure to a public analyst, and the result was only 10 per cent. This gentleman accompanied his report with note, saying, "*It looks quite right*" (that is the specific gravity and the percentage of cream indicated perfectly pure milk), "*but the solids are too low, it may be in the drying!*" If analysts would confine themselves to the actual figures, the results of their examinations, he thought they would act more wisely, as before a man could possibly be qualified to give opinions on the multitude of articles brought before the notice of a public analyst, he would require a life-long practical experience, and not the few weeks or even months that some of

these gentlemen had studied in the laboratory. In the case of the samples sent to the three analysts, one of them, in referring to the "whole milk" sample said: "No. 1 is a perfect milk, rich and good in all its constituents;" of No. 2 (the skimmed sample of identically the same milk, the cow having calved just 25 days) he said: "This milk must be from a cow a long time in milk". It was to be regretted that analysts undertook to pronounce opinions on practical points which they were not competent to decide, and thus risked bringing punishment on men which they did not deserve. He agreed with *The Times* that the Adulteration Act was a good Act, and perhaps in the course of a few years it would be brought to bear in a way which would render it beneficial both to consumers and to vendors; but at the present time its operation was very defective, and what was especially needed was, he thought, some recognised body of analysts, in whom the public, vendors, and everybody could feel confidence. He would conclude by reading a short letter which had appeared in *The Hour* newspaper, signed "Public Analyst." It was as follows: "The great value of the Adulteration Act is manifest to all who have had an opportunity of noting its beneficial effects; but its best friends are ready to admit that it is susceptible of vast improvement. I think that a committee, composed of analysts and of lawyers, would be able to suggest the alterations and modifications necessary to make it as perfect in law, equity, and science as we can hope to make any such Act of Parliament; the more so with such help as would undoubtedly be rendered by all persons interested both for and against the Act, and by independent scientific personages, if sought by the commission, and I therefore suggest that such a commission be appointed by the authorities" (cheers).

Mr. COLLINSON HALL (Romford) wished to say a few words on the subject of the supply of milk to the different hospitals and workhouses which Mr. Allender had attacked. He was one of the largest producers and the largest vendors of milk in or about London, so that when Mr. Allender charged him and others with bribery in dealing with these institutions and supplying them with a poor article, he was doing both the hospitals and him (Mr. Hall) a gross injustice. He knew the way in which the supply of milk was looked after by the hospital authorities, and he had himself sent Dr. Voelcker specimens of milk for analysis. Supposing an individual with sufficient capital to be located within a moderate distance from London, and to have a good brewery at which to buy an adequate supply of grains at a fair and reasonable price, he did not see why it should be said that the milk which he sold was not pure because it was of just the same standard as the Aylesbury milk. A few years ago Mr. Allender started a great Aylesbury Dairy Company, and they had succeeded wonderfully; but they wanted more capital, and the other day there were advertisements asking for £100,000.

Mr. ALLENDER protested against that allusion, and said the company which he represented had all the capital it required.

Mr. C. HALL continued: As regarded the hospitals there were some of them, for example St. Bartholomew's, that he would rather supply at the actual cost than cease to supply, and he repeated that he did not consider Mr. Allender's remarks on the subject at all called for. As to the analytical chemist's, he had no fault to find with them. They had most difficult work to perform. For example, they all knew that more water was produced by a Dutch cow than by an Alderney, and the analysts had to take all such things into account. It was very unfair to say that they did not know what they professed to know. They were at present feeling their way, and he believed the result would be satisfactory. He wished to say one or two words with regard to the cheapest mode of producing milk for London. In the first place the farmer who undertook to supply London with milk must be near a good town for the purchase of feeding produce. He must look not merely to the milk but to the value of the farm manure on the spot, as the cost of carting manure from London or a railway station would be great. The manure must be put against the value of the mangold, because it was returned to the soil again. As regarded the subject of sewage manure which was touched upon by Dr. Voelcker, he must say that having had some experience he had found that when grass was rank and luxuriant cows often slipped their calves. He agreed with Dr. Voelcker that it was perfectly right to use sewage-grass if they had it; but then it must be used with something else; for if they let their cows eat as much succulent grass as they liked, it would be sure to purge them

and produce abortions (Hear, hear). All who had studied the art of cow-keeping well knew that care must be taken not to have too many together in one shed, from forty to seventy being the largest number that could be put together safely; besides which they must have plenty of ventilation, and use plenty of disinfectants, such as carbolic acid mixed with water and dispersed by means of rags. Foot-and-mouth disease was one great evil with which cow-keepers had now to contend. It was spread to a very wide extent. The other day he sent five calves to Romford for sale. He was told that they could not be sold because they had foot-and-mouth disease; upon which he said it would be better to sell them for almost nothing than to bring them back to the farm, and the result was they were disposed of for 15s. each. One very good reason why milk was at such a price as it is now was to be found in the spread of that terrible disease pleuro-pneumonia. As a large stock-keeper he had for some time practised inoculation as a remedy for that complaint. It was a very simple thing, and only required a little care. He thought the proper time for it was about a month or six weeks after the calving and before the cow had the bull, and he believed that if done properly at that time it would be found a great preventive, though of course not a sure specific. In adopting the practice, he followed the example of a man who had for many years kept a great number of cows at Islington. He inoculated at the second joint of the tail, and the result was that the tail swelled, and the inoculation passed completely through the animal's system. [Mr. C. S. READ: Do you repeat the inoculation after the calving?] No; if it were once done properly that was enough. He wished to remark that in some cases he had known disease to be produced by the use of brewers' grains in a too hot state, and of distillers' wash poured over chaff, which heats the cows, and gives them cold after being turned out. He had endeavoured to make his few remarks entirely practical, and he hoped they would prove useful to some members of the Club (cheers).

Mr. ALLENDER having complained of what the last speaker said in reference to himself,

Mr. C. HALL said he had not the slightest idea of giving offence to that gentleman.

Mr. BRIGGS said the greatest adulterator of milk was, in his opinion, the institution that imposed a duty on malt.

The CHAIRMAN, in summing up the discussion, said he was sure they all felt very much obliged to Dr. Voelcker for the pains which he had taken in preparing his paper, which was a most exhaustive one (Hear, hear). There was a great deal of nonsense being talked then in reference to milk, and the Doctor's remarks were the more valuable on that account.

Dr. VOELCKER then replied. Adverting to the remarks of Mr. Neild, he maintained that there was not a cheaper or better description of food, viewed as a whole, than brewers' grains, the difficulty of farmers generally being to obtain a sufficient supply. Of course there had always been something else given as well; but he maintained that if a proper amount of meal were given along with brewers' grains that would be found a most economical mode of producing milk. If any gentleman could mention any description of food that was cheaper, having regard to the amount of nutriment contained in it, he (Dr. Voelcker) would be glad to increase his stock of knowledge on that subject. With regard to sewage-grass he fully endorsed what was said by Mr. C. Hall. No doubt sewage grass produced watery milk if too much of it was eaten, and the animals got wrong in their bowels, but that should not prevent farmers from availing themselves of sewage irrigation to a moderate extent, under favourable circumstances. Mr. Neild said the poorest grasses sometimes produced the best butter and cheese. The explanation of that undoubted fact was that in the finest pastures there was a greater mixture of natural herbage than was to be found in highly cultivated fields, a greater variety of such odoriferous plants as wild thyme, &c., which improved the quality of the grass without adding to the quantity. The sewage of towns tended to deteriorate the quality of grasses. In fact you could not accomplish the two objects together—you could not secure a high quality and a large quantity in the same pastures, and that is the reason why what were called poor pastures, that was pastures that furnished a scanty supply of food yielded a rich milk.

On the motion of Dr. Hardwick, seconded by Mr. H. Neild, a vote of thanks was given to Dr. Voelcker for his valuable paper, and the proceedings terminated with a vote of thanks to the chairman.

TWO RABBITS OR TWO POUNDS PER ACRE.

"When the late Lady Robert Manners wished to visit Lincoln from her residence at Bloxholm, a groom was sent forward previously, who examined some track, and returned to report one that was found practicable. Another family from Blankney was lost on this heath twice in one night in returning from a ball at Lincoln, and was obliged to remain upon the waste until morning." So wrote Philip Pusey, some thirty years since; while, some forty years before that, Arthur Young described how "at Blankney and its vicinity, Mr. Chaplin has 3,000 or 4,000 acres of warrens let at the highest at 3s. 6d. an acre—some at 2s." And then Mr. Pusey, getting back to his own time, examines a farm or two on the Blankney estate, and comes to "the result of noble crops upon land for which, a few years since, the rent was paid by two rabbits an acre. The yearly outlay, indeed, for manures may now well amount to a second rent, but the tenant is regarded as a prosperous man. Such is Lincoln Heath, lately a warren; now, on a bright, frosty day in December, like a sheep market." A few years after gathering this impression, Mr. Pusey asks Major Brown, a Lincolnshire landlord, to tell a House of Commons' Committee how so marvellous a change was effected: "Lincolnshire, in my early period, was in a very bad state of cultivation indeed. One-third of the whole county was entirely uncultivated, or very wretchedly and badly cultivated; the four-field system was gradually introduced, and artificial manures were introduced also; and then after a lapse of time, when tenants had to quit their farms, valuers began to make allowances to them; it was a very gradual thing in its early progress; it was fought very stoutly against."

So much by way of prologue. Free from the fetters of office, and probably indisposed to undertake such responsibilities, there are still few men amongst the Country Party of more promise, or, indeed, whose abilities are more directly acknowledged when he chooses to exercise them, than Mr. Henry Chaplin, of Blankney, one of the members for Mid-Lincolnshire. Moreover, Mr. Chaplin's position in public is emphasised, as it were, by his position at home. He is not merely a county member but a country squire of large estate, the present possessor, in fact, of those holdings on Lincoln heath, the value of which has changed from shillings to pounds, from a couple of rabbits per acre per annum to a princely rent-roll. And this change, as already shown, has been mainly effected in the words of another Lincolnshire landlord, through "making allowances." Not that the benefit of such a system was at once admitted; on the contrary it was a very gradual thing in its early progress, and even in Lincolnshire "fought very stoutly against."

Strange to say it is fought very stoutly against still. Mr. Chaplin, indeed, would appear to think it but fair that the custom should only very gradually extend on other properties or through more remote districts just as it has done on his own. For some time past he has figured very prominently as an opponent to the Tenant-Right Bill, and only the other day he did his best to shelve even any consideration of the measure; adding, amidst a chorus of contradiction, that "the vast majority of landlords and tenants throughout this country would oppose almost unanimously anything like interference with freedom of contract; and if the matter were brought to the test of a poll of the tenants, it would be seen his opinion was not unfounded." (*No, no, no.*) Still Mr. Chaplin explained that he was not opposed to legislation, only he would have legisla-

tion without the force of legislation; "in the Lincolnshire custom they had no such thing as the 12th clause of the bill, because such a clause was not necessary." But surely Mr. Chaplin should have gone on to say that the bill itself was not necessary in Lincolnshire, nor anywhere else where the right is recognised; as in plain English he would let the custom extend itself "very gradually," and against "very stout" opposition of course.

But this opposition on the part of the Lincolnshire landlords is no new thing, for five-and-twenty years since they were doing very much what Mr. Chaplin is now to prevent the extension of the principle, and when we wrote thus as to their contradictory course of action: "As to the gradual spreading of Tenant-Right, look at the petition of the Lincolnshire landlords against the passing of any enactment for ensuring it—unintentionally the best argument that was, perhaps, ever offered for making such an Act. Say the Lincolnshire landlords—'We have Tenant-Right already; we have long practised and profited to the full by its advantages. What then can be the use of enforcing by law what we do voluntarily?' Exactly so. The action of Tenant-Right has brought the bogs and fens of Lincolnshire from the worst to be the best cultivated land in the kingdom, and doubled and trebled its value to both landlord and tenant. This has been proved and known for many years, and has of course proceeded to this very natural consequence. Neighbours first, and their neighbours again, *ad infinitum*, have gradually adopted so excellent a plan, until at length the whole country has learnt the secret of the men of Lincoln, and brought its acres to vic in produce with those of that once favoured district. Is it so? and is any further inducement for following your example so entirely superfluous? Or rather does not the Tenant-Right part (only) of the county of Lincoln stand out at this moment like an oasis from the north, south east, and west territory by which it is surrounded? This famous protest—and it will be worth while to proceed with it a little further—is framed in defiance of the first principle of legislation. Laws, be it remembered, are required not to compel the just, but to restrain the unjust; in vulgar phrase, for rogues, not honest men. Now a good and just landlord who does his duty voluntarily, and gives his tenant full recompense for all he may not have reaped, needs no enactment to induce him to this. Such a law could in no way affect him, for he does and has done all so provided for without it. The object is to make others follow his example, and ensure their doing that by law that many would hesitate, from ignorance, prejudice, or a worse motive, to do of their own free will. Thus, the answer to all who join in with the Lincolnshire landlords is plain enough: If, as you say, you have the Tenant-Right secured to you by the custom of your own district, our new Act will to you be as nothing, either good or bad; all we want is to extend that custom." And that which we said five-and-twenty years since we say again here. The custom has not extended under the voluntary principle, nor will it, for it is still and has been "fought very stoutly against" by a class of landlords who would apparently rather receive two rabbits than two pounds per acre per annum for their land.

As regards Mr. Chaplin's hostility, a startling anti-climax may encourage him to persevere. After the statements he had advanced and the dissatisfaction

with which these were received, two men were actually found to propose and second a resolution requesting Mr. Chaplin to draw up another Tenant-Right Bill! It is

scarcely necessary to add that this bit of bathos was displayed at a meeting of the Council of the Central Chamber of Agriculture.

OFFICIAL HORSE BREEDING IN FRANCE.
THE HARAS INSTITUTIONS.

Of late years, there is no gainsaying it, France has become remarkably horsey. French sportsmen have not been satisfied with purchasing some of the best English blood, and accomplishing on their own turf unquestionable feats of good racing, but they have crossed the Channel with French-bred horses and won well-contested battles on English race-courses. Descending lower in the breeding scale, French draught horses imported direct from Normandy and Brittany are to be seen on most of the English farmsteads in the southern counties, and there are not wanting other tokens of a great movement on the part of the French with a view to improve as well as to increase their stock of horses.

The fact is that, owing to the comparative scarcity and consequent dearth of horse-flesh in England, and the state of jealousy resulting from the late war in Germany, the supply of horses to the French army has become both difficult and onerous. The necessity has arisen now to pay increased attention to native production, as the only reliable source of a supply, which, owing to the fearful destruction of war horses in 1870 and 1871, is the most serious cause of anxiety in the minds of those whose duty it is to reorganize the armies of France.

It cannot fail to be interesting to English readers to have an insight in the present state of horse breeding in France, and to be initiated to the great efforts which are now being made to increase, and, at the same time, to improve the production of useful horses, especially of those breeds that are best adapted to war purposes, both as draught and saddle horses.

The French Government, with the view of improving the breeds of horses, has established an institution, which in England is exclusively left to private enterprise, but which in most of the Continental States either from lack of sufficient means or due attention, is a matter of absolute necessity as an immediate object of official interference, creation, and management. That institution is known under the name of *Haras*, which may be translated by the English word *stud*. That branch of civil service, which consists in the establishment and management of several stations all over France, where stallions of good blood are kept for the purpose of serving the mares of the districts, is rather a complex piece of administrative machinery. According to the new law which is to be voted shortly by the Assembly, and the substance of which I give, in preference to the existing one, as there is no doubt but it will be unanimously adopted, the Haras staff will comprise a director and general inspector, six general inspectors, twenty-two station directors, and as many sub-directors, besides a sufficient number of under-clerks to ensure the proper working of the department. There is besides a superior council of Haras, the members of which will be appointed by the President of the Republic. Their number will be twenty-four, nominated for nine years. One-third will go out of office in rotation every three years, but all will be re-eligible to office. The duty of that board will be to give their advice on the annual Haras budget, on the general regulations of shows and races, on the nature and importance of the encouragements to be given to horse-breeding, and all other questions that may be submitted to them by the Minister of Agriculture, to whose depart-

ment they will belong, or by the director-general of Haras. It is further proposed that the number of stallions belonging to the State, and which is now only 1,077, shall be yearly increased by 200 until it reaches the effective quantity of 2,500. These stallions of various breeds and aptitudes will be divided among the stations according to the requirements of each district. It will be further enacted that the Haras school of Le Pin in Normandy shall be re-established, an imperial decree having some years ago closed it under the advice and influence of General Fleury.

Independently of the credits voted every year for the races, the grooming schools, &c., the present allocation of £27,320 affected to the payment of premiums to private owners of approved stallions will be raised to £32,000, and successively by additional yearly credits of £4,000, until the total amount of credit affected to that object shall reach £60,000 a year.

We shall see presently how that money is now and will be applied.

It is in the last place proposed to re-establish at Pompadour, a Government estate situated in the neighbourhood of Limoges in the centre of France, a breeding stud of fifty brood mares of Arab and Anglo-Arab blood. Formerly there was such a stud at Pompadour, but General Fleury, who was a most determined opponent to the Haras institution, prevailed on the late Emperor to do away with it, and it was closed accordingly. A herd of Shorthorns, the private property of the Emperor, was kept on the estate instead, which herd was sold after the downfall of its owner at Sedan.

The budget affected as ways and means to the Haras institution was of late years as follows :

1871	...	...	...	...	£141,100
1872	...	...	...	...	162,500
1873	...	...	...	...	164,840

With the view of increasing the number of state stallions from 1,077 to 1,300 the Minister of Agriculture had demanded for the current year an increase of £62,160, this sum being intended as the purchase price of the 223 additional stallions, the cost of their keeping and the wages to the extra staff of grooms to take care of them. Unfortunately the French Treasury is already too much drained by more pressing wants to admit of that increase in the Haras budget, and the finance committee of the Assembly, with the assent of the minister, have recommended that the budget of 1874 be the same as for last year, and do not exceed £164,840. Out of that sum, no less than nearly £40,000 are set aside for the purchase of stallions, not only to replace those that are worn out but to purchase others.

The necessity of a carefully-selected stud of well-bred stallions is a fact which no one can deny in any country, but especially in Continental States like France and Germany, which are obliged to keep up large armies, and where the requirements for artillery trains and mounted cavalry are greatly in excess of those of the English army, for instance, taking the population, the area, and the stock of horses into consideration. In England the necessity of State interference does not arise, private enterprise, fostered by a national taste and powerful patronage from the wealthy classes, being quite adequate to all require-

ments. In France, the circumstances are very different, and if the production of horses were left to private action, it would very soon descend to the lowest possible condition: for, even as it is, with the help of the Government, and notwithstanding the powerful exertions of a body of influential horse-loving men, who, within the last few years, have started into existence, and have already achieved great feats in raising the standard of taste and anxiety to obtain it among French breeders, the production of good and sound horses in France is still at a low level, generally speaking, as will appear from the following figures. The number of brood mares in France is calculated at 600,000. Now to serve that number of mares, there must be at least 12,000 stallions. We have seen that the number of stallions belonging to the State is only 1,077, and it appears from the report of the finance committee that besides that number there were only 639 other stallions belonging to private breeders. This gives a total of 1,716 good or commendable stallions, out of the 12,000 which must be used in France every year. This is, it must be confessed, a very small proportion, and it is owing to that deficiency that the existence of such an institution as that of Haras is not only useful, but it may be said indispensable. The Haras, then, have a double duty to perform: the first one is to supply as large a number of well elected stallions as the limited budget placed at their disposal will allow; and secondly, to select out of private studs as many good animals as can be found to supplement their own deficiency. To that effect they hold out the strongest inducement they can to private breeders to exert themselves in obtaining good blood, and to give easy and cheap access to it for all the mares of those districts where there are no State stallion stations.

There are two classes of stallions belonging to private breeders which receive the Government bounty on the recommendation of the Haras. There are those that are "approved," and which receive an annual bounty amounting to £36 if thorough-bred, and about £20 if only half-bred, provided they have served a certain number of mares in one season. There are others which are what is called "authorised." This latter qualification is only a recommendation to public confidence, a kind of official certificate of merit given by the Haras inspectors. Out of the 639 private stallions approved and authorised in 1873, there were only 216 authorised, out of which 42 were thorough-bred and half-bred, the 423 others were cart-horses.

From the foregoing facts and figures, on the accuracy of which there cannot be any doubt, it may be asserted that one-seventh only of the brood mares in France are served by commendable horses. The main bulk are left to the hap-hazard service of the rough lot of entire horses which prevail all through the country. It is a subject of general remark to Englishmen when they travel abroad, that most of the horses in ordinary use either for draught or saddle are entire, geldings being a very rare exception.

Under such circumstances it is no wonder the French Government should experience great difficulty in finding among the 300,000 horses which France produces every year even a fair proportion of the supply wanted for the army, and should consequently be under the necessity to make purchases in other countries.

Up to the last war, the Algerian colony supplied a good number of light cavalry horses, but the drain has lately been so searching, coming especially after the famine of 1867-68, which destroyed 60 per cent. of the native live stock, that very few horses can now be obtained from Africa, and France is now compelled, notwithstanding her financial difficulties, to increase the Haras budget with the view of promoting greater care in horse

breeding, and supplying to the wants of French agriculturists a much larger number of good stallions.

It has been calculated that the late war destroyed no fewer than 200,000 horses. It is easy to imagine, then, what are the difficulties encountered by the War Office in repairing such a fearful gap. On the other hand, the facilities which existed formerly in obtaining a supply of horses in Germany and Hungary have been greatly hampered by late events, not only on account of international jealousy and animosity, but also on account of the great destruction of horses which occurred among the invading German hosts, their victory notwithstanding.

In 1871 the sum proposed in the Haras budget for the purchase of stallions was £20,000, the assembly voted £23,400 for that object. Last year that amount was raised to £39,200, and the same amount is proposed for 1874. This is all the exhausted exchequer of France can possibly afford, notwithstanding the pressing needs of a better and more prolific horse production.

It would appear from the statistics I have quoted that only one-half of the brood mares served in France brings forth and rears a colt. This seems a small per-centage, and surely some improvement is desirable in that respect.

A glance at the existence of similar institutions in other Continental States will be useful as terms of comparison. This will account for the greater number of useful horses to be found in Russia, Germany, and neighbouring States than in France, the area and population being considered.

In the year 1869 the late Emperor of the French appointed a committee of competent men to go and inquire about the various State Haras establishments in Russia, Prussia, and other German States, Austria and Hungary. This committee published their report, from which I abridge the following information:

PRUSSIA.—Before the battle of Sadowa there were in Prussia three Haras stations—those of Neustadt, Graditz, and Trakenem, in which 2,100 brood mares and 322 stallions were kept. The State possessed besides thirteen minor stations scattered throughout the kingdom, containing in all 1,500 stallions, making a total of 1823 horses, and 2,100 brood mares.

WURTEMBERG.—In the kingdom of Wurtemberg there are two Haras, those of Shamhausen and Marbach, in which 110 stallions and brood mares are kept.

SAXONY.—The kingdom of Saxony possesses only one Haras, in which no less than 80 stallions are kept. The establishments of Hanover, Holstein, and Mecklenburg were not visited by the French committee, but from the official information they obtained they were able to ascertain that throughout the various States now forming the empire of Germany there were at the time of their visit no less than 4,000 stallions belonging to the States, besides those kept by numerous private breeders and large landed proprietors.

EMPIRE OF AUSTRIA.—In Austria Proper there are four principal Haras: first, that of Piber in Styria; second, that of Radautz in Buckowine; third, that of Kladrub in Bohemia; and fourth, the Haras of Lipitza, near Trieste. The two first establishments are by far the most important. That of Radautz possesses no less than 5,000 horses. The two latter contain each about 60 stallions and 350 brood mares. Besides the above four breeding Haras, the empire of Austria has in its different provinces five other stations, in which 1,500 stallions are kept.

HUNGARY.—The kingdom of Hungary is, perhaps, the country of the world in which more horses are bred, the area and the population being considered. In 1869 there were in Hungary no less than upwards of two million horses, which gives one horse for every five inhabitants. In France there is only one for every ten inhabitants.

The State keeps in Hungary three great Haras establishments: First, that of Kisberg, where chiefly pure English blood horses are bred. Out of 220 brood mares there are 58 of pure English breed. The second is situated at Babolua, and is specially reserved for the breeding of pure Arab horses. There were in 1869 10 stallions and 66 brood mares of pure Arab blood, besides 84 half-bred mares. The third Hungarian Haras is the celebrated one of Mezoheges, near the town of Arad, at a distance of about 180 miles from Pesth. This is by far the most complete and the largest stud establishment in Europe. The estate itself comprises no less than 44,640 acres, in a ring-fence, and the number of horses kept varies between three thousand and seven thousand at the same time. There are 34 stallions of pure English and Arab blood, half-bred English, Anglo-Norman, and Anglo-Arab breeds for serving the large stock of brood mares. This great establishment turns out every year from 130 to 150 first-class stallions, which are afterwards sent off to the various stations of the whole empire of Austria. Besides these three large breeding establishments, there are in Hungary four stallion stations, possessing, in the aggregate, 1,500 horses. In a country where horse-breeding is so powerfully patronised, it is not surprising to find that most of the large landed proprietors follow so great an example, and that the national taste is thoroughly biased in that direction. Nearly all the great aristocratic families follow horse-breeding as a noble pursuit, and derive pride and gratification from the

splendour of their studs. Among these powerful private stud establishments of Hungary, those of Counts Karoly, Esterhazy, Paffy, Duke of Coburg, Archduke Albrecht, Baron Simon Sina, &c., &c., are the most remarkable. Some of these private studs consist of no less than five hundred horses.

RUSSIA.—There are in Russia 20 million horses. The number of stallions kept at various stations throughout the empire amounts to at least 6,000. There are, besides, a great many private studs of great importance, and the Government was still increasing the number of the stations and that of the horses.

This state of things shows how inferior France is to her neighbours in respect of horse-breeding, whilst in point of natural resources suited to the production of good horses, she is second to no country in the world. Now her statesmen are compelled, by a dire necessity, to look closely into these branches of her economy, they may see how shallow was that appearance of prosperity and power which the enervating reign of the late emperor had laid over all her interests, both moral and material. At the first touch of a stern reality, the whole fabric collapsed into a heap of ruins, and people are now amazed at the rottenness of the props that kept it up. The work of those who have assumed the patriotic task of restoring the former grandeur of France on more solid grounds is, indeed, one of unexampled difficulty. Let us hope, for the sake and credit of our common humanity, that success will ultimately reward their almost hopeless efforts.

THE BREWERS' LICENCE DUTY.

A deputation representing the country brewers—as distinct from the London brewers—has waited upon Sir Stafford Northcote, at the official residence of the Chancellor of the Exchequer, to request, as the share for “the trade” in the surplus, the remission of the Brewers’ Licence Duties, which amount in all to something over £400,000 a-year. While the deputation was waiting in the ante-room an attempt was made to induce the gentlemen present to delay their visit until other deputations could combine with them, and it was urged upon them they “hadn’t even got a member of Parliament.” It was pointed out that there was a mistake in this, as Mr. Wethered, M.P. for Marlow, was in the gathering, and in the midst of the discussion word came from Sir Stafford that he was ready to see his visitors, who thereupon decided at once to complete the duty upon which they had so far entered. Sir Fowell Buxton and Mr. N. Buxton were present, though not strictly as a part of the deputation; and there were represented, the Berks County Brewers’ Society, the Sheffield Brewers’ Association, the Bucks Brewers’ Association, the Hampshire Brewers’ Union, the Portsmouth Brewers’ Association, the Manchester Brewers’ Association, the Yorkshire Brewers’ Association, the Bradford Brewers’ Association, the Cambridgeshire Brewers’ Association, the Halifax and District Brewers’ Association, and the Brewers’ Union. With Sir Stafford Northcote was Mr. W. H. Smith.

Mr. WETHERED introduced the deputation, and said they came, by Sir Stafford’s permission, to urge upon his favourable consideration their claim for the remission of the Brewers’ Licence Duties. The speaker thought the arguments they had to urge were irresistible in favour of the remission, and, moreover, it could be effected without materially affecting the imperial revenue.

The case of the brewers was thus set forth in a memorial to Mr. Lowe last year, and the same facts were repeated. It said: “At present every brewer is furnished by the Revenue Office with a paper, on which he is required to enter twenty-four hours beforehand the date and hour when he intends to brew; and two hours before he commences to brew he must complete the entry by inserting the quantity of malt or sugar he intends to use. He must also give twenty-four hours’ notice of the time when he proposes to complete the removal of the wort from the grains, so that the local officers may gauge the exhausted grains, and check, as far as practicable, the quan-

tity of malt entered. If licensed to use sugar, he is also supplied with another entry-paper, on which he is required to enter an account of all sugar received into his possession for brewing purposes. The number of brewers in England is about 33,000, and about 1,000 are licensed to use sugar. To prevent or detect the use of substitutes for malt, and enforce the regulations referred to for securing the duty on sugar and the present exorbitant licence duty, the whole of these establishments are visited at intervals not exceeding fourteen days, but in practice at much shorter periods, and not unfrequently twice-a-day. Prior to the repeal of the hop-duty these visits extended to intervals of twenty days, and were unimportant for securing the then limited *maximum* licence at the large breweries. These regulations, admittedly necessary for the security of the licence duty on the present scale, and as now levied, are of an exceedingly arbitrary and vexatious character, and expose the trade to the daily risk of heavy penalties for a mere clerical omission, from pressure of business or indisposition; and although, in a great many cases, the Commissioners of Inland Revenue accept nominal penalties, and enforce the law with a judgment and discretion which temper its severity, we earnestly protest against the continuance of a system of charge which subjects honest traders to vexation, annoyance, and pecuniary risk, and renders such discretion and forbearance necessary. As to the willful omission of the entries, we would observe that, minute, objectionable, and restrictive as the regulations are, there is still great facility for fraud; and that, in a recent report of the commissioners, they admit that ‘the regulations would not enable them to secure a higher rate of licence duty.’ On the quantities of malt and sugar entered the licence duty is computed, it being assumed that every two bushels of malt, or 50lbs. of sugar, will have produced a barrel of beer, or nearly one-third more than the average general produce—a fact which can be verified upon oath, and which is, we submit, corroborated by the following revenue statistics: Thus, in the four years preceding the repeal of the beer duty, the quantity of malt used by brewers was 85,264,581 bushels; the produce, as computed at present, would have been 42,632,290 barrels, while the actual quantity charged was only 31,827,043 barrels. When the scale of duty was limited, this mode of computation, though unjust, was comparatively unimportant; but, used as it now is as a basis for recouping the exchequer for the loss of the

hop duty, the unjustness is aggravated as regards the trade as a body and individual brewers. When the repeal of the hop duty was proposed, it was intended to extend the licensing system to brewers for private use, but that portion of the scheme was abandoned, and consequently that class relieved to the extent of about £25,000 a-year, which they would have to pay as hop duty; and thus an unfair competition was created between the public and the private brewer, to the disadvantage of the former. The unfair competition extends also to the licensed brewers, in proportion to the class of ales which they respectively produce, as the man who brews a low or medium class of beer, requiring from 6lbs. to 8lbs. per quarter of malt, is charged on the same scale as the man who uses 18lbs. to the quarter." [A table was here given, showing that in the three classes of ale, bitter, ordinary, and common, the same quantity of malt produced 100, 70, and 100 barrels respectively, while 100 was presumed to be the produce of all three. The licence was £2 on each lot, first, second, or third class, and notwithstanding that only 70 barrels of the "ordinary" were produced. The hops consumed were stated to be 430lbs. to the 100 barrels of the "bitter," 158lbs. to the "ordinary," and 175lbs. to the "common," the former duty taxing the first £2 16s. 3d., the second 19s. 9d., and the third £1 1s. 10½d.] The paper went on to say: "The 'ordinary' forms a very large proportion of the ale brewed by general brewers. Again, long credit was allowed for payment of the hop duty, from which brewers received considerable advantage; but the licence duty, however large in amount, is required to be paid in advance. A person commencing business, and incurring a licence duty of £500, is compelled at the close of the year to pay £750, and, at the expiration of four months, an additional £250; and as capital is worth, for trade purposes, 10 per cent., the burden of the tax is thus, incidentally, materially increased."

Mr. SICH (Chiswick) then addressed the Chancellor of the Exchequer, and said the licence duties on brewers were imposed in 1862 by Mr. Gladstone at the loud call of agriculturists and hop-growers—in fact, they were taken off agriculturists and placed upon the brewers. The tax had been borne for 10 or 12 years, but the brewers could not get a penny in return in profit for the tax, and, in point of fact, it had been an additional income-tax more than anything else. The brewers came to ask for the total repeal of the duties. They could not see why a tax should be taken off the raw material and placed upon direct taxation, as this was; and, moreover, they thought it was unfair that the shoulders of the private brewers should not have borne it at the same time. There was no doubt there was a large amount of private brewing, and when the beer privately brewed was given to servants in lieu of wages, it was for all intents for profit.

Sir STAFFORD NORTHCOTE asked: Do not the brewers think they had some advantage from the repeal of the hop duties?

Mr. SICH replied that they failed to find any advantage from that repeal, for hops had been dearer ever since.

Sir STAFFORD NORTHCOTE: And, but for the repeal, would they not have been dearer still?

Mr. SICH replied that they could not argue on that point, but they had the fact before them that since the repeal, hops had been dearer.

Mr. N. BUXTON interposed with the remark that the brewers' licence duties formed the imposition of one unjust tax for another.

Mr. SIMMONDS (Reading) urged that the tax was unjust, inasmuch as it was made upon the estimate that four barrels were got out of every quarter of malt, when, in point of fact, it was not so, only about three barrels of the "ordinary" ale consumed by the working classes being got out of the quarter, and that, instead of the tax being an equivalent for the hop duties, the beer which had the most hops was taxed the lightest. He complained strongly of the system, too, which compelled the brewer to pay in advance in January to the Excise, and so keep his capital without interest.

Sir STAFFORD NORTHCOTE asked upon what principle is the money calculated that is paid in advance.

Mr. SIMMONDS said it was calculated upon the average of the last three years' trade.

Mr. BENTLEY then spoke, and stated that Mr. Gladstone had imposed the duties to make up the deficiency of revenue in 1862, saying that the brewers would get the benefit of the lower price of hops consequent on taking off the hop duties,

but that had not been so, for hops had been dearer since. Then it was an injustice that the brewers' trade should be singled out for this exceptional taxation, for this was a tax upon the quantity of beer brewed, and ran from 12s. 6d. up to any amount. It made an extra income-tax of 1s. in the pound on the brewers' profits, and there was no other trade in the country taxed in a similar way. The distillers' was a similar trade to the brewers'; but the distillers only paid a ten guinea licence. They besides might put their spirits into bond, and so escape from spending their capital in paying duty, while the brewers had to pay beforehand. The tobacco trade was the only other trade beside the brewing trade which paid increasing duties; but even in that trade there was a stop at £32. The principle of taxation in this country had always been that of equal justice to all; but it was not just that the private brewer should be exempted as at present and the public brewer taxed. Mr. Gladstone exempted the private brewer—he was certainly pressed to do so; but this had been found to be unjust to the trade.

Sir STAFFORD NORTHCOTE: But did not Mr. Bass urge that the private brewer might be exempted?

Mr. BENTLEY replied that Mr. Bass, who was then the only brewer in the House, was disinclined to incur the odium of sending the excise officer to the door of every gentleman who brewed his own beer; but Mr. Bass had, the speaker thought, seen his mistake. Then, the speaker urged, the private brewer could use sugar without the duty which would fall upon the public brewer, and he proceeded to complain bitterly of the inquisitorial character of the tax and its manifest hardships in so interfering with the brewer's trade that he could not do brewing without giving notice, and could not alter the character of a brewing without subjecting himself to a penalty of £200—a penalty, too, which in the eyes of the public seemed to be a disgrace, while, in point of fact, it might be through an error of a clerk. He pressed, too, on the Chancellor's consideration that the tax was one on trade, and that the brewers could not recoup themselves was proved by the fact that the price of beer, such was the competition in "the trade," could not be raised above what it was twenty or thirty years ago, and this, notwithstanding wages and material had risen about 33 per cent.

Mr. CLOWES (Manchester) also spoke strongly with regard to the inconvenience caused through the obnoxious regulations of the excise necessary in collecting the duties.

Mr. FLATTELEY (Manchester) pointed out that by the tax being charged not upon the malt, but upon the quantity of beer which was supposed to be brewed from a certain quantity of material, the lowest class of beers had to pay for the higher. On a former occasion the brewers had desired the then Chancellor of the Exchequer, Mr. Lowe, to impose the tax in some other form; but as the revenue was now in a favourable position they asked that it should be repealed altogether.

Mr. MOORE (Sheffield) said the hop duties were considered a grievance, but the brewers now considered the licence duties an aggravated grievance. The hop grower used to have credit to pay the duty; but the brewer had to pay his duty in advance. "The trade" contributed very much to the revenue, and the brewers thought they ought to be fairly dealt with, for this was an exceptional tax, it weighed very heavily upon the trade, both as regarded the money paid and the mode of collection, and he trusted the Chancellor of the Exchequer would see his way to relieving them of it.

Sir STAFFORD NORTHCOTE, in reply, said: I have listened with great attention to all that has been said, and I feel that it is a very great advantage to have had the matter so well placed before me. With regard to the main subject of your request—namely, that the Government should make arrangements to take off these licence duties on brewers—you will, of course, not expect me to say anything about now; but I may remark, with regard to the surplus with which the Government have to deal, that though it is undoubtedly a large one—that is, in itself it forms a large sum—yet it is not large when taken in comparison with the demands made upon it, for, I need not inform you, many classes are asking for remission of taxation, and all these demands and requests will have to be considered and compared together. But I will not go into that question. Full consideration of your case, in comparison with other claims for remission of taxation shall be given; but there is one point on which I should like to speak to you, and it is on a matter which was brought before me by another deputation a few days ago. You will have seen that a deputation waited upon

me from the Chambers of Agriculture on the subject of the Malt-tax, and their representation to me was, that it might be desirable to alter the system now in vogue by substituting a tax on beer for the Malt-tax. This, it seems to me, would bring in, perhaps, a system like that in the Brewers' Licensing Act. Irrespective altogether of the question whether there should be any remission of the Malt-tax or whether beer could pay the tax, there comes the question—and this is what I desire to know at your hands—whether it is desirable that any alteration, in your opinion, should be made in the incidence of the tax? I understand the claims of the Chamber of Agriculture are in effect that they desire the duty to be taken off Malt, the raw or nearly raw material, and they suggest, if the taxation should be required, it should be laid upon the finished article—beer. You would argue, I suppose, the reverse? (General cries of Hear, hear.) I want to understand, too, whether you think these restrictions and regulations of the Excise against which you have spoken, are inseparable from the imposition of these duties, or whether you do not think that these regulations and restrictions might be altered so as to make them less objectionable—the effectiveness of the collection to remain. As I understand them, they are real grievances; but those who spoke of them did not suggest any alterations which would give relief in the mode of collecting the duties.

Mr. FLATTERLEY said it would be quite impossible to have any other system of collecting the duties—only this system or none.

Sir STAFFORD NORTHCOTE: And am I to understand that you would have any objection to a change of the Malt-tax to a Beer-tax?

There was a general chorus in response, "Oh, certainly, sir, the strongest objection," and

Mr. BENTLEY added that the change would entail great difficulty, especially to the Excise, and would cost more in the collection than the malt duty did. Moreover, he did not see what the farmers had to complain of, for the Malt-tax was not a tax upon barley, as the farmer declared, but was really a tax of 2d. a gallon upon beer, or from 15 to 20 per cent. upon all beer brewed. Of course it depended on the policy of the Government, whether it meant to abolish all indirect taxation, or maintain the policy which had obtained in this country for so many years—that of indirect and direct taxation; but if indirect taxation was to be continued, this Malt-tax was a fair one to be paid by the working classes. They got their beer at 2d. the pint; in some places at 1½d., and that was quite

low enough, and if they could not afford that they should go without beer altogether. The malt duty was fairly levied; it did not cost more in collection than any other tax would, and it did not press hard upon beer. He thought the Government would make a great mistake if the incidence of the Malt-tax were altered as suggested by the Chamber of Agriculture.

Sir STAFFORD NORTHCOTE: I am very glad to have had the opportunity of hearing your opinion; but on the subject of private brewing I think it was Mr. Bass himself who, on the proposal to take off the hop duties, said of private brewing: "That's a small matter; don't let that stand in the way." Is that not so, and is not the private brewing a small matter?

Mr. BENTLEY: Mr. Bass's object was that he should not send the Excise officer to the house of every gentleman who brewed beer; but it is largely carried on.

Sir STAFFORD NORTHCOTE: Was it not the opinion of the trade that the change—that taking off the duties on hops—would more than compensate them for taxing the public brewing?

Mr. BENTLEY: Well, the brewers thought there would be a larger growth of hops as the result of taking off the duties on hops, and that they would be compensated by having them at a lower price; but the plant is such an extraordinary one, that one year there is a failure and at another a small crop, and so prices go up and down; consequently, the brewers have not got the benefit from the change they expected they should have got.

Sir STAFFORD NORTHCOTE: Should you not ask yourselves what you would have had to pay under the present circumstances if the hop duty had been continued, and that, too, upon the larger quantity used?

Mr. BENTLEY responded to this question by the question—Why should we pay at all?

Mr. FLATTERLEY added that the Chamber of Agriculture did not see that the malt duties were any benefit to the farmers, as, he contended, they were, and he denied what had been stated by the Chamber of Agriculture in respect to the sugar duties being 17s. against the malt duties of 21s. The fact was sugar was 24s. against 21s. for malt.

The deputation then informed Sir Stafford that there would have been a larger number present if a few days more had been given, as deputations from Scotland, London, and other places would have attended. They thanked the Minister, and then retired.

THE TAXES UPON FOOD.

A deputation from the Free Trade League waited upon the Chancellor of the Exchequer at his official residence in Downing-street, to urge upon him the desirability of the removal of all taxes from food. The deputation included members of the Working Men's Club and Institute Union, the Westminster Working Men's Association, the Labour Representation League, the Trades' Guilds of Learning, and the Trades' Congress Parliamentary Committee. Mr. W. H. Smith, the Financial Secretary of the Treasury, was present, with Sir Stafford Northcote.

Mr. G. POTTER said the taxes raised upon the people's food through the customs and excise amounted to £46,000,000. Besides this, skilled artisans and professional men had to pay Income-tax, from which he considered working men in receipt of incomes of £100 to £180 and professional men in receipt of less than £300 a year should be exempted. As an example of the way in which taxation affected the working classes, he might state that if a man with a wife and five children spent 30s. in the course of a month in tea, coffee, sugar, beer, and spirits, he paid, through customs and excise, the sum of 7s. He urged upon the Chancellor of the Exchequer that the working classes, as producers, were entitled to special consideration, and that other nations should be shown by example the undesirability of taxing trade. It had been said that there was a surplus of £5,000,000, but whether or not that was the case they did not want taxes to be taken from food and imposed on something else; they wished rather to see the lavish expenditure of the country reduced, and if that could not be

done some other means of raising revenue ought to be found by the Government.

Mr. BRIGGS said the Free Trade League had decided that sweeping reforms must be made in the taxation system of the country. The League considered that the effect of the Malt-tax was injurious to the production of food and the interests of agriculturists and farmers.

Several other speakers having expressed their views upon the question,

The CHANCELLOR of the EXCHEQUER said: Gentlemen, you will not expect me to anticipate prematurely what it will be the duty of the Government to lay before Parliament in a very short time. As you are aware, one of the greatest measures to be brought before Parliament will be the budget for the year, and of course the financial policy of the Government will then be discussed. All that I will venture to do now is, in the first place, to thank you for the very able manner in which you have brought this matter under the notice of the Government. The Government are very glad to hear the opinions of different sections of the community, and I wish to assure you all, and my good friend Sir John Bennett in particular, that the Government would approach the consideration of the financial settlement of this year, and, so far as they are able to forecast, of the country generally, not in the spirit of party or of class, but with the feeling which animates us, and which has, I believe, animated successive Governments of the country for a very long period. They will approach it with a desire to do what they believe to be the

best for the general interest of the country. They will take into consideration what has been urged upon the revenue with a view to the adjustment of taxation in a national and a liberal spirit. Of course interests of so important, I hardly like to call it a section of the community, but so very important a portion of the community as that which you represent, must be very carefully considered in any adjustment of taxation. Further than this it would be very difficult for me to say anything without going into matters into which I ought not to enter. I should like to ask one question. I do not quite understand what is the extent to which you wish to carry this movement. I think I understood Mr. Potter to say that he thought all classes should contribute in proportion to their means towards the national expenditure, provided that the expenditure is of a proper character, and we know that a considerable portion of it is incurred directly for the benefit of the working classes. On the other hand, Mr. Briggs, I think, laid it down broadly that the principle of reforming the revenue system should sweep away all customs and excise duties, including, I suppose, the duties on malt, tobacco, and spirits. Suppose all these duties to be removed, in what manner could those classes who are below the range of the Income-tax contribute to the revenue of the country? Is it proposed that they should be exempt, or that they should be made to contribute in some other manner that may be devised?

Mr. G. POTTER said the principle they went upon was that realised property should be taxed extensively.

Mr. BRIGGS: I suppose that the question put by the Chancellor of the Exchequer is this: If the customs and excise duties were swept away how would the working classes contribute to the revenue of the state?

THE CHANCELLOR of the EXCHEQUER: Yes.

Mr. BRIGGS: This is what we propose—

Sir JOHN BENNETT asked the speaker not to say what "we" proposed, as the business of the deputation was to ask for the abolition of the duties on tea, sugar, and coffee.

Mr. BRIGGS remarked that Sir J. Bennett was not a contributor to the Free Trade League. £34,000,000 could be raised by means of a personal or household tax.

THE CHANCELLOR of the EXCHEQUER: I only put the question because what I alluded to raised rather a wider issue than the one which was first raised. All I can say is that the matter will be taken into full consideration.

The deputation then thanked the right hon. gentleman and withdrew.

THE HEREDITARY BURDENS ON LAND.—In the question of hereditary burdens on land, there can be no doubt as to who would benefit by the remission. The beneficial owners of the land of the country, whoever they are, would be the gainers. Their property would be relieved of a charge which seriously diminishes its selling value; their incomes, if they do not sell, would be enormously increased. Say an estate in the country worth £5,000 a year, on which the rates are 2s. in the £, or £500 a year, has for its beneficial owner a man who has mortgaged it, or charged it, to the extent of £3,000 a year. His net income, deducting the rates, is £1,500 a year, and this is the net income he would be able to sell at any time. If the rates were reduced altogether, he would have £2,000 instead of £1,500 a year, and he would have so much more income to sell if he did bring the property to market—both his income and his capital would manifestly be increased enormously by the remission. Of course it must be understood that the man who is described as the real beneficial owner may not always be the same person as the nominal proprietor according to English law. Tenants, in some cases, if they are not rack-rented, and if a custom protects them, or if they have a long lease, may be in a position to receive the benefit of a reduction of rates on the property they occupy. But such facts do not alter the principle. It is in their capacity as beneficial owners of some imperfect sort that tenants in the cases specified would benefit, and

they would stand exactly in the same position as any other beneficial owners as regards the justice of the remission claimed. But what title have such owners to the remission? Are they now unjustly taxed in respect of all or any portion of this hereditary burden? On this point it was common to urge, some years since, that the owners of landed property should pay no more in respect of their property than owners of personal property; that they never ought to have paid more; and though Mr. Baxter does not push his own logic so far, we observe that a friendly reviewer in *The Standard* has gone the length of saying as much. We are informed that "if we are to go back into the past, the landowners are entitled to be recouped enormous sums of which they have been cheated by the carelessness of collectors, the cunning of capitalists, and the connivance of Parliament. The fact that a burden has been long evaded is no reason why it should not be laid on the right shoulders at last; and the fact that a wrong has been endured for a couple of hundred years does not justify its longer continuance." But such extravagance refutes itself. Ideal wrongs of this sort cannot be the basis of any practical legislation, or be set up to show that the existing beneficial owners of land are unjustly treated. Common sense tells us that a man who purchases land takes it with all its liabilities—considers only the net income which he buys—and it is almost grotesque to describe him as the inheritor of the grievances of former owners. It is the same with the fortunate descendants of former owners themselves, who owe the fact that they have inherited anything at all to the beneficent care of the State, and as to whom the only question can be whether the State has not allowed too much to descend—has not improperly abstained from making a heavier charge on the privilege of bequest. But if existing landowners are not wronged, why should the tax be remitted? The only plea for remission is one of equity; and the condemnation of existing taxes on the ground of injustice implied by it is so extravagant as to prove to the common sense of mankind that it is unfounded. It is quite true that the plea is put forward to cover a much smaller practical claim for redress; but, if the logic is good for anything, it is good for abolishing the entire hereditary rates, and it would be mere child's play to abolish only the fractional part of so monstrous a grievance as is alleged. —*The Economist*.

THE EMPLOYMENT OF CHILDREN IN AGRICULTURE.—At a meeting of the Parton (Lancashire) Board of Guardians the Clerk read a circular letter from the Clerk to the High Wycombe Union, petitioning Parliament for the repeal of those clauses of the Agricultural Act of last session of Parliament which prohibited the employment of children between ten and twelve years of age. The petitioners complained that the Act, as it now stood, would inflict great hardship upon parents of children employed in agriculture, as they would be deprived of the earnings of their children, which formed a large contribution to the support of the whole family. That the enforcement of the provisions of the Act would be detrimental to the interest of the growers of corn and feeders of cattle, and throw them upon the country at large as consumers of the produce. That the farmers of this country were already heavily burdened with taxation, in addition to which their expenses were increased by the heavy rate of wages paid for labour. Mr. Neild knew of several children in his neighbourhood who could earn four or five shillings a-week in watching birds or tending lambs, which was a nice healthy exercise, and to which no work was attached. He thought as the law now stood it was a most obnoxious imposition. He would say that there were these conservations—though he was not seeking the slightest favour for farmers over that of any other business—that the peculiar nature of the employment of which he had spoken was healthy and desirable on all grounds. Mr. Waddington contended that the children to discharge the duties must be exposed to the weather. The Chairman said that as the country was looking to the education of her children, if they were so employed how were they to get education? If children, by education, became more efficient servants, if they were employed under the age of ten that education became nullified. He thought that children should have that education which would fit them for their duties in life; and that as regarded competition, he thought children should be considered as well as the parents. No motion was passed upon the letter.

ON A NEW SYSTEM OF CULTIVATING THE POTATO, WITH A VIEW TO AUGMENT PRODUCTION AND PREVENT DISEASE.

A scientific old gentleman of somewhat primitive habits once declared that with a little more soil, otherwise dirt, he could grow turnips on the top of his head; while Mr. Shirley Hibberd, in a really interesting paper which he read, or rather spoke from at the Society of Arts solves one of the difficulties of the day by growing potatoes on the top of his tile: "In the year 1861, having reasoned out the case, I prepared a plot of ground for an experiment, to test the value of my conclusions. I procured a quantity of common roofing-tiles, laid them in lines on hard ground, laid potato sets on them, and then covered sets and tiles with prepared soil, so as to form a long ridge covering a shallow tunnel. The result was a remarkably heavy crop, the texture finer than the average, and without a trace of disease. I then resolved to improve on the plan, by providing a better tunnel than was possible with the nearly flat roofing-tile. The result was the adoption of a tile made expressly for the purpose, and known to the few friends who have taken an interest in my proceedings as the 'Hibberd potato tile.' It is a foot wide and fourteen inches long, the form that of a low, flat-topped arch, four inches deep in the centre. The best way to use this tile is to lay down lines four feet apart, on hard ground, and as the sets are laid on the tiles, they are moulded over with earth from the intervening spaces. The result is a series of rounded ridges, so far separated that the potato plant enjoys abundance of light and air, lodgment of water is impossible, and in the event of a sudden lowering of temperature, when the tubers are ripening, the storage of earth-heat below the roots tides the crop over the time of danger, and prevents that engorgement of the tissues which constitutes the first stage of the disease and the nursery for the fungus. As a matter of course, the intervening spaces should be deeply dug and liberally manured, and planted with suitable crops. These must be such as will not rob the potatoes of air or light. The cultivator will have no trouble in determining how to utilise the furrows."

Of course this is a somewhat expensive process, and after giving merely the price of the tiles per thousand Mr. Hibberd very fairly left it to practical men to calculate the cost of laying, planting and otherwise cultivating the crop. The result, however, is the main point: "As a matter of fact, if the tile system is properly carried out, it will in a run of years produce full double the weight of potatoes that would be produced on the same land without its aid; and it has this peculiar advantage, that by saving the crop in a bad season it provides the cultivator with something to send to market at a time when prices rule high, and potatoes are regarded as articles of luxury." And then the lecturer went on to demonstrate how in a good season as much as £12 per acre might be returned in favour of the tile system.

The discussion which followed was not worth much. Like the use of sewage, the potato disease would seem to have a tendency to occasionally weaken the intellects of those who give their days and nights to such a study; while, what with its weekly meetings, the Society of Arts is cursed like the Commons and other debating societies by the presence of people who are always ready to speak on any given subject. The point consequently of the after sitting rested with Mr. Hibberd's reply, and Agricultural Society should not at once abandon the proposition was so striking that it is a question whether the Royal motion of any other experiments and devote its energies to the due development of the tile system; even though, as

we hear, some competition will come of the last movement in this direction. In America, as Mr. Hibberd quoted from market prices, certain varieties of potatoes were sold at 50 dols. a root, 180 dols. per bushel, and 5 dols. per lb., which was the price obtained for Early Rose in 1869; whilst in 1870, 500 dols. was refused for one peck of King of Earlies." Now 5 dols. per lb. was equal to £466 per ton," and so on, after the celebrated horse-shoe calculation, until Mr. Hibberd proved that he himself had grown potatoes at a gross return of little short of *ten thousand pounds per acre!* It is a common saying that you may make out or make up anything by the aid of figures; but it must be understood, as will indeed be seen by the report of his address, that Mr. Hibberd is no mere theorist but a thoroughly practical man; and when he talks of ten thousand pounds per acre he says, "these are big figures no doubt, but they are strictly founded on facts." All this may be taken as from something of an American point of view, where with King Earlies at 500 dollars a peck, and Grand Duchesses at ten thousand pounds each, and Early Roses at ten thousand pounds per acre, trade must be rather smart.

At a meeting of the Society of Arts, Lord Alfred Churchill in the chair, Mr. SHIRLEY HIBBERD read the following paper: "So much has been written and said on the subject of potato disease, that I can only hope to obtain attention by announcing that I am prepared to submit for your consideration and approval proposals which, I believe, will be regarded as tending materially towards a solution of the puzzling problem the disease forces on our attention. I shall be compelled to go over old ground, but it will be for the purpose of establishing new conclusions. Of the history of the potato, of the special characteristics of the fungus that accompanies the murrain, of the varieties and uses of the potato, I shall have nothing to say, except, indeed, it may be incidentally, and for the necessary illustration of my argument. In all the many inquiries and experiments which have been described and reported until farmers and gardeners were tired of them, one important point which I shall presently bring under your notice has been overlooked, and hence the majority of proposed preventives of potato disease are of an empirical nature; they are, indeed, akin to what in connection with maladies that affect the human frame is usually denominated quackery. The essence of quackery is to consider the symptoms and neglect the cause of the disease, and in the case of potato murrain numberless plans have been devised, and have resulted in failure, because they were founded on a superficial consideration of the aspects of the case, instead of a clear perception of the real origin of the mischief. One advises that the plant be suddenly and violently robbed of every leaf and branch on the first appearance of the malady; the result of this treatment is that growth is suddenly arrested, and the crop is usually not worth digging. The mycologists make the best figure among the potato doctors, for they deal with a reality which they understand in part; but their microscopical and biological investigations have led thus far only to a more complete knowledge of symptoms, and a good conjecture as to the cause of the disease; for, as to the means of prevention, it appears that the more they know of the fungus, the more helpless they profess themselves to arrest its ravages. I invite you, first, to consider the constitution of the plant. It is, as you know, a native of the warm temperate regions of the western continent. It has never been found wild in either a sub-arctic or a tropical clime, and it would probably soon become utterly extinct in this country if completely cast out of cultivation, and left to lead the life of a vagrant weed. Several species of wild potatoes are met with in Chili, Peru, and Mexico; from which of these the cultivated potato has been derived it might be difficult to say, but this is certain, that they inhabit countries that are considerably warmer than great Britain, and therefore we begin with a plant that is not perfectly adapted to our climate.

The mean annual temperature of those parts of Peru where wild potatoes are found is 72 deg., the maximum 82 deg., the minimum 55 deg.; the table lands of Mexico have a mean annual temperature of 62 deg., the lowest temperature in winter is 32 deg., and in summer the heat rarely exceeds 85 deg. As the mean annual temperature in London is under 50 deg., and the range of temperature during the summer months is considerable, it is evident that *Solomon tuberosum* is out of its element here, for it needs the best climates of the South of Europe, where, indeed, the disease is scarcely known, and the tubers usually grow to a prodigious size. In favourable seasons the potato is one of the most profitable of farm and garden plants in this country and the more northern parts of Europe. The health of the plant is in no way affected by a severe or prolonged winter, as it would be if left to grow wild; and, for the business now in hand, we need only consider the conditions to which it is subjected during the five growing months from May to September. You do not need to be informed that this is a most uncertain climate, the consequence, no doubt, of our environment by the "melancholy sea." In seasons when the temperature approximates to the average, and is agreeably equable, with a moderate and timely rainfall, the potato prospers, and makes an ample return to the cultivator, by a plentiful production, wholly clean, or very slightly damaged by disease. But in seasons characterised by a considerable range of temperature, or by a deficiency of heat, and an excessive rainfall, the crops are damaged more or less, and everybody appears to enjoy a monopoly of wisdom on the subject of potato disease which leads to confusion and ends in nothing. I must ask your attention to a few facts. In the course of the forty-seven years ending 1872 the mean temperature at Caiswick of the five growing months was 59 deg. 27 min. In the same period the mean rainfall of the same five months was 11.12 inches. In the year 1845 (the year of the potato famine in Ireland) the mean temperature of the five growing months was 56 deg. 50 min., and the rainfall was 11.12 inches. In the year 1860, when the sun was obscured for months together by rain clouds, and potato disease well-nigh extinguished the potato plant, the mean temperature of the five growing months was 55 deg. 63 min., and the rainfall 17.89 inches. These were the two worst years for the potato crop in our time. Let us now compare them with the two best years. In the year 1863 there was a long-continued drought; the pastures failed, the railway banks were everywhere on fire, and the potato crop was one of the cleanest ever known. The mean temperature of the five growing months was 62 deg. 67 min., and the rainfall only 6.95 inches. In 1870 another drought occurred, but owing to the copious rainfall in the spring the resultant inconvenience was much less than in 1863, and the potato crop was equally clean and considerably heavier. In the five growing months the mean temperature was 65 deg. 39 min., and the rainfall only 6.61 inches. An extended series of comparisons all tell the same tale, but less strikingly, and on the present occasion it is desirable to arrive at conclusions as quickly as possible. It must be observed here that a statement of the mean temperature of any given period may altogether misrepresent the thermometrical conditions that have prevailed, for a period of excessive heat may be suddenly followed by excessive cold, and the mean of the period may be altogether unaffected by the fluctuation. It is proper, therefore, to remark that potato disease usually makes its appearance a few days after the mean temperature has been considerably lowered, or after a sudden and excessive rainfall, and is a quite common sequel to a period of electrical disturbance, so that "thunder weather" is commonly regarded as a precursor of the murrain. These facts being generally accepted, the question arises, What is the cause of potato disease? By one, and, indeed, by many, we are told that the cause is electricity. Another assures us that an insect has punctured the plant—it may be the *Aphis vastator*, or the Colorado beetle, but an insect is the cause of it. Another explanation is that a fungus is the author of the mischief, and the particular fungus selected is the one now called *Peconospora infestans*, formerly *Botrytis infestans*. In my opinion (and I have been a student of the potato and potato-culture over twenty years), the only explanation worth a moment's attention is that offered by the mycologist. Without doubt, the fungus is invariably associated with the murrain, but it is a mistake to say it is the cause, for, in truth, it is but an effect: the cause is of a more subtle nature. If the disease invariably follows certain

changes or conditions of temperature and humidity, and is unknown when such conditions do not prevail, why should we not regard the fungus as only a symptom, and accept the suggestion of facts, that the conditions which favour the disease are also favourable to the fungus? Where was the fungus in 1863 and 1870? It was, comparatively speaking, unknown, for the plant was healthy. In 1845 and 1860 the fungus found the plant a ready prey, for the plant was weakened by a low temperature and excessive humidity. The potato is here out of its element, and hence it prospers only in seasons that are better than the average, at least so far as the five growing months are concerned. I must now beg you to bear in mind that the potato is greatly influenced by sudden changes of atmospheric conditions when the crop is nearly full-grown and is entering on the period of ripening. It so happens that the ripening season—July and August—is also the season when atmospheric convulsions are most common, great heat being quickly succeeded by unseasonable cold, and the cold aggravated in its effects by a copious rainfall. If we are to save the potato we must find means to carry it through these periods of trial, and, as I understand the case, that is the problem now before us. The potato, more than any other plant in cultivation in this country, is dependent for its health on continued solar heat. If we could produce artificial sunshine above the surface of the ground, and artificial sun-heat below, we should save the crop at times when sunshine fails, and the ground is disastrously cooled by a heavy rainfall. You will not expect of me anything in the nature of a miracle, but I will endeavour to show how a substitute for sunshine may be secured by a simple method of procedure, and at a cost by no means extravagant, considering the results that may be anticipated. You are aware that in heavy lands it is customary, at least in gardens, to plant potatoes on ridges, in order that their roots may enjoy a maximum of ground heat, and be quickly drained of superfluous moisture by means of the troughs between the ridges. Now, it will be obvious that the advantage of the ridge and furrow system would be considerably increased were we to piece every ridge with a tunnel, for this would ensure beneath the roots of the plant a body of imprisoned air, the non-conducting property of which would render it a store-house of solar heat, maintaining the temperature of the soil nearly at the point it had attained before the weather changed, and while favouring the rapid escape of surplus moisture, acting medicinally as well as nutritively to sustain the health of the plant. I shall endeavour to show how this may be done. In the year 1864, having reasoned out the case in much the same way as I now place it before you, I prepared a plot of ground for an experiment, to test the value of my conclusions. I procured a quantity of common roofing tiles, laid them in lines on hard ground, laid potato sets on them, and then covered sets and tiles with prepared soil, so as to form a long ridge covering a shallow tunnel. The result was a remarkably heavy crop, the texture finer than the average, and without a trace of disease. I then resolved to improve on the plan, by providing a better tunnel than was possible with the nearly-flat roofing tile. The result was the adoption of a tile made expressly for the purpose, and known to the few friends who have taken an interest in my proceedings as the "Hibberd potato tile." It is a foot wide and fourteen inches long, the form that of a low, flat-topped arch, four inches deep in the centre. I obtained a supply of this tile from Messrs. Seales, of the Potteries in the Green-Lanes, Stoke Newington, in 1865. There was no stint of clay or fire in making them, and they prove to be capable of wear-and-tear to a surprising extent, considering that they have to be roughly handled. The best way to use this tile is to lay down lines four feet apart, on hard ground; and as the sets are laid on the tiles, they are moulded over with earth from the intervening spaces. The result is a series of rounded ridges, so far separated that the potato plant enjoys abundance of light and air, lodgement of water is impossible, and in the event of a sudden lowering of temperature, when the tubers are ripening, the storage of earth-heat below the roots tides the crop over the time of danger, and prevents that engorgement of the tissues which constitutes the first stage of the disease and the nursery for the fungus. As a matter of course, the intervening spaces should be deeply dug and liberally manured, and planted with suitable crops. They must be such as will not rob the potatoes of air or light. The cultivator will have no trouble in determining how to utilise the furrows. In the garden they

will be found admirably adapted for celery, late dwarf peas, broccolis, and winter greens. In farm practice it would probably be best to leave the furrows open, because the sort of potatoes selected would profitably utilise the light and air, and in strong land really meet across the furrows. Here, of course, we encounter the question, Will it pay? It must be confessed that the Hibberd potato tile is a costly thing, for Messrs. Seales cannot now produce it at a lower rate than from £6 to £8 per 1,000, and, for the sake of a datum, we may reckon that the cost would be £7 per 1,000, or, if laid in lines four feet asunder, £66 3s. per acre. The cost of the common ridge tile at the present time is £3 10s. per 1,000, but this is only 12 inches long, and the saving is less than appears. It would be good practice, however, to lay these a yard apart, the cost in this case amounting to £51 9s. Those who raise or speculate in new varieties, and who are familiar with the difficulty of obtaining a stock quickly, to ensure a high price in the market, will not regard the tile system as costly, provided only that it affords substantial help to save the crop in a bad season. As a matter of fact, if the tile system is properly carried out, it will in a run of years produce full double the weight of potatoes that would be produced on the same land without its aid; and it has this peculiar advantage, that by saving the crop in a bad season it provides the cultivator with something to send to market at a time when prices run high, and potatoes are regarded as articles of luxury. But we must test the tile system on the land of the man who grows potatoes for market. With a good season, good land may be reckoned to produce potatoes at the rate of eight tons per acre, which, at 120s. per ton, will be worth £48. If we estimate the crop on the tiles at sixteen tons, the total value will be £96, from which we must deduct £6, being 10 per cent. of the cost of the tiles for interest on the investment, which reduces the value of the crop to £90. This shows a balance of £42 per acre in favour of the tile system. But suppose we estimate the crop at twelve tons, the value will then amount to £66, showing a balance of £18 in favour of the tiles. It will be observed that, in a hot and dry season like that of 1870, the difference in bulk and quality between a crop grown without and another with tiles will be trifling, so as to show the least advantage of the tile system; while in a season characterised by a copious rainfall, the difference will be the greatest, for as a matter of fact, when disease prevails and there is said to be no crop, there is usually a prodigious production of tubers, and the misfortune is that the majority of them are worthless. It is in such a season the tile system will tell its proper story. The heavy rains that spread disease on every hand will benefit the crops that are protected by tunnels, and the enormous production that follows upon thunder weather in the height of the season will be saved for our use, when, if not so aided, they would simply rot and make the very atmosphere offensive. Let us then suppose that we have a forward, genial summer, occasionally interrupted by electric storms and days of tropical heat and rain. In such a season the potato crops on well-drained fertile sandy soils are usually great, while on the heavy lands they come to nothing. But if on these heavy lands we employ tiles, we may expect to dig twenty tons per acre. The contrast in such a case may be put thus: Produce of one acre on the flat, nothing; produce of one acre on tiles, 20 tons at 120s., £120. When a proper reduction has been made for interest on cost of tiles and loss by breakage, the balance will prove the potato to be one of the most profitable plants in cultivation.

It remains to be said that the tile system will not make sunshine, will not create heat, and will not check the rainfall; therefore, it will not be always successful, and I am bound to confess that I have taken diseased potatoes from tiles; but in a bad season, the tiles, with all their shortcomings, have ensured a crop when, without their aid, there would have been none. Wheat, maize, and potatoes are, in a peculiar sense, the products of sunshine; and in such a summer as that of 1860, when the sun was obscured for months together, and the rainfall of the growing season, from May to September, amounted to 15 inches, there could be but a small production of such things, no matter what the conditions and contrivances adopted by the cultivator. I make no pretension to the discovery of an infallible specific, but I am satisfied that all who are interested in the cultivation of the potato should give the tile system a fair trial during at least three consecutive seasons, to

determine for themselves whether in these remarks peculiarities and merits have been fairly stated.

Mr. W. J. GOUTON (Retford) said he had been growing potatoes for the last twenty-five years, to the extent of 200 acres on the average. He was very glad to find that scientific men were taking up this important subject, and hoped some good would result from it. He wished to know if Mr. Hibberd had made any calculation as to the cost of labour in using the tiles.

Mr. BOTLY made a speech.

Mr. AMOS BRYANT expressed his decided conviction that the disease in potatoes was produced by a fly, produced from a worm found in oak-galls, which were imported for tanning purposes. He had a powder which would exterminate this fly, and he would undertake to grow potatoes for anyone free from disease, without the expense of tiles, or to cure the disease if not too far advanced.

Mr. NEWTON, having had considerable experience in both agriculture and horticulture, could confirm what Mr. Hibberd had said as to the value of drainage in the culture of potatoes, and, though he did not quite approve of the tile system now proposed, he believed he was the first to introduce drain tiles into Virginia. The potato was a sub-tropical plant, and required plenty of sun. Within the last year he had seen two crops grown on the same land in Virginia without any manure, simply because there was abundance of warmth to evaporate the water at the time the plant was forming starch. Since the days of Dr. Lindley the potato disease had been known in Great Britain, but no certainty had been arrived at as to its prevention, though efficient drainage seemed most promising. The potato, being a sub-tropical plant, seemed to accommodate itself to its new home like the sub-tropical plants in Hyde-park, which only thrive when there was good drainage, and the soil was kept warm by means of air. He had tried many experiments, like Mr. Hibberd, but did not believe there was any remedy for the disease. It simply came to this—if the soil were warm enough, and the sun sufficient to evaporate the moisture when the starch was forming, the disease did not appear; and he, therefore, recommended the thorough draining of the soil, and the cultivation of early varieties, which would ripen before the approach of the summer thunderstorms.

Mr. R. J. LECKY wished to know how manure was applied under the tile system. Having lived for many years on the west coast of Ireland, he had watched this disease since 1845, and thought a very foolish mystery had been made of it. It was really very simple; the spores of fungi were constantly floating in the air, and whenever they found a suitable medium they would grow. In a damp, moist year there could be no doubt that these spores grew much more easily than in a dry year. Plants grown rapidly and well were less liable to disease than those grown slowly and badly, as they were not so much attacked by insects and parasitical fungi. It was all nonsense about electricity causing the disease. In his opinion the plant was attacked by the disease in the leaf first, as was constantly seen in every potato field; it began with a little black spot in the leaf, which became brittle, and from there it extended to the stalk, which also became brittle. Sometimes a field would appear entirely free from disease one day, and then, after a foggy night, it would be all covered with it. That simply arose from the rapid growth of the fungus, though what sort of fungus it was he could not say. It rapidly spread from the leaf to the rib, from the rib to the stalk, and then to the root, where it found its food in the starch. It had been often said, that when a field was attacked, if it were mowed down, the tubers would be saved, and he believed it was so; there were too many examples for it to be doubted. No doubt Mr. Hibberd's plan was a very good one, but it was rather expensive. Potatoes grew in all climates, in Normandy, in Ireland, and in the dampest parts of the west coast of Kerry, and the crop was very often good in that damp climate, the reason, no doubt, being that the temperature was high during the important part of the year. At Valentia the temperature during the five months referred to, seldom exceeded 70 degrees, or fell below 55 deg. to 60 deg.

Mr. HALE thought it would have been well if Mr. Hibberd had given the comparative results of growing the same kind of potatoes in the same soil with tiles and without.

Mr. EARLY asked what would be the result of the tile system upon the crop, if during the chief growing season there

were a drought; would it not be rather detrimental than otherwise?

The CHAIRMAN said he gathered from the discussion that there was a general concurrence of opinion that the disease was merely a fungus which grew upon the potato, and which was engendered from its being grown upon cold, damp soils. Of course, the first remedy was drainage, the second, to provide a warm soil, such as was natural to the plant. This being so, the method proposed by Mr. Hibberd seemed to answer, as far as his experience had gone, and it was certainly a rational one in every respect. His most powerful arguments were the statistics he had given, showing the different crops which had been produced in different years according to the meteorological average taken during the five months of the potato's growth, and proving that dry years produced the best crops. Looking at the enormous consumption of potatoes, it was most important that some means should be devised, if possible, for producing a uniformly good crop, and Mr. Hibberd seemed to have hit upon the right principle, because he had shown that the potatoes grown upon the tiles far exceeded in weight, quality, and value, those grown in the ordinary way. There was no doubt he was right in protesting against overcrowding, for harn was often done by attempting to fill the ground too much, one plant crowding out the other, and robbing it of its proper nutriment. Air was, undoubtedly, one of the most powerful non-conductors, and the air having been once warmed, would retain its heat for a considerable time, notwithstanding occasional thunder showers. The material of the tile also was a good retainer of heat, and therefore, though there might be cheaper materials discovered for enclosing the air, he did not think they would prove so useful as tiles in retaining the warmth. There was a heavy outlay at the beginning, no doubt, but against that must be set the increased value of the crop. If this difficulty of cost could be overcome, no doubt the system would soon be largely extended, to the great increase of production. He had lately seen in the *Gardener's Magazine* an article describing a beetle now prevalent over some part of North America, which destroyed potatoes in a most marvellous manner, large tracts being quite devastated by it. It was necessary, therefore, to be particularly cautious in planting seed potatoes which came from America, lest this destructive insect should be introduced. In conclusion, he moved a cordial vote of thanks to Mr. Hibberd for his valuable paper.

Mr. SHIRLEY HIBBERD, in reply, said his only object in coming forward was to promote potato culture on scientific principles. He had not put down anything for the cost of labour, leaving such details to practical men who could deal with them quite as well as himself; but, according to his own

experience, the cost of laying down the tiles was very small indeed; it would hardly add anything to the expense. Mr. Newton, although not professing to approve his system, really did so, because he approved of draining, and referred to the sub-tropical plants in Hyde-park, which had only been successfully cultivated on this very system, though brick rubbish was used instead of tiles for the purpose of enclosing the air. Another gentleman had asked how the manure could be applied. He might say, according to fancy. Sometimes on a nice sandy soil potatoes were planted on the manure, and then covered over; and so with the tiles. They might be placed on the tile and then covered over with manure. And by this plan you might manure very strongly, because as the water was got rid of and the plant kept warm, it could assimilate more food. He had manured the ground after the potato was planted, digging it well, turning in plenty of guano and cheap potash salts, and then when it was all well chopped up, turning it over the plants. He was not particular to one particular form of tile, his object being to establish the principle, and leave every one to carry it out in the best and cheapest way he could. He had tried every possible experiment in potato culture, and could easily spend several hours in narrating his experience, but considered it better to keep to one point, and explain it thoroughly. Mr. Early had put a very excellent question, and no doubt this plan would not be so advantageous in time of drought; but then in a light porous soil the tiles were not required, and in a heavy clay soil the drought would not effect the potato much on the tile; in fact, in 1868, he had a beautiful crop. It served to store up the sunshine against the time of bad weather. That was the vital principle. He himself did not grow potatoes for the wholesale market, but he would conclude by a few facts, showing the value of the system to a potato fancier. He then quoted several American journals to show that certain varieties were sold at 50 dollars a root, 180 dollars per bush., and 5 dollars per lb., which was the price obtained by Messrs. Bliss for "Early Rose" in 1869; whilst in 1870 the same firm refused 500 dollars for one peck of "King of Earlies." Now 5 dollars per lb. was equal to £466 per ton, and at 8 tons per acre, that was between £4,000 and £5,000. He himself had grown "Early Rose" at the rate of 20 tons per acre—by a costly system no doubt, with a beautiful soil, fit to grow calceolarias or fuchsias, and with every care taken in the handling to put the potatoes the right way up—but at the same rate of 5 dollars per lb., that was equal to £9,320 per acre. These were big figures, no doubt, but they were strictly founded on facts, and were sufficient to show that the cost of tiles was not always a matter of very great importance.

BOTLEY AND SOUTH HANTS FARMERS' CLUB.

THE BREEDING OF SHEEP.

At the last monthly meeting held at Botley, Mr. W. Warner, the president, in the chair, the subject was "The advantage of cross breeding in sheep, particularly the Cotswold sheep," introduced by Mr. Smith, of Westend.

Mr. SMITH said: When I was asked to read a paper on the different breeds of sheep I readily consented, as it would give me an opportunity of describing my own breed of sheep, and also an introduction to some of my brother farmers. I am not come so much to teach as to learn, and there is often more information to be gained from the discussion than from the paper read. I hope no gentleman will hesitate in asking for an explanation on anything I say. That is the only way to get full information on the subject. I commence with the Cotswolds. The Cotswold sheep are supposed to derive their name from the "cotes" or sheds from which they were fed in winter, and from the "wolds" or open hilly grounds in which they were pastured in summer. I believe them to be the original breed of the long wool sheep, as they are continually spoken of from the earliest times when no other sheep are noticed. I find that Gloucestershire was the earliest trading district for native wool in England. Gloucester had its trade companies and Guildhall long before one was established in London. In the thirteenth century Cirencester had two markets—one on Monday for corn, and one on Friday for wool. The

monumental brasses in the church at Cirencester and at North-leach were paid for in Cotswold wool to foreign artists. That attests the importance of the wool trade at that period. A part of Northleach Church was built by Henry Forty, a wool dealer, who died in 1400 at Cirencester. One of those interesting brasses is to the memory of Robert Page; he also was a wool dealer, and died in 1434. The immense quantity of wool grown in the county of Gloucester is apparent from the fact that in the reign of Edward III. thirty thousand sacks of native Cotswold wool was the annual quantity granted from that county for the king's household. In the fifteenth century both sheep and wool were largely exported. In 1437 Don Durantee, King of Portugal, applied to Henry VI. for permission to export sixty sacks of Cotswold wool to manufacture certain cloths of gold for his own private use. At that time the wool of the Cotswold sheep stood unrivalled in point of excellence, and bore a higher price than any other kind of wool. It is said to have been worth 4s. per pound at the present value of money. It continued nearly a century to realize that price in consequence of the great demand for the manufacture of the beautiful fabrics, such as cloth of gold, &c. Cotswold sheep were undoubtedly considered the best animals England could produce at that period, as a proof of which I might say that if one monarch made a present of animals to another it would be what he considered the best in his kingdom. In 1464 a present of Cotswold sheep was made by

Edward IV. to Henry of Castile, and in 1468 another lot of Cotswold sheep was sent to John of Aragon, both designed to improve the Spanish breed of sheep. In the reign of Queen Elizabeth the Cotswold sheep are described as a coarse, large bone, long wool sheep. They have undergone a great change and improvement since that time. Notwithstanding the improvement in most breeds of sheep the Cotswold holds by far the pre-eminence. Their beautiful and immense frames, their fine countenance, and fullest fleece give them a grand majestic appearance, such as no other breed of sheep have ever yet attained. I think them the best sheep in existence, and will produce more mutton and wool for the food they consume than any other breed of sheep. The Cotswold, although large sheep, have big backs and little bellies, and will not consume so much food as some smaller sheep that have little backs and great bellies. The Cotswolds are entirely in the possession of tenant-farmers—not pushed into public estimation by noblemen, as some other breeds are, but have risen and spread themselves all over England, and to most other countries from their own just merits, without the assistance of the great men. Nearly fifty years past the Cotswold ram-breeders all used a Leicester ram. That greatly improved their flocks, giving them better symmetry, better quality, and more aptitude to fatten. Before the introduction of the Leicesters, many of them were grey, but are since mostly white. I have always used grey sheep, but pure Cotswold. My flocks are the Cotswold greys. A good Cotswold sheep has a large, wide frame, with abundance of valuable wool, a large head, eyes wide from each other across the forehead, not long from the eye to the nose, jaw deep and tapering to the mouth, ears long and fine, the head well covered with wool, a grand arched neck, set on high feeding up to the ears, ribs well sprung out from the back and chins, shoulders well set back into the chins, a prominent, full, expanded chest, deep foreflanks, wide back and loin, rump nicely formed all round from one loin to the other, heavy leg of mutton, good and full in the twist, moderate-sized bone, feet small, clean and upright in the posterior, or fetlock joints. I think that description will bear me out in calling the Cotswold sheep a grand, majestic animal. [Mr. Smith here referred to two oil paintings of a Cotswold ram and ewe, both splendid animals, especially the latter, in order to give an idea of what his flock were.] Next take the Leicesters. While the origin of the Cotswold sheep is veiled in the obscurity of long-past ages, history can point with certainty to that of the new Leicesters. In 1750 they were coarse, large bone, heavy woolled animals, seldom fit for the butcher before they were three years old. At that age they weighed from ten to fifteen to thirty pounds per quarter. The wool was long and coarse in the staple, and weighed about ten pounds per fleece. Soon after that time Mr. Robert Bakewell, of Dishley, directed his attention to the improvement of his flock. In what way he did it I do not know, or from what motive he acted, but it is certain that he kept himself aloof from public discussion. The only authentic written production he has left behind him is an angry correspondence with another breeder regarding some alleged unauthorised inspection of each other's flocks. So close was the veil of secrecy he threw over his proceedings that it is stated his own servants, with the exception of one man whom he thoroughly trusted, were entirely ignorant of what was going on. Either from Bakewell having directed his principal attention to the perfecting of the carcass, or from his system of in-and-in breeding, his sheep soon became deficient of wool, that appearing a secondary value to him, he, perhaps, regarding a fleece as detracting from what was his great aim—a ready disposition to fatten. When the new Leicesters were first introduced the breeding of rams was confined to a few individuals, who alone with Mr. Bakewell established the Dishley Society. Their object was to make a complete monopoly of the business. The letting of rams appears to have been unknown before the days of Bakewell. When he first introduced the practice in 1760, he let his first ram for 17s. 6d., and for several seasons he could not make more than two or three guineas each for his best sheep. As the public became convinced of the superiority of his breed they gradually rose in price. In 1784 he let one ram for 100 guineas. The desire to possess his sheep became so great that in 1789 he made 1,200 guineas with three rams, and 2,000 guineas with seven others. He also received 3,000 guineas more from the Dishley Society for the use of the remainder of his rams that season, making together 6,200 guineas. Mr. Bakewell let one ram another season to

two breeders at 100 guineas, each reserving to himself a third of the ewes put to him, rating that sheep at 1,200 guineas for the season. Such was the success that Mr. Bakewell achieved, and so selfish was he that when he had sheep to sell he turned them for a time into his meadows to rot them, so that no one should breed from them. Mr. Buckley was second to Bakewell. He had a ram let for 1,000 guineas. I went with my father and purchased two grandsons of the 1,000 guinea sheep. At that time my father kept Leicesters, and my flock descended from them. The Leicesters have undoubtedly done great good by crossing others. All the best flocks of Leicesters at the present day are crossed either with Cotswolds or Lincolnus; I know some with a great share of Cotswold in them. Those that are not crossed (if there are any now) are nearly all fat and very little flesh—the worst sheep there are for the butcher. We want all animals full of material flesh. They have stronger constitutions than light-fleshed animals. I now come to the Lincolnus. These sheep, before they were crossed with Buckley's or Bakewell's Leicester, were ugly animals. They had a long, thin carcass, hen back, great paunch, coarse bone, slow feeders, and coarse-grained mutton. They were kept principally for their wool, of which they grow a heavy weight, with a beautiful lustre upon it. I find that the lustre so highly prized in the Lincoln wool does not belong entirely to the Lincoln sheep, but partly to the district or climate, as Lincolnus taken to other districts partly lose that lustre the next year, and other sheep taken into Lincolnshire obtain that lustre to a certain extent the second year. At the present time few, if any, of the old Lincolnus are to be found. They are greatly improved by being crossed with the Leicesters, giving them better symmetry, more aptitude to fatten, and better quality of mutton, but they grow less wool. The Oxfordshire Downs are a cross with the Cotswold and Down, and good sheep they are. In 1858 they gave them their name to establish them as a breed. To my sorrow they were my best customers. The year previous twenty-one of my rams were purchased at my sale to be used by the Oxfordshire Down ram breeders. I am of opinion that cross-bred sheep will be made more profitable than Oxfordshire Downs, as a man may use his judgment and put a long wool, short wool, or cross-bred ram to his ewes—which he thinks will be the best cross. Some persons must keep pure breeds to cross with. We hear many persons when they want a ram for Down ewes say either will do, as it is only for cross-bred lambs. If like begets like, should not good rams be used for crossing? If I did not breed rams, I should keep a cross-bred flock. I think it requires more judgment and attention to keep a good cross-bred flock than any one breed. With good management I feel assured they will make the greatest profit. The Hampshire Downs are a cross between the old horned Hampshire and the Down. They are a big framed, and strong constitutioned animal. Their deficient points are light of wool, a great paunch, and raw, keen back. If crossed again with a Cotswold that has a good fat back and plenty of wool, I feel certain that would produce a very good sheep, and a good fleece of wool also. I give the Hampshire Down breeders credit for being the best managers of lambs I know of in feeding and bringing them to greater perfection than any other breed. They make a great price of them. If they make a greater profit I do not know, as they drop their lambs so early the ewes must have better food, and will consume so much more after lambing than before. If the lamb is fourteen months old instead of twelve months when sent to the butcher the cost of keeping will dip considerably into the price they make, and the butcher will give more in proportion for a small sheep if fat than a big one. Of the South or Sussex Downs I know but little. They have undoubtedly done a great good by crossing other breeds. I should like them better if they grew more wool, had bigger backs, and less bellies. I think them great consumers of food for their size. If you chance to be out travelling, early or late, where they pasture, you will invariably see them feeding at all hours, when the long wool sheep would be lying down. I often think when I see them in a show-yard well fattened I should like to dine off a haunch, and would keep some for my table if I were a nobleman. I consider them gentlemen's sheep, not farmer's to pay rent with. The Shropshire Downs are cross-bred sheep. I have seen many very good animals of that class, but I do not know in what way they were originally bred. I hear they are becoming small and light of wool. I should recommend a cross with a good fat-back Cotswold and heavy wool. The

three classes of longwooled sheep have all been wonderfully improved from being crossed with other longwooled sheep, and from careful selection among their own breed. Therefore they may be called crossbred sheep. The Shropshire, Hampshire, and Oxfordshire are all crossed with longwool and shortwool, a mixture altogether, and good sheep they are. I consider those three classes the best sheep for profit and to feed the public of any I know at the present time. If the Hampshire and Shropshire were blended with more wool they would be more profitable to the producer. I believe the South-downs, horned Dorsets, and Welsh mountain to be the only sheep that can be called pure breeds of all the classes I know anything about. All other breeds may strictly be called cross bred, and all so much improved by it that I do not think any one may hesitate in crossing if they will use judgment and put proper animals together, blending all the good qualities into one, as I believe Mr. Twynam did some years past. I have no doubt but some of the Hampshire flocks are improved by it at the present time. He was perfectly right in putting the ewes of the first cross to rams of the same cross—the only way to produce uniformity, and nothing shows good breeding so much. Most persons admit the first cross to be good, but many are so absurd as to say the young ewes must be sent off and not bred from. A very strange idea to my mind. After you have bred the animal you want them to do away with them. If a few lambs go wrong it will not be much loss to cull or weed them out and feed them. Every person before purchasing his rams should look very closely into the points of his ewes, and put a ram good in those points in which the ewes are deficient. It may sometimes be requisite to use a longwool, shortwool, and a half-bred ram among cross-bred to suit the different ewes and keep them right—that will require judgment to be exercised.

Mr. BARFORD thanked Mr. Smith for the practical manner in which he had introduced the subject, and he was also very glad to find that he recognised the services the late Mr. Bakewell had rendered in forming his celebrated breed of Leicester sheep, and he was quite satisfied that every flock of longwooled sheep had either directly or indirectly benefited from a strain of his celebrated sheep. Before the Cotswolds received the benefit from the Bakewell blood they were a coarse bred, large-boned, unprofitable breed of sheep, and required a large amount of food before they were fit for the butcher. With regard to crossing he was convinced that judicious crossing—for instance, the Cotswolds with the Hampshire Downs—produced excellent animals for the butcher, coming early to maturity, with only a moderate amount of food, but if the crossing was continued with the idea of keeping a cross-bred flock he was satisfied that it required immense care and judgment in selection, otherwise he was convinced they would deteriorate, and while he advocated judicious crossing for purposes of the butcher, he could not too strongly advise the retention of our pure breeds in their integrity, for what would the cross-bred flocks do if they had not the pure breeds to revert to occasionally?

Mr. J. BLUNDELL had been very much interested by the observations of Mr. Smith respecting his Cotswold sheep. He (Mr. Blundell) had the pleasure of selling tegs obtained by his sheep at Botley market in 1859 and 1860. Mr. Charles B. Smith, of Wickham, had for some years used rams from Mr. W. Smith's Cotswold flock. Mr. Smith had gone into the matter, and he was quite sure his remarks were much appreciated. He (Mr. Blundell) was struck very forcibly with his observations with reference to his idea in bringing his sheep to perfection. He was quite convinced that in order for a man to bring about a good breed of stock or of sheep he must have his own ideal before him. He must have that which he intended to produce in his mind's eye, or he would never see it in reality. If a man wanted to improve the breed of sheep he must have some idea in his head, for they might depend upon it these things did not come about by accident. When they had an idea to establish a type of sheep they must see whether it would be of advantage to have a Cotswold, or Hampshire Down, an Oxford Down, or a Shropshire. Look at Mr. Humphreys—he reared a splendid class of sheep, and called them the Improved Hampshire Downs. He had one idea: he started upon it, and he attained to such eminence as no man had reached since his day. He wished, however, to make one or two remarks with reference to the cross-breeding of the sheep in his own time. He might say that in 1826 was the first year he went to the Weyhill Sheep Fair.

There had been for some ten years previous an attempt to establish a South Down or Hampshire Down cross-breed with the Somerset and horned Dorset, thinking they would be able to supersede the horned ewe peculiar to the district of Somerset and West Dorset. One peculiarity in the ewes was early lambing, a greater number of twins, and more natural support for the lambs than any breed he knew of. But that did not succeed. He recollected very well Mr. Robert Gaylor, a gentleman who was a member of that club, who, before his death, purchased some cross-bred ewes which were produced by a South Down ram from a horned ewe, and the lambs produced were some of the best he had ever seen for general purposes, and he thought it a great pity that they did not try it farther, but they said they could not get lambs enough, and that was because they adhered too much to the Down. Then they said that the Down ewes did not leave such good manure as the horned. He had had some experience in this matter, and coincided with this view, and he did not hesitate to say that so far as his observation could guide him, the horned ewes left a great deal better manure for the crop in succession than the South Down ewe. He thought they should have adhered to those principles of crossing such as were set forth by old Mr. Humphreys, and by the same rule as guided Messrs. Druce and Howard with the Oxfords, and if the cross with the Down and horned ewes had been persevered in upon the same principle the Somerset and Dorset breeders might have produced a valuable type of sheep having the appearance of Down sheep which, through the influence of the soil and climate and the horned ewes blood, might have dropped their lambs in November and December, with plenty of twins, and probably displaced the horned ewes altogether. He would divide his remarks under three heads. The first would be the cross for fat lambs. The best cross he knew of would be to put a Hampshire Down ram to a horned ewe. It had been said that they should have South Down rams but he did not think so. It would not give the weight for age, and their coats did not come so well as the Hampshire Down cross. He once had a very nice lot of lambs indeed from horned ewes by the Cotswold cross, and he recollected taking them to Fareham Cattle Show and getting a prize with them. Ten of those lambs were sent to London, and he was told that they were the heaviest ever seen there for their age, and seven out of the ten were twin lambs. The second point was as to fat tegs. He did not think they could do any better, in order to bring tegs fit for the butcher at 12 or 14 months old, than put a Cotswold ram to a Hampshire Down ewe. The third and last point was with regard to the crossing of the flock for breeding purposes. This was a very important point indeed, because they found that go into what country they would, there was sure to be some who had a prejudice against it. Some people said they would not attempt it, but they did not give a reason for it. Before a man could give an answer he must have attempted it, and then he would be in a position to say whether it would do or not. His advice was that in some flocks, and more particularly Hampshire Downs and East Dorset, the Shropshire sheep would be the best to cross with. And why? Because they would have, first of all, 30 per cent. more lambs, they would have a greater aptitude to fatten, they would run thicker, and they would have sheep hardier than the Hampshire Downs. At the same time they would have sheep which would yield more valuable wool. He was sure they would get 120 lambs out of 100 ewes in the Shropshire and Downs cross while they would not have more than 90 out of the 100 Downs. This was a matter worthy of their serious consideration. The sheep in the midland counties, including Shropshire, fed in a different way, and were more easily satisfied than the Hampshire Down breed. Then it was said that the lambs would be smaller, but they would have 30 per cent. more to sell. Supposing the loss in the 100 was 6s. per head on account of the size it would be £30, but then the gain on 30 lambs at £2 each would be £60, so they would thus have £60 as against £30. This was an important point, and these and other things must be taken into consideration if they attempted to cross in the breeding of a flock, and by doing what he suggested he believed they could get as great a percentage of lambs as from any race of sheep in the kingdom. The Shropshire sheep was the hardest breed they had. He had seen them under various circumstances, and he had seen them bear with that which would have chilled their Hampshire lambs to death. He therefore considered that to adopt the Shropshire would be to improve our Down sheep.

He would do precisely the same as Mr. Humphreys did in the establishment of the Improved Hampshire Downs. In just the same way he would take the Shropshire Down and improve the Hampshire Downs, selecting necessarily the best, weeding out the worst ewes, and taking the best rams. It had been objected by some that they would not have the colour, but they could have a Shropshire sheep with a dark face, and farmers should not be deterred on that account. He would not detain them any longer, but he could recommend Mr. Smith's type of sheep for early maturity.

The CHAIRMAN asked Mr. Smith in what way could Cotswolds be rendered useful in that neighbourhood?

Mr. SMITH replied that he believed they could be made useful by being put to Hampshire Downs, and he considered they would make as good sheep as there were in existence, as the Hampshire sheep had a strong constitution.

In reply to Mr. Barford, Mr. SMITH said he would cross the Cotswolds with the Hampshire Downs for the purpose of growing wool and mutton.

Mr. W. C. SPOONER said he thought they ought to be much obliged to Mr. Smith for bringing forward the subject of the breeding of sheep, and especially as he found that it was only twice in the history of the club that they had had such a subject introduced and discussed. At the same time, since then many changes had been introduced for the better feeding and fattening of sheep, and great expense had been incurred, and it was one of the very best subjects that could be brought before them. He recollected last year, in July, going down to attend the meeting of the Royal Agricultural Society, and he stopped at Doncaster. Feeling very hungry, he, with a friend, ordered some mutton chops, but, when they were brought in, he determined not to order any more mutton if he went to the north again, the contrast between the mutton chops of the north and those of the south being very great indeed. He sent back quite as much as he consumed. And he thought it worth while to say here that while they were effecting changes, and putting more money into their pockets, they must take care they did not sacrifice quality for the sake of quantity, and therefore he thought they should keep their original breeds, for he should be very sorry indeed to see anything like the Sussex breed die out, and should rather wish to see them maintained in all their purity. The same might be applied to the Cotswolds, but he could not recognise wool as the only remarkable quality of these sheep, and he was therefore glad to hear Mr. Smith speak up so well in their favour, that he had touched so aptly on their good qualities. He liked a man who would speak up for the good qualities of the breed of sheep with which he was satisfied, as he considered it a very hearty principle. He respected a man like Mr. Smith, who said that the Cotswold sheep had never disgraced him, and who considered them the best bred in the world. He agreed with most of what he had said, but there was one point on which he must differ, and it was on a matter of history. Mr. Smith had told them that the Cotswold sheep led to the first wool market, but he (Mr. Spooner) could go back somewhat more remote than that, and refer him to the time when a wool trade was established in Winchester at the time of the Romans. Thus they would see this was a time much more remote than that to which Mr. Smith had alluded; but the breed of sheep then in existence had no doubt died out, and been replaced by more valuable ones. He might state that when some years ago he was asked to write a paper on the cross-breeding of sheep for the *Journal* of the Royal Agricultural Society, he wished to have some engravings inserted of the different kinds of sheep bred, but the only one the Council would allow was the old Wiltshire or Hampshire sheep—the white-faced one—which was the progenitor of the Hampshire sheep. [Mr. Spooner here produced the *Journal* containing the engraving of the sheep, and he explained minutely its peculiarities.] He wished he had been allowed to have others inserted, as they would have shown breeds now extinct. The origin of the Oxford sheep was no doubt to be attributed to those in that county. Mr. Twynam was the first who established that breed, but he did not pursue it to a great extent, he having had occasion to change his farm; but, during the time he did continue it, he took his rams to Wilton fair, and they were crossed with the Hampshire and Wiltshire breeds, attaining extraordinary effect. Some few years before this the Oxford men took the matter up. Mr. Druce was one of them, and he had now established a breed which was very valuable, while Mr. Charles Howard was a very successful breeder. His sheep, he thought, were a dip

into the Leicester breed, and now he succeeded in gaining any number of prizes. In establishing a new breed of sheep, however, they should be careful what they were about. It was like a young man taking a wife. He knew many failed in consequence of not taking the right animals, and others from want of spirit to go on with the thing. He thought there were many who when they had established a new breed of sheep thought they had done enough, and rested satisfied. Perhaps good mutton or size was required, and therefore what had been the case with the Hampshire sheep and Oxford sheep was so with many others, and there had been, according to Mr. Smith's account, a greater crossing with the Cotswold sheep than he had been led to believe. But still they had continued with their crossing. In the Royal shows the Cotswold sheep were certainly grand animals, and showed much uniformity of character, and those who wanted the animal for the butcher alone should take the Cotswold breed. He did not think there was any sheep which would give so much food. Mr. Spooner then proceeded to point out that the first cross with the male was of advantage for the purposes of the butcher, and that while different breeds had gradually become almost extinct yet a certain part of a particular breed was traceable a long time afterwards, in proof of which he quoted certain statistics from "Darling's Work on Plants and Animals," and which was brought about by what they called reversion. It was no good to think of crossing unless they had a superior kind of animal, and with sheep it was different from others. The breeding of horses was a sort of gipsy chauce work, but it was not so with sheep. In breeding sheep there was not only a principle to look to but also the pocket, and it was not until after many years of hard work, experiments, and expenditure of money that their efforts were crowned with success. There was no class of animals where science, knowledge, and skill had been brought to bear so much as with sheep. That had been the case with Mr. Humphreys and Mr. Rawlence, who had so successfully improved the Hampshire sheep. They had only arrived at this pitch of excellence through exertion and great study, and one was surprised that when they arrived at this pitch of excellence some should let it stand still and look on, for it was quite as diligent to keep up this standard of excellence as it was to obtain it in the first instance. He thought Mr. Smith deserved a great deal of credit for introducing the subject, and he hoped gentlemen would avail themselves of the advantage of producing stock from his flock, which had proved so successful in the field against all ordinary competitors, for when a challenge had been thrown out he had accepted it, and with success.

The CHAIRMAN said so far as his experience with sheep went as a grazer, and particularly lambs, he could corroborate everything Mr. Smith had said with regard to the putting of a Cotswold ram with Down ewes. He had done so for many years, and with very much success, and he must say the most profitable way of getting forward lambs was by putting a Down ram to a Somerset ewe. He recollected in that market he showed some from a Cotswold ewe, and they not only carried away the prize, but he also obtained more money for them. He, however, should like to see the second cross carried out, as he believed it would result in immense advantage. He knew a great objection to it, and particularly among the Hampshire men and sheep breeders, was that they had to sell their best sheep, and consequently had none to fall back upon to keep their flock up. He agreed with Mr. Barford—that they should not throw over altogether a distinct breed of sheep, so that they might always have the advantage of crosses with the pure bred. Unless they had a distinct breed of sheep to fall back upon they could not continue their crosses with any advantage. He thought they should be obliged to Mr. Smith for bringing forward the subject, as it was one which deserved a great deal of consideration not only from breeders but also graziers of sheep, for he was sure cross-breeding might be carried out to a far greater extent than it had hitherto.

Mr. BARFORD was of opinion that one of the drawbacks to cross-breeding was that there was a great deal of uncertainty about it, and when a man crossed he was in doubt as to what would be the result. He thought the great thing was to have a breed of sheep suited to the land on which they lived.

Mr. SMITH, in reply, said he did not think there was any advantage in producing immense animals. He could not quite agree with what Mr. Blandell had said with respect to the Shropshire animals. He had seen a great deal of them,

but he did not approve of them much. Some people objected to a cross on the ground of colour, but why should they object on that account when they had an increase of wool, mutton, and other things? He never saw any heavy wool out of Shropshires. His idea was that Shropshire sheep crossed with Hunsbury Downs would not do at all. The latter put to a good fat-backed Cotswold ram would produce the best sheep in his opinion. He proposed "That it is the opinion of this Club that for the purposes of the butcher a material

advantage is gained by using a ram of a different breed, and that with the Hampshire ewe no cross is more advantageous than that with the Cotswold ram."

This resolution was seconded by Mr. W. C. SPOONER, and carried.

The CHAIRMAN proposed a vote of thanks to Mr. Smith, which was seconded by Mr. BARFORD, and carried, and a vote of thanks having been passed to the chairman the proceedings terminated.

NEWCASTLE FARMERS' CLUB.

THE BREAKING UP OF MUIRLAND.

At the last meeting, Mr. William Lyall, of Cadonlee, read a paper on this subject: Dr. Wallis in the chair.

Mr. LYALL said: I accepted the invitation of your secretary, my friend Mr. Bell, to read a paper on this subject, with much pleasure but with considerable hesitancy. To labour at and superintend this kind of work has fallen much in my way, and occupied a large portion of my time and attention since beginning to farm, but to write on the subject is a new vocation. The century we live in has been and is very likely to be a wonderful one. All branches of industry have made rapid strides of progression, and the accumulation of wealth has been enormous. This prosperity we are pleased to be able to say, has not only visited those who were rich already, but has greatly improved and ameliorated the condition of the working classes, who may fitly be viewed as the great consumers of food of the country. Their wages having been gradually, steadily, and greatly increased, their manner of living, as a consequence, has changed, a desire for better food become apparent, and in nothing is this more easily distinguished than in the demand for butcher's meat, for which our cold climate seems to produce a natural appetite. To meet the increased consumption we have been making large importations from neighbouring countries, which certainly is a plan highly to be approved, attended though it is with many evils; still it would be wise for us as agriculturists—whether landlords or tenants—to give some attention to ascertain whether our own produce is as great as it can be, and to do all in our power to provide for a demand so much in accordance with the laws of nature and national prosperity. Of course all efforts in this direction must be so limited as to allow of fair remuneration for our labour, and a return of our outlay, but with a view to what has been said, surely the first step must be to make certain that all ground that can be cultivated is immediately brought under tillage and made to produce what it can. Late years have done much in this direction; our arable acres have been mightily increased, but still there are to be found large tracts of land which, from natural weakness of the soil, or from its distance from farm buildings and railways, because of its inaccessibility and steepness, from its high exposed climate, or from the quantity of stones upon it, would baffle and render highly unprofitable all efforts at regular cultivation, yet which, by a judicious expenditure, might be made to yield excellent pasture for sheep. It is in regard to the improvement of this kind that we venture to throw out a few suggestions. And first, as to fencing. Wire fencing in many cases may be found to be the cheapest, and is often gladly to be resorted to, but where stones can be procured without difficulty or much expense, walls are much to be preferred. If built about 5 feet high—which costs about 8d. per lineal yard—they save the second but no less important part, of a shelter for the sheep. Great care should therefore be exercised that these dykes be placed with a view to this latter consideration, and it will sometimes be found advisable to enclose more land than is intended or can be broken up in order to secure a convenient shelter from the "angry ariths," as we say in Scotland. The surface stones should therefore be dug up and carted for this purpose before commencing to plough; what more are required can be procured while the ploughing is going on. Draining should be proceeded with at the same time, if this expensive work cannot be dispensed with. But where the ground is intended rather for pasture than cultivation, it will scarcely be necessary to go so thoroughly into this work as in regularly cultivated fields. The most convenient time for ploughing is during the summer

months, when horses are generally less required for the ordinary work of the farm. If the surface be tolerably level and the land free from stones, the steam plough may be introduced, but the common ploughs can often be used to advantage. Where on an incline, this should be done with one furrow, as the draught is excessive, and better work can be executed. It is no advantage to plough very deep—four or five inches being sufficient—but the furrows should be well closed to ensure the decomposition of the turf as quickly as possible. This ploughing is often attended with great difficulty, an extra man to steady the beam of the plough being requisite, as also others to dig up the stones at the bottom of the furrow. But as first time is worst, and only, after all, a question of a pound or two per acre, it would be silly to be deterred by the first appearance of hard labour. I have seen many acres to break up with the pick and spade, the stones being lying so close as to prevent a plough being used. But where very bad pieces come in, unless the field is intended for regular cropping, in which case patches unploughed would be troublesome in the course of after cultivation, it would be as well to leave them untouched as incur so very much expense. There is this to be said, however, that when stones are to be dug or quarried for the dykes, there is almost no way of getting them cheaper than to trench such pieces of ground. Stones are the great hindrances to the breaking up of large tracts of land in Scotland, but there is a consideration here which is of importance to those selecting ground for improving, viz., if the soil is naturally dry, it is better to incur expense in digging stones than in draining wet land of equal quality, as the former is easier pulverised, and in most cases is of the most permanent value. In the course of the ensuing twelve months, or at all events six months before sowing the seed for the first crop, the stones having been removed from the ground, lime should be put on, the quantity applied to be determined by the nature of the soil. If it be light or sandy moor four tons per acre might suffice. I think it would be false economy ever to put less, and very generally from five to six tons would be necessary to have a satisfactory and lasting effect. The land should then be harrowed, or if a year has elapsed since the first ploughing, so as to have allowed time for the vegetable matter of the turf to rot, it might be cross-ploughed, but it is unwise to plough too soon, as more labour is entailed if the turf is too early brought up again to the surface. The frost in winter will have a great effect in reducing the sods, and after being well harrowed it will be ready the following season for the first seed. From good accessible fields a crop of oats might be taken, but turnips sown broadcast require no more labour, and are more to be depended upon. A little ammoniacal manure, say 3 cwt. per acre, should be given, and the seed very carefully distributed. Strange as it may at first appear, even on a roughish, turfy surface, three-quarters, or at most one lb. per acre of seed will be found amply sufficient. To get this very small quantity equally sown over a whole acre seems rather difficult, but perhaps the easiest and best method is to mix the seed with shillings from oats, and use the ordinary broadcast sowing machine. A single tine of the harrows will suffice to cover the seed, and it should be rolled afterwards. White turnips crop best on land in this particular state, and may be sown as late as the end of June. The first crop is by no means a certain one, but though the ground appear very rough, it is wise to try for a crop, as the preparation for it is furthering the land, and a crop of turnips, besides the great amount of eating it stands when broadcast, even more

than an apparently equal crop in drills, will benefit the land through the sheep treading upon it. Another crop of turnips should follow, and this time sown in drills, if possible, before laying away in pasture. Some advise grubbing, instead of ploughing, at this stage; and if the land is loose on the surface, and the weather dry while the turnips were being consumed by the sheep, this plan may be good, for obvious reasons. The grass will have the full benefit of the manure, and the firmness below is also helpful to its growth. Two or three pounds of rape should be mixed with the clover and grass seeds, and sown about the end of April or beginning of May. It will be ready for pasture about July or so, and perhaps no food is so fattening as what is then produced. Before being done with these details, you may perhaps want to know somewhat of the cost. We can only roughly estimate this, as the expense varies so much. The main items, however, are ploughing, from £1 to £2 10s. per acre; building fences, £2 to £3; lime, from £4 to £6; stones digging, or draining, £1 to £10; carting, &c., £1 to £2; in all, from £9 to £23. A wide difference, as you may perceive; but say from £12 to £16 as a medium, or £20 in exceptional cases. Allow me to remark here that the work is very hard on both men and horses, and that it is absolutely necessary to procure as good men as possible. The horses must be steady; fiery ones are of no use, and should be well fed and carefully driven, else they may get knocks against stones which may very easily cause a great deterioration in their value. The first three crops—two of turnips and one of rape—will go far to repay the outlay, not including that which is of a permanent character. With respect to the after management of such ground, little need be said. It is generally reckoned that the death-rate is higher among sheep pastures on new than on old ground, which may be accounted for by its growthy nature, and because more sheep are kept per acre. It is, therefore—especially the first summer, when the rape is there—better for wethers or old sheep than for lambs; and, if convenient, it is a good plan to graze an old field along with it. It should be allowed to lie in grass so long as it yields sufficient quantity of pasture to be remunerative; but when the grass begins to get wild it should be ploughed. In no case should it be ploughed so often as to make it lose its freshness; much of our new land of a weak nature has been rendered comparatively useless through this error. It is easier to keep land in good condition than to bring it up after it has been reduced, and if allowed to lie a number of years in grass at a time it will thereafter produce with a vigour which can scarcely be expected from old cropped land. We spoke of the expense as being from £12 to £16 per acre; let us now consider how this is to be met. It is evident that before this land can be done the tenant must show himself enterprising and energetic, be willing to put forth a considerable amount of capital and labour, as well as be content to wait a year or two before he reaps any fruits from his efforts. We have, therefore, staring us in the face the necessity of the tenant's having some security for his capital before he will launch into such improvements, as every one knows that enterprise must have for its motive the prospect of immense results or absolute security of small profits. The former, as tenant-farmers, we need not expect; the latter we are legitimately entitled to. In Scotland, where leases for 19 or 21 years are almost universal, it has been customary to make a special bargain at the beginning of the lease, such as the landlord agreeing to erect the fences and execute the drainage, which, being permanent improvements, remain to him when the lease has expired. The 19 years in which the tenant has opportunity to redeem his capital are held to be security. This is doubtless a fair and honourable arrangement; but it is by no means a perfect system. A rush to get through with improvements during the first years, and over-cropping at the end of the lease is almost a natural consequence. The tenant finds it necessary to curtail his expenditure after one-third of his lease has run, and often ceases to improve, from a fear of not having time to recover his capital, when he could the most easily afford to go on. A system by which the tenant at his way-going would receive compensation for all improvements executed by him, which enhanced the lettable value of the farm, would thereby be enabled and encouraged to go on improving all through his lease whenever a convenient time presented itself, and would be sure to retain to the end of the lease the soil in the highest possible condition. On the other

hand, the benefit ensuing to the landlord would even be much greater. All land that could be broken up and yield a fair percentage for capital employed would gradually be brought under cultivation, and as we have just said, it would be the endeavour of the tenant to maintain the fertility to the end of his lease. Practical observation teaches us that when a farm in such a desirable condition comes into the market there is always plenty of competition for it, and the landlord would get in the shape of increased rent what he had paid as compensation to the preceding tenant, and a great deal more, I hesitate not to say, if the expenditure has been judicious and the improvements of permanent value, not to speak of the pleasure any right-thinking proprietor must have in seeing his land well farmed, nor of the good results in the shape of increased produce which partake of a national character. I have always had a great wish that this could be effected by mutual arrangement rather than calling for legislation on the subject. Why should proprietors and their tenants grow year after year to be more at cross purposes with each other? The former, for example, have got increased rents, just as the latter have thriven and become able to pay them; and surely it is evident in reference to the question before us that the interests of both parties are identical. In other words, that greater facilities to the farmer bespeak larger rents to the landlord. Factors should be particularly careful to preserve the good feeling that ought to subsist. Great responsibility lies with them; and oh! if they were men of ability—not merely good accountants, but at home in all the branches of farming—capable of judging of all propositions laid before them by the farmers, and vested with powers to enter into terms for improvements at all times, how often would we be willing to let our landlords get great benefits if they only allowed us compensation enough to make our work pay! I know not whether I speak to both classes or to tenants only, but surely it would redound to our credit if we are united in our efforts to make agricultural enterprise keep pace with the times. The taste which the people of our islands have acquired for better living will grow rather than otherwise; what were considered luxuries twenty years ago are necessities now; and should we not take advantage of this favourable tide—to put it on no higher than selfish grounds—and increase our supplies, instead of year after year becoming more dependent on our Continental neighbours? Of course, we must stop short when remuneration ceases, but we are yet far from this point. Let us then so far as we can keep our capital in our own country, hoping to increase our own profits at the same time. We leave it to trades unions and all such little tyrannical powers to raise their incomes by restricting the supplies—every one is the better for our advancements, which will be the result of honest industry. My paper is finished. I cannot but feel how unsatisfactorily I have performed this duty, how little justice has been done to so great a subject. No vague theories have been indulged in; what has been said has been picked up by observing my vigorous neighbours, from my father (who has had great experience), and during the last three or four years on my own farm, where we are still diligently employed. I refrain from speaking of this from a fear of appearing egotistical; but if any of you in the course of after discussion care to ask any questions, please do not hesitate to do so, as I am only too willing to give you the benefit of my practical knowledge. Or if any one or number of members of this club have a desire to see this kind of work, as there is now a good opportunity, if they honour me with a visit, I shall be proud to see them, will gladly give them all information in my power, and show them such hospitality as can be expected from a bachelor farmer. My address is with your secretary, Mr. Bell, who will communicate between us, perhaps he will be even more accommodating, and show you the way to Selkirkshire.

Mr. BRYDON said it would be a great pity if they separated without discussing the very valuable paper which he had heard read with great pleasure. From the little experience he had had in the improvement of waste land, he could endorse all that Mr. Lyall had said, and he did not know that he could say anything; but it struck him that the estimate of 8d. per lineal yard for the erection of stone walls was very much lower than in his experience.

The CHAIRMAN: They could not do it in Northumberland. Mr. BRYDON said it used to cost a shilling.

The CHAIRMAN said perhaps some gentlemen might have something to say in opposition to Mr. Lyall's theory of breaking up these lands. His opinion was that they ought

never to break them up, but to drain them, clear away the stones, and improve them by manuring.

Mr. JOHN HOPE (Hexham) ventured to say that Mr. Lyall had struck very important ground, for if there was one thing more than another which required great study and attention it was the subject so ably brought before them by Mr. Lyall. It was not for him to speak on the mere mechanical part of the question, but rather from the standpoint of the great benefit to the nation arising from Mr. Lyall's valuable recommendations. It was clear that the population was increasing rapidly; and, if we were to provide for a much larger population, we must keep pace with the times in capital, skill, and labour, for if we got behind we should suffer nationally. It was said that we could feed a much larger number of cattle and sheep than we do. Last year something like half a million acres of waste land were reclaimed, and, if we went on at that rate, we should probably keep up with the requirements of the country. As our population increased, the value of cattle would increase, unless we provided a large quantity of feeding land, and one of the most important means to this end was to call into use the waste land of the country. How many acres of waste land had we?

Mr. LYALL said he did not know.

Mr. HOPE said he had come unprepared; but, if the discussion were adjourned, he ventured to say that a great amount of information could be brought to bear on the subject.

Mr. REED said there was always great diffidence in speaking on the part of farmers at these discussions. It struck him that Mr. Lyall must have devoted a great deal of time and attention to bring his paper up to the mark; and he thought, if he had not been so busy in farming, he would have been married, at any rate. The chairman had stated that he did not see his way clearly to the breaking up of waste lands, but it struck him (Mr. Reed), from the little he had seen in his outlandish country, it would be difficult to get anything but artificial manure there. He thought the time was not far distant when they would have to make a very great effort to improve the land. Many said they would have to lay down their poor land to grass, but it would be little use doing so without manure. Farmers were not in an enviable position. There was one question Mr. Hope got warm upon, and that was Tenant-Right.

Mr. HOPE: I never mentioned it.

Mr. REED: Well, well, I thought you did. The time is not come for that, but I hope the time will not be long before we get a proper Landlord and Tenant Bill.

Mr. W. BELL (Harlow Hill) said many of the members in the other room had not heard the paper, and he thought it would be better to adjourn the meeting. His opinion was that the day was far distant when they would have to break up fresh land, which was evident if they took this county as a criterion. They found almost everywhere large tracts of land only half cropped, and it would not be to the advantage of landlords to break up more. It might be to the advantage of the country if waste lands were brought into cultivation; but the question was, Did not Mr. Hope, or anyone else, think it would be much better to have the land already broken up brought into a better state of cultivation, rather than go on breaking up more, which would pay neither landlord nor occupier? Let them take the railway in any direction, and they will see tillage lands with crops of oats not worth bringing into the barn. Then, again, what would be the use of breaking up these lands without having plenty of manure to put on them? There was manure enough in the country, but farmers would not pay the price for it for this purpose. If a tenant did, he would want 10 or 12 per cent. for his outlay, which he now got without risk; and how would the landlord be likely to do it? When they saw the present land properly cropped and cultivated they might raise the question of breaking up more; but until then, they might safely let the matter rest quietly.

Mr. ROBERT WOOD said he knew land on the Lammernuir Hills which some years ago was not under cultivation, but which now grew turnips that would do credit to any land in the United Kingdom. On a farm of Mr. Lyall's uncle, a few months ago, he saw turnips growing that would grace Tyuside on black, moory soil. Mr. Bell seemed to be unaware that in these moory places there was a perfect mine of rich mould, which, with the application of lime, produced enormous crops. He would say, cultivate well whatever they had, and bring that which is waste into cultivation, so as to produce abun-

dant crops. Mr. Lyall did not suppose they were not to cultivate the land they had better, but to bring that which is comparatively worthless into cultivation also—that which in the Lothians is worth £3 or £4 an acre, and in parts of England is not to be got for money.

Mr. WALLACE (Trench Hall) thought Mr. Bell and Mr. Wood were both right, and he agreed with them both. There was great advantage in the black, moory soil described by Mr. Wood, because it would give the very things they were striving to get. But in the counties of Northumberland and Durham there was not a yard of it. He would endorse Mr. Bell's opinion strongly. With the present exigencies of the labour question, and the difficulty of getting manure, it would be the greatest folly to break up more land. Look at the nature of the soil. They had got a very large area of cold-bottomed clay land, which was quite unfit to grow turnips, and it would require a great amount of manure and careful cultivation. That was one proof that Mr. Bell was right. It was impossible to grow turnips on it, and unless they could do that it would be useless to go to the expense of working it. He then thought it would be better to adjourn the discussion, in order that they might have an opportunity of reading the paper, and be prepared to speak about it.

The CHAIRMAN thought that nearly all the gentlemen who had spoken had misunderstood Mr. Lyall. It was not the breaking up of these waste lands, but how to improve them, and then laying them down to grass again.

Mr. BRYDON said the propriety of breaking up the land to which Mr. Lyall referred was unquestionable. A great part of the land on the Lammernuir and Gala Water would not keep a sheep under four or five acres; but he had known some which after it had been broken up and laid down to grass would keep six sheep to the acre.

A vote of thanks to Mr. Lyall was carried, and it was agreed to have the paper printed.

Mr. LYALL said in reply he did not expect that his paper would have met with universal approval, and he could only say of those gentlemen who had differed from him that he was glad to hear the other side of the question. He did not at all refer to the land which was immediately under tillage, as he was laying away land four or five years. The advantage could easily be seen on a stock farm of having new land, which grew turnips better than any laid cropped land, and as turnips are essential for stock, he had them on the new land, which enabled him to allow the old tilled land a longer time for pasture. Mr. Brydon had referred to steepness in the land. He had a field that a cart could not be driven across, and the stones had to be taken away on sledges. This year it got about 3 cwt. of dissolved bones, with a little ammonia, the turnips were sown in June, and he had no doubt they would eat £3 to the acre, besides the advantage of running the sheep off to another field.

The discussion was then adjourned for three weeks.

THE ESSEX "MUDDLE."—At a meeting of the committee of the Essex Agricultural Society, it was discovered that the days fixed for holding the next show on one side of London were the same as those fixed some time previously for holding another meeting on another side of London, at a small town known as Epsom, whereupon it was "unanimously resolved" to put back the Stratford Meeting until after the Derby. A wondrous body is this same Essex Committee, and the Stratford Meeting has now been cleverly contrived to clash with that of the Berks Society, to be held on the same days on another site handy to London, viz., at Reading.

DISSOLUTION OF A POOR-LAW UNION.—In consequence of the persistent refusal of the board of guardians of the Garstang Union (Lancashire) to erect such a workhouse as the Local Government Board deemed requisite for that union, it has been determined that it shall be dissolved, and that the townships of which it is composed shall be added to the Preston, Fylde, and Lancaster Unions.

GLOUCESTERSHIRE AGRICULTURAL SOCIETY.—It has been decided to hold the next meeting at Tewkesbury, against Cheltenham and Cirencester, also in competition.

THE MALT TAX.—At the market dinner at Sevenoaks, it was resolved to agitate for a total or partial repeal of the Malt-duty.

THE DETECTION OF ADULTERATION IN ARTICLES OF FOOD AND DRINK.

At the last meeting of the Chemical Society, Mr. T. BELL, of Somerset House, delivered a lecture, in which he said :

As early as 1777, an Act of Parliament was passed to prevent the adulteration of tea, and in the following year another directed against the adulteration of tea and coffee. In the prosecutions instituted by the Excise, however, every facility is afforded to the accused to defend himself, by allowing him to have portions of the same sample as that analysed at Somerset House for analysis and examination by his own chemist, and in all cases taken into court the analyst has to give his evidence on oath, and the defendant is finally dealt with according to the circumstances of the case. As the cheapness of many of the starches causes them to be largely used for adulteration, one of the first things necessary in studying the subject is to become acquainted with the microscopic characters of the various starches, such as those of wheat, barley, oats, rye, maize, sago, rice, potatoes, beans, peas, &c. The speaker pointed out the distinctive characters of these, illustrating his description by well-executed drawings of the appearance which the different varieties of granules present under the microscope. He also noticed the various kinds of arrowroot occurring in commerce, namely—that of the *Moranta arundinacea*; the East Indian or Curcuma arrowroot, from *Coccoloba angustifolia*; the Tacca arrowroot, from *Tacca oceanica*; Cassava, or Tapioca, from *Manihot Edulis*; the Portland arrowroot, from the tubers of *Arum maculatum*; and the Cannia, or Tont-les-Mois, from the *Canna edulis*. The next subject treated was the adulteration of coffee, which can only be successfully accomplished after it is roasted and ground, but has, perhaps, been carried to as great an extent as almost any other article of food. A very simple way of detecting the presence of chicory in coffee is to sprinkle a little of it on the surface of water in a test-tube or wine-glass, when each particle of chicory becomes surrounded with an amber-coloured cloud, which spreads in streaks through the water until the whole acquires a brownish tinge: with pure coffee, however, no cloud is produced until the lapse of about a quarter of an hour. Another method of detecting adulteration is by the depth of colour obtained by the infusion of a given weight of the suspected article in water, and by the density of the infusion. The use of the microscope is, however, indispensable, and, for this purpose, it is necessary to be acquainted with the microscopic characters of the various substances used to adulterate the coffee, such as chicory, mangold wurzel, carrots, parsnips, turnips, beans, peas, acorns, locust-beans, rye, the husks of mustard-seeds, &c. The distinctive characters of these were described by the lecturer, and illustrated by enlarged drawings. He also noticed that the ash of coffee, remarkable as it is for the minute quantity of silica it contains, and for the absence of soda, afforded a valuable indication of its purity. Tea is adulterated

to a very large extent, not only with leaves of various kinds, including exhausted tea-leaves, but also with inorganic substances, such as quartz, sand, and magnetic oxide of iron; these latter substances are rolled up inside the leaf, and one sample of green tea examined was found to contain no less than 20 per cent. of quartz and 8.6 of the magnetic oxide. The latter may readily be separated by grinding up the tea, and removing the magnetic oxide with a magnet. The facing employed for green tea usually consists of French chalk and Prussian blue. In the preparation of exhausted tea-leaves, they are rolled up with gum-water, and then dried, catechu being added in some cases to restore the astringency. The article known as the "maloo mixture" consists essentially of exhausted tea-leaves. In searching for the presence of other leaves than those of the tea-plant, the best method is to heat a small quantity of the suspected tea with water until the leaves are sufficiently softened to admit of being unfolded. They should then be spread out on a piece of glass and carefully examined as to the nature of the serratures and the character of the venation, also the form of the cells of the epidermis and the stomata, and the peculiarities of the hairs as shown by the microscope. The essential differences which the tea-leaf presents when compared with other leaves were minutely described. The chemical composition of tea was next discussed, the amount of lignin and of tannin being very important. The two kinds of pepper, known in commerce as black and white pepper, are derived from the same plant, but differ in the latter being bleached, or having the husk removed by washing; but neither kind can be adulterated with success before it is ground. The most common adulterants of ground pepper are linseed meal, the husks of mustard-seeds, rice, bean, and pea-meal, and the flour and bran of the ordinary cereals, ground chilies being sometimes added to restore the pungency. Some of these substances can be readily detected by diffusing the pepper in water, and pouring the mixture on to a muslin sieve; the deep red particles of the chili can then be recognised, and also the camphor-like fragments of rice. The mustard-husks are known by their cup-like shape, whilst the smooth, shining appearance of the linseed readily distinguishes it from the dull brown of the pepper.

Mr. BELL, in replying to questions from Dr. Wright and Dr. Voelcker, said that the amount of ligneous matter in tea was determined by thoroughly exhausting the leaves by repeatedly boiling them with fresh quantities of water until the washings were colourless. He thought that the amount of theine in tea did not afford positive evidence as to whether it was adulterated or not, as the amount in the different qualities of tea varied from 1.8 to 5.9 per cent.; the estimation of the tannin present was far more important.

VALE OF ALFORD TURNIP ASSOCIATION.

At the annual meeting, Mr. R. O. Farquharson, of Haughton, in the chair, Mr. REID, Bents, the Secretary, submitted the report on the turnip crop of 1873. It showed that there are 26 members in the Association, and that the crop on 17 farms was inspected. The judges were: Messrs. Wm. Pater-son, Whiteley; James Alexander, Guise; Wm. Anderson, Kinstair; John Leonard, Farmton; James Kennedy, Strath-lunach; Henry Stevenson, Tillygreig; and James Lawson, Scotsmill. The judges awarded the prizes as follows:

CHALLENGE CUP, given by Mr. R. O. Farquharson, of Haughton, for greatest weight per acre of yellows and swedes combined.—1 (the cup), Mr. Yule, Glenlogie (23 tons 12 cwt. 3 qrs. 12 lbs.). 2, Mr. R. O. Farquharson, of Haughton (26 tons 7 cwt. 3 qrs. 12 lbs.). 3, Mr. Wilken, Waterside (26 tons 1 cwt. 1 qr. 20 lbs.). 4, Mr. Wm. McCombie, M.P., Tillyfour (26 tons 2 qrs. 14 lbs.).

YELLOWS.—1, Wm. Yule, Glenlogie. 2, R. O. Farquharson, of Haughton.

SWEDES.—1, G. Wilken, Waterside. 2, Wm. McCombie, M.P., Tillyfour.

The Judges in their report said: "We are of opinion that turnips generally have been as fine a crop as has been known in this district for a large number of years, and that, considering the great difficulty of keeping down the excessive growth

of weeds encouraged by the late rainy season, farmers deserve great credit. Three acres respectively of swedes and yellows was the quantity inspected on each farm, as contrasted with four of swedes and five of yellows, which was the required quantity last year. The heaviest swedes were grown at Waterside, the yield being 29 tons 4 cwt. 1 qr. 4 lbs. It may be noted here that on about one-half of this crop—and that the heaviest—the dung used was driven on the stubbles and ploughed down during the autumn. Mr. Yule, Glenlogie, who carries off the Challenge Cup, had the heaviest crop of yellows, viz., 32 tons 12 cwt. 5 qrs. 12 lbs. The average of the respective weights of swedes and yellows as compared with last year are as follows: Swedes in 1872, 16 tons 2 cwt. 3 qrs.; yellows in 1872, 16 tons 2 cwt. 3 qrs. Swedes in 1873, 24 tons 2 cwt. 16 lbs.; yellows in 1873, 23 tons 15 cwt. 1 qr. 8 lbs. When we take into consideration the unusual mildness of the season, we are quite convinced that the weights would have been still more favourable had the time for inspection been later on in the autumn. The following points observed by us will perhaps be worthy of notice. (1.) The last week of May and the first week of June has been the most seasonable time for sowing swedes and yellows respectively last year. (2.) The best crops have been grown on 26-inch drills. (3.) Gnano, where it has been used, has been attended with good results.

YELLOW S.

DATE OF SOWINGS.	FARMS.	VARIETY OF TURNIPS.	MANURES.										Dust Bones, fs. gd. per bushel.	Superphosphates, fs. per cwt.	Bone Meal, lbs. per cwt.	Kainit, fs. 1½d. per cwt.	Soot, 2s. 6d. per cwt.	Thospho-Guano, lbs. per cwt.	Cost of MANURES, £ s. d.	Width of Drills, in inches.	Number of Turnips in half Pole.	Average distance apart.	Average weight of half Pole in lbs.	WEIGHT PER ACRE, YELLOW S.
			Dung, fs. per yard.	Guano, lbs. gd. per cwt.	Dissolved Bones, ½s. 1d. per cwt.	Mixed Bones, 4s. 1d. per bushel.	Turnip Manure, lbs. per cwt.																	
1st week June	Glenleggie	Aberdeen Yellow	18	1 ½	1 ½	..	..	..	..	..	1	..	..	..	..	..	..	26 ½	79	9-13-238 ½	32	12	3	12
1st week June	Haughton	Golden	17	1 ½	2	..	..	..	..	..	..	..	..	..	..	..	..	28	93	7-32-219 ½	31	7	0	16
1st week June	Beats	Golden	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	93	7-32-219 ½	31	7	0	16
1st week June	Brandy	Aberdeen	18	2	6	..	..	..	..	..	..	..	..	..	..	..	..	26	95	7-91-188 ½	26	18	2	8
June 1 and 3	Brandy	Aberdeen	18	2	6	..	..	..	..	..	..	..	..	..	..	..	..	26	95	7-91-188 ½	26	18	2	8
May 30	Balquharn	Aberdeen	11	1	1	..	..	..	..	..	..	..	..	..	..	..	..	25 ½	77	9-87-181 ½	25	17	0	16
2nd week June	Wellhouse	Purple Top	11	1	1	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	87	8-84-175 ½	25	0	3	22
1st week June	Kinstair	Golden	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	89	7-93-170 ½	24	7	0	16
June 13	Tillyfour	Aberdeen	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	85	8-54-167	23	17	0	16
2nd week June	Farmton, Alford	Golden	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	78	8-97-166 ½	23	15	2	24
2nd week June	Dubston	Golden	35	1	..	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	83	8-46-164 ½	23	10	1	24
1st week June	Waterside	Purple Top	8	1	6	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	106	8-79-161 ½	23	1	1	20
1st week June	Baldvin	Aberdeen	12	1 ½	6	..	..	..	..	..	..	..	..	..	..	..	..	26 ½	87	8-57-160 ½	22	18	2	8
2nd week May	Baldvin	Aberdeen	12	1 ½	6	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	108	6-65-159 ½	22	15	2	24
2nd week June	Bithnie	Aberdeen	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	77	9-25-150 ½	21	10	0	0
2nd week June	Asloun	Aberdeen	10	10	10	..	..	..	..	..	..	..	..	..	..	..	..	28	84	8-53-140 ½	20	0	3	22
June 8 and 9	Auehagathle	Golden	16	11	10	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	84	8-53-132	18	17	0	16
June 2 and 7	Gallowhill	Golden	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27 ½	86	8-44-131 ½	18	15	0	26
June 12	Graystone, Tullyvessle	Aberdeen	13	2	3	..	..	..	..	..	..	..	..	..	..	..	..	28 ½	77	8-96-131 ½	15	14	1	4
AVERAGES			..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27	86	8-56-166	23	15	1	7

The CHAIRMAN said he was glad to find they were not in the same position this year as they were in the previous year, when they were prominent in having the worst crop of turnips in the whole county of Aberdeen. It was a very odd thing that they should have established their association, and that their first competition should have taken place in the year in which the turnip crop was the worst upon record. That was a very curious circumstance, but, of course, their record would be retained, and would be useful for comparison in other years during the existence of the association. He had to congratulate the members upon the results of this year, and he looked forward to next year being still better. They were, with the view of making the results better, going to introduce a new principle in awarding the prizes. It had been settled by the association that next year the whole crop of turnips on the farm should be taken into consideration, instead of, as heretofore, three or four acres. The judges will take into account the character of the whole turnip crop upon the farm, and will decide according to the best weight and best cultivation. He hoped the adoption of that principle would have the effect of extending the membership of the association, and would give more satisfaction than the course followed in previous years. There was one thing he wished to bring under their notice, and that was the very prominent feature that, amongst the various manures that were used, it was very often the case that the man who laid down the greatest quantity of artificial manures did not derive the greatest advantage. He thought, in these circumstances, it would be advisable for the members of this association to have all their artificial manures analysed before they put them into the ground. He found it stated in an agricultural paper that week that in England some of the best farms had been found to fail in regard to the quality both of their feeding stuffs and artificial manures, when the articles delivered came to be analysed by the chemists of the different associations. Now, if such things took place in England, they might also take place in Scotland; and he would strongly advise the gentlemen forming this association to have the manures that they purchased analysed, and not to trust to any guarantee. He thought they should take into consideration who they would appoint to be their analytical chemist, and how he was to be paid. They principally bought their manures from two or three companies, and if a number of them took the same manure at the same price they could have one sample analysed, and it would serve as a guarantee for every buyer. He hoped they would take the matter into consideration, and he would be very happy to hear any one upon the subject.

Mr. McCORMIE, M.P., proposed the health of Mr. Farquharson, of Haughton, their president and chairman, and the originator of the association. They all knew that the tenant-farmers depended upon their turnips, and upon the price they obtained for their fat cattle; and he hoped the proprietors would allow him to say that their rentals mainly depended upon that also. The Vale of Alford was much indebted to Mr. Farquharson for the impetus he had given to turnip cultivation. Speaking for himself, he would be very anxious to have the best turnips in the Vale of Alford, and he could assure them he was very proud to know that he came in second to his friend Mr. Wilken. No doubt the farmers would use their best exertions to grow the heaviest crop possible, and they were indebted to their chairman for encouraging them to do that. There was, no doubt also, in a more serious matter about four years ago, they were deeply indebted to their chairman, for at the time the rinderpest threatened to decimate their herds, no one supported the tenant-farmers so strenuously as Haughton did. He hoped what Mr. Farquharson did at that time would never be forgotten by the tenant-farmers of the Vale of Alford. It was of no use, where he was so well known, to say a word about Mr. Farquharson's merits. He believed Haughton was a man, who, as every one should, thought for himself, and, though he and Mr. Farquharson did not agree upon political subjects, that was nothing at all. He knew quite well that would never interfere with their private friendship. He proposed the health of Haughton, who was a good landlord, and he believed would always be known as a good landlord, and one who wished to live and let live.

Mr. GEORGE BRUCE, Keig, introduced a discussion on pastures. He said: "Old times are changed, old manners gone," are words which might well be used in regard to the agriculture of our vale. Not many years ago farmers derived

their income almost entirely from the grain crops, but now it is principally, as our worthy M.P. remarked, by the rearing and feeding of cattle they can make ends meet. As our pastures have therefore a good deal to do with the feeding of our stock, and have not hitherto got the attention they deserve—in other words, though they have degenerated in a great measure by the continued cultivation of the same plants—till the old system of selecting, and manner of sowing the seeds, have not changed. I therefore intend to make a few remarks on this subject, which I trust will, in some case, make two blades of grass to grow where only one grew before. From what I can learn, clover seeds were first sown about the beginning of the seventeenth century, and about 1650 they were sown almost as they are now. It may seem strange, but for nearly two and a half centuries little improvement on the old system of sowing our seeds has been made; while on the other hand we know that the grass on many farms is not so good as it used to be. None of my hearers doubt the importance of having good pasture, but were I to ask how much ryegrass and clover seed I should sow per acre to make good grass, so much diversity of opinion exists that ten farmers from the hundred now present would not advise me to sow the same quantities. Without respect to the kind of soil, one farmer sows 40lbs. of light ryegrass and 4lbs. of clover seed per acre; while his next-door neighbour, in the same sort of soil, will sow 30lbs. of the heaviest ryegrass and 10lbs. of clover seeds per acre. Now, one of the two must be wrong. Unless soil, and crop, and climate are considered, we shall never make good pastures or hay, for there is a "certain understood connection between the soil and the kind of plant," and it is, therefore, quite out of the question to suppose that the same seeds will suit all soils and all climates, will suit our thin high-lying fields as well as our in-town, whether intended for hay or pasture. In too many cases, farmers, when selecting their seeds, do not consider that the field for hay should get different kinds and quantities of seed from the field that is to be pastured, and the consequence is that disappointments often occur. Without referring to any particular soils, but speaking generally of the soil in our vale, farmers should sow for hay a large percentage of English red and Alske clover, with a few extra pounds of ryegrass. For pasture, more white clover, with a good deal of cowgrass, and a few pounds of Italian rye; and in high-lying soils a pound or two of trefoil per acre is very useful, especially for sheep pasture. I strongly recommend the cowgrass clover, not only because it lives a year longer than other clovers, but it has a much larger root, as you will see by what I now before you. (Mr. Bruce here exhibited a clover root about fifteen inches in length.) The Italian ryegrass is also of great moment to the farmer, being a most useful early grass; and, if sown at the rate of 6lbs. per acre in the field intended for hay, the second crop will greatly abound with it, thereby being a preventive for the blowing of cattle. By sowing a few pounds of it with the other seeds, you may then sow less clover seed, and be easier on your soil. Some farmers do not sow Alske clover. I think this is a mistake. It is a most useful friend to the farmer. It is perennial; no winter kills it; and it is seldom injured when the crop is laid. It is said cattle do not eat it, and, no doubt—it being a strong-tasted plant—they do not care for too much of it. Were I to compare the taste of the cattleman to the cattle, the matter may be explained by telling you that one of our north country cattlemen went lately the round of Bingley Hall, Smithfield, and Newcastle shows, and on being asked by his companion when he returned home "Fu he liket to live in the south," he replied, "Nae ava, Sandy, man. I liket the diet grey weel in the beginnin', but as I got naething ava but roast beef and plumpudding and stuff o' that kind, I got raed sick saer't o't." Now, my friends, cattle are something like our cattlemen—they do not like too much of any good thing—they do not care for too much Alske; and to justify what I say, you have only to notice them, when in a field of the finest clover, go and eat the moss from the top of the fence. Very often the farmer is surprised to find abundance of clover in one field, and hardly a plant in the next. My belief is that this is in a great measure owing to the kind of seeds we sow. A deal of the foreign clover seeds are too weak to withstand the vicissitudes of our changeable climate. Frost one day, rain the next, sleet and rain and snow, and so on, on certain soils, has a tendency to throw out the clover seeds. I have seen a field where, on the part that was exposed, hardly a plant could be got, while on the other side of the field, which

got the same amount of frost, but did not get the morning sun, plenty of clover plants were to be seen. The farmer should therefore use as hardy seeds as possible, and this can only be attained by using seeds of certain countries' growth. I mean English grown seeds, or at least a large percentage of them. Welsh red clover is also becoming a favourite. You all know the importance of a change of oats; and in like manner red clover from the mountainous districts of Wales is a capital change. If the farmer sow English-grown clover, he may expect a strong broad-leaved plant. If, however, he sow weakly seeds, unless in very favourable seasons, he is certain to get weakly plants. Let him sow strong clovers, or at least a large percentage of them, and then he will hear less of that remark, "clover-sick," which many of our best farmers only too often make. Owing to the size of our clover seeds, there being from 219,000 to 250,000 seeds in a pound the farmer often makes the mistake of burying his seed. By experiment we lately found that red clover brairds best with a covering of half-an-inch of soil; that only 50 per cent. will grow if put $\frac{1}{2}$ in. deep, and at a depth of 2 in. not a plant will appear. With white clover, the best braird is with half-an-inch of covering; at $\frac{3}{4}$ in. only the half will grow, and at a depth of $1\frac{1}{2}$ in. not a seed will germinate. From this the necessity will be seen of getting a fine mould to receive the seeds, and also, on looking at the root of clover I showed you, you will then see that too much care cannot be taken in preparing the soil, the rootlets being so very feeble. Some farmers roll the soil before putting in the seeds, but in many cases if rolled ten times instead of once, all the labour would be repaid by the crop, for it is evident that if the smaller clover seeds be sown on a rough, cloddy surface, the half will never spring. Good pasture is not only valuable in itself, but through all the rotation, and the loss therefore to the farmer when his seeds do not grow, is not only on his hay or pasture, but also on his succeeding crops. Even as far back as 1700, it was noticed "that, where there was a good crop of grass, a good crop of grain generally followed." We know that the roots and leaves of our clover grow in direct proportions to each other. The farmer should, therefore, use every effort to get strong plants, and plenty of them. When laying down the grass and clover seeds last season, I set aside three plots, giving to No. 1 plot 5lbs. of clover, and 36lbs. of ryegrass seed per acre. To No. 2 plot I gave 6lbs. clover and 36lbs. ryegrass seed per acre. To No. 3 plot I gave 7lbs. of clover seed, 30lbs. of ryegrass, and 6lbs. of Italian rye—the clover in plot 3 being the best strong healthy seed I could lay my hands on. I last week dug up one square yard from each plot, sifted out all the roots of clover and ryegrass, and weighed them. In No. 1 plot I had 24 cwt. of roots per acre, in No. 2 plot I had 29 cwt. per acre, and in No. 3 plot I had 35 cwt. of roots per acre. Can any one doubt the importance of strong seeds after this, with roots something like what I have already showed you, the vale of which, as a manure, many here will be able to enlarge upon, roots entering the very subsoil, decaying and opening up the soil, making way, and acting like drains? This opening of the soil is a most important matter to the farmer, and no landlord knows it better than our chairman, when I am told he gave a tenant of a 150-acre farm £90 in one year for drainage. We got a very able paper last year from Mr. Stevenson on the manure we should give to our grass, and I need not touch this wide subject. But how is it that bones and lime often improve our pastures? The science and chemistry tells us that an average crop of clover carries away per acre about 80 lbs. of lime and 19 lbs. phosphoric acid. The necessity, therefore, of returning lime and phosphoric acid in some shape may easily be seen. White clover is an acid-hating plant. Chemistry comes again to our rescue and tells us that time will take away all the acidity from the soil and allow the white clover to be in the condition of my friend the cattleman—get the food it likes. I do not believe the ideas on future farming stated in an article which appeared lately in *Fraser's Magazine*, and which was reviewed at length in our most excellent local and agricultural paper, the *Banffshire Journal*, where it is proposed to raise three crops in the year by heating the soil with steam, nor do I believe that Mr. Jeffries' ideas of cultivating our fields will work. I would rather put the steam into the brain of our rising generation, by teaching them chemistry. Let them take a leaf from the life of the owner of Tiptree Hall, whose works are well worth reading, and who writes me that his success has been by giving plants their proper food—by attending to his subsoil.

Is it not a blot on Scotland, and more so on Aberdeenshire, the most-famed cattle feeding county in Britain, that we have no middle-class school or college where the rising generation might study the science they are to follow after; for surely the science of agriculture has now a claim deserving of attention? Until this come about, until the groundwork of the problems be understood, the words of Liebig will come only too true—unconsciously to the ignorant farmer all his industry, care, and toil only hasten his ruin; while, on the other hand, it is only by knowledge that capital and power are attained.

Mr. M'COMBIE, M.P., said it afforded him pleasure to hear of the high position his young friend Mr. Bruce had taken, and the honour that had been conferred upon him by the Highland Society the other day, for his essay on a similar topic to that which he had now discussed. He was sure he spoke the sentiments of all present when he congratulated Mr. Bruce. He would only make one remark on Mr. Bruce's observations on Alyske clover. He had had a good deal of experience of Alyske clover. He occupied some very poor land, that no other clover would grow upon except Alyske. He did not say it was a clover that cattle were very particularly fond of, but he could cover poor land with it, and get a bite for the cattle, which he could not get in any other way.

Mr. MITCHELL (Auchnagathle) said he had great pleasure in listening to Mr. Bruce, and had got a good deal of information from him. He was, however, disappointed with one thing. After telling them there were so many different opinions as to the quantity of clover and grass that should be sown, Mr. Bruce neglected to say what he considered a proper quantity. Then, again, as the result of his experience, Mr. Bruce gave the weight of the roots of grass; but it seemed almost incredible, although he did not wish to dispute it, that the weight of roots per acre should be 35 tons.

Mr. BRUCE: I said 35 cwt.

Mr. MITCHELL said it seemed to him that was a greater weight of roots than they could raise of turnips. But he alluded to that to point out that Mr. Bruce had neglected to say what was the weight per acre of each plot of grass grown. Did it correspond at all with the weight of the roots? He should think it likely that the heaviest crop of grass would be produced from the medium quantity of roots.

Mr. BRUCE replied that it would be difficult to answer the question as to what quantity of seed to give, without ascertaining the nature of the soil. Climate and soil must be accounted for before he could say what quantity and description of seed to sow. As Mr. M'Combie had said, Alyske clover suited his poor land, where nothing else would grow; but it did not follow that Alyske clover would be the only or best thing for Mr. Mitchell's land. As to the quantity of grass, unfortunately he could not tell that, because sheep had been, very much to his regret, allowed to overrun and eat it down. He should explain that the roots were weighed as they were taken up, whereas to ascertain the exact quantity of manurial matter in them they ought to have been dried.

Mr. ANDERSON, Wellhouse, also expressed pleasure at hearing Mr. Bruce bring the subject of Alyske clover under notice, because it was a clover he had heard very much condemned. As had been said already, they had seen good pasture from Alyske clover where they could get it from nothing else.

Mr. WILKEN, Waterside of Forbes, explained that, at a committee meeting a week before he had agreed—as no one else would—to make a few observations on the utilisation of liquid manure, not because he could offer any exhaustive information on the subject, but simply to start to provoke a discussion. Liquid manure is, he said, one of those few commodities we have at hand, and I am sorry to say in most cases allow to run to waste—and that in the face of the conviction of most farmers that it could be made, at least in some measure, available for improving our crops. The greatest difficulty with us all is how to apply it to the land at as little cost as possible. I am sorry I do not see my way to recommend any mode that will altogether do away with that great bugbear of most farmers, *flash*, and a little extra labour. Before anything can be done with the liquid manure of the farm, it is necessary first to collect it in tanks for distribution either upon the dung or upon compost heaps, or both. I shall shortly describe the mode I have myself adopted for collecting the urine. I have made two tanks, one in the centre of the courtyard or dung-hill, and another at the bottom of the same, outside the court

wall. Into the first is drained the waste urine of the byres. Both tanks are covered in and fitted with chain pumps, and so placed that it can be pumped either into a cart, or on to a compost heap, formed of refuse, such as weeds, potato heads, earth, and lime. From the tank in the centre of the court I have the urine pumped daily during the winter months on to the dung, and distributed by means of a moveable spout with holes in the bottom. After it passes through the dung it goes into the second tank at the bottom of the court, and is again pumped at intervals of about a week, or when convenient, either on to the compost heap, or into a cart for distribution on the fields or on another heap of earth. The first tank holds about a day's urine with 50 head of cattle, and is made in a very simple and cheap manner, viz., by sinking two sugar barrels one on the top of the other, costing about 9d. each, into the ground. This tank is pumped, as before mentioned, every day, and takes the cattleman about half-an-hour. The second is larger, and holds about a week's urine, unless in rainy weather. This, in the meantime, has to be driven out in a cart to the compost heap. Next season, however, I mean to place the refuse collected for compost alongside the tank, as by that means I will be able to pump at once on to it, and to save the cost of driving; unless in spring, when I mean to apply it, diluted with water, in a liquid state. This takes a man from two to three hours weekly, so that the cost is not very great, at least in comparison with the value. This, of course, is not what I would consider the best plan—only one adapted in my case, as being the cheapest, and, I believe, adaptable to most farms at little cost. I have no doubt, however, that in order to get the full benefit of the urine, covered courts are the best, and perhaps the cheapest in the end, as, by that means, rain is prevented from washing out the best part of the dung, as also "droothy" weather and the sun's rays are kept off, and so both bleaching and drying are saved. He then went on to speak of the amount and value of liquid manure. On a 200-acre farm, with 50 cattle, there would be 150 tons of liquid manure running to waste every year, the ammoniacal value of which would be about £66. Every farmer, he continued, has the opportunity of gathering during every year many useful ingredients for the future support of his crops, if these were only systematically gathered into one place; and the urine being pumped or run on to them, a valuable compost would be the result. By a proper adoption of the system of compost manures, I am satisfied we save and apply to the soil many fertilisers that would not otherwise be made use of. Many of the weeds which are collected from the turnip fields should not be used until they have been so thoroughly decomposed that their seeds are destroyed; and they require active fermentation ere they are fit food for vegetables, and I think the compost heap the best place for this. Besides, they are made valuable manure. In my opinion, the most useful and profitable way we can use our liquid manure is by adding it to such things as we know to be of little or no value singly, but which become valuable auxiliaries when mixed together. One thing is certain—if only urine is mixed with earth, we will have a useful fertiliser, and one at the command of all.

Mr. ANDERSON, Wellhouse, said the subject started by Mr. Wilken was most important, being one of the departments in which farmers allowed more waste than in almost anything else. It agreed with his own opinion that they almost lost as much in liquid manure as would supply all the extraneous manures they required for their turnip crops. But the thorough use of liquid manure could hardly be got without covered courts. That was a very wide question, but still Mr. Wilken had done very much to economise liquid manure under ordinary circumstances, and of course whatever could be done under ordinary circumstances it were well to do.

Mr. M'COMBIE said, so far as feeding fat cattle was concerned, covered courts were all very well, but as to confining calves and yearling and growing cattle in covered courts, he most distinctly lifted up his voice against that. That was against nature altogether. There were a great number of farmers in Morayshire in the way of keeping their young stock in covered courts; and he would not give within £1 or £2 per head for those cattle that he would give for cattle kept in open courts. His young friends, and there were a great number of them round the table, would remember that he was old and they were young, and he would advise them, if they wished to buy a bullock, not to buy it out of a covered yard, but

to buy it from a person who had been in the habit of turning it out every day. If they did buy a bullock that had not seen the sun, nor yet perhaps the moon for seven or eight months, they might depend upon this fact, that, after being two or three months on the grass, they would take the bullock in lighter than they put it out.

The CHAIRMAN: Allow me to correct you Mr. M'Combie. You and Mr. Anderson are going upon two different points. You are talking about putting bullocks into covered courts; but Mr. Anderson was talking about the manurial advantages of covered courts.

Mr. ANDERSON: That is just the remark I was about to make. I did not recommend covered courts for cattle; I spoke of covered courts for manure. I do not see that cattle should be in any way differently treated from what they are at present; so that Mr. M'Combie's remarks are quite aside from the point.

Mr. MITCHELL, Auchmagathle, did not approve of covered courts. His firm belief was that many of their manure heaps required rain water to keep the manure from heating. He knew many men of experience would bear him out in that. He had heard it said that rainfall was quite necessary for their manure heaps, but that the collection of rain water from the roofs of houses might be superfluous. He was very glad to hear Mr. M'Combie's remark about putting stock into covered courts. He thought these very strong points against covered courts.

Mr. ANDERSON, Wellhouse, pointed out that experiments made on Lord Kinnaird's farm proved that crops raised with manure from a covered court were very much better than crops raised with manure from an open court. Of course, as had been said, experiment was a great thing, and he should be glad to hear of more experiments of the same kind.

Mr. M'COMBIE said that a farmer had perhaps two or three byres filled with stock. He turned the manure into a covered court. An enclosure was made within the court, straw thrown upon it, and a lot of young beasts put in. In his opinion it was as good as death to them to be put in that court upon the dung taken out of the byres.

Mr. ANDERSON: I never asked you to put stock there.

Mr. M'COMBIE said he saw an example of that class on one of Lord Aberdeen's greatest farms. The young cattle were put out upon dung taken from different byres, and more poor starved creatures he never saw in his life.

Mr. BRUCE asked Mr. M'COMBIE to explain to him how it was that, when he went to Morayshire, he always bought cattle that had been in open courts, and advised all his young friends to keep their young stock in open courts, whereas at Tillyfour he did not allow any young stock to see either the sun or the moon?

Mr. M'COMBIE: If you come to Tillyfour you will see that my own stock all go in an open straw-yard. I will be very glad to see you there at any time, and you will see for yourself that my beasts are not kept in close courts.

Mr. WALKER, Bithnie, reverted to the important remarks made by the Chairman on the subject of chemical analysis. A good deal of conversation thereupon followed, in the course of which it appeared that the meeting was favourable to the formation of a Chemical Association in connection with the Turnip Association. The following Committee were appointed to make all necessary arrangements, namely, for parish of Alford, Mr. Farquharson of Hlaughton (to be chairman), and Mr. Anderson, Wellhouse. For Tullynessie, Mr. Robert Wilson and Mr. Wilken. For Keig, Mr. Mitchell, Auchmagathle; and Mr. Ironside, Brimdy. For Tough, Mr. M'Combie, M.P., and Mr. Paterson, Whiteley. For Leochel-Cushnie, Mr. Strachan and Mr. Dunn.

THE METRIC SYSTEM.—The Danish Government appointed a commission in August last to report upon the question of the introduction into Denmark of the metric system. This commission has just issued its report, which recommends that the system shall be allowed to be used from the 1st of January, 1875, and shall become compulsory on the 1st of January, 1878. A minority of the commission recommend the use of the metric along with the old system. The question has also been taken up in Norway, where a commission has reported in favour of the adoption of the metric system.

KINGSCOTE AGRICULTURAL ASSOCIATION.

TENANT-RIGHT BILL.

At the last monthly meeting, Col. Kingscote, M.P., in the chair, the following paper was read by Mr. H. HOBOROW :

In discussing this important and long agitated subject there are a few points which I propose especially to consider. 1st. What do we, as farmers, understand by the words "Tenant Right"? Certainly not an increase of power as directed against the landlords; nor a demand to do what we like with the land in our occupation to the injury of the owner thereof; nor an encroachment in the way of vested right in the property itself; nor a claim for anything detrimental or prejudicial to the landlord; but a fair security for money judiciously spent in the improvement of another man's property with a view to its increased fertility and productiveness, so that the tenant may not be deterred from using his best endeavours (to the injury of himself and the nation at large) through fear of expulsion, or any other act of vicissitude which may rob him or his family of his capital so invested. 2ndly. Is there a need for something to be done to this end? I think I may say that there can be no doubt of this; all parties seem to admit it; observation confirms it. The reasoning with tenant-farmers on the desirability of attempting to raise the soil to the highest pitch of productiveness immediately brings out the confession of want of confidence in thus spending their money under existing circumstances. No reasonable person can say that their security is what it should be. That increased confidence would bring about increased endeavour there can be no question. That the rapidly-increasing requirements of the nation render it necessary that everything should be done that could be done toward feeding the population with home produce no one doubts. That this will not be done until better security is conceded to those who have to spend their money in doing it is most certain. Policy, therefore, apart from the mere justice of it, demands that something should be done, and without unnecessary delay. 3rdly. How is it to be done? Who is most responsible? In replying to the first of these questions three methods present themselves for our consideration, viz.: Compensating agreements; Long leases; Legislation. Let us consider the respective merits of each, and the expressed opinions and predilections of tenant-farmers with reference to them. That compensating agreements subject to one year's notice to quit are in favour with many intelligent farmers I know from experience, and their reasons are not unimportant. For instance, it is urged that a young farmer on starting into business life has great difficulty in obtaining a farm corresponding in size with his capital, or the kind of farm he would like to settle down upon, or such as he would have confidence in risking his capital and prospects upon for a lengthened period; and if he did succeed well, he would not like to have his hands tied so that he could not remove to something more extensive, for a farmer cannot gradually enlarge his farm as a tradesman can his shop, or a manufacturer his establishment, or a merchant his business. Therefore many prefer the yearly tenancy on account of the opportunity it gives to remove to something more suitable. Such persons believe that a compensating agreement may be easily given which would meet all their requirements as to security. That compensating agreements may, generally, be given, there is no reason to question, and such as would be fair between both parties, if landlords would only set themselves to the attempt, and employ those men as agents who thoroughly understand the business of agriculture. There is, however, some difficulty in drawing up compensating agreements so as to give the desired security without laying it open to the tenant to run up an extortionate bill against the new comer; but this is only a matter of detail, and does not immediately concern the subject under discussion. But the bare fact of a tenant being on the look-out for an opportunity to relinquish his holding for something more favourable, or of a tenant feeling that at any time he may have his rent raised, or receive notice to quit, will always militate to some extent against an earnest and unfettered attempt to accomplish all the improvement within his power. Leaves I hold to be of little avail in bringing about enlarged

productiveness unless they are *long* ones, although a tenant may fairly claim the privilege of determining it at the end of the first seven years if he finds it a losing game, because it should be remembered that his total ruin may be concerned, whilst it is a mere matter of rent to the landlord. A long lease, conceding all the liberty and scope for skill and enterprise within the bounds of reason during its continuance, with stipulations for unexhausted condition being paid for, as well as for a suitable course of cropping being pursued, at the termination, would be conducive to nearly all the confidence a tenant would require, for he must submit to some degree of risk in his enterprise, and would be nothing unreasonable for a landlord to grant, who must be content to submit to a measure of risk also. That long leases have proved, as a rule (where they have been properly drawn up), conducive to agricultural development there is no reason to question, but how far it would be wise to make leases a rule without exception is also a grave question. The undeniable fact is that agriculture is such a complicated affair that to generalise is more wise than to particularise when attempting to deal with its peculiarities; and here I expect the difficulties of the next question will especially present themselves, viz., legislation. To lay down a principle may not be so very difficult, but to define particulars so as to meet all the requirements of variety of soil, climate, locality, and so forth, would be an endless task; and, if legislation fails to make matters very plain, the lawyers, with their accustomed "coach-and-four," will soon find delightful employment for themselves in driving slash through it. But this is not the worst to be feared; it is rather the alienation of kindly feeling and pleasing interest that may arise between the landlord and his tenant from the former feeling that he is relieved from all concern for the tenant by Act of Parliament, and that it is only a matter of hard bargaining between them in every respect where the Act does not intervene. People may call this old-fashioned mutual interest and good feeling mere *sentiment* if they will; but as agriculture appears to differ in some respects from most other lines of business, it differs in this particular also, that it will be a misfortune when this kind of sentiment has become a dead letter. Not that I am for farmers being mere semi-serfs to their landlords, no, not that at all; let them be men and hold up their heads and show that they understand their business, their position, and their responsibilities, but let them still cultivate the good-feeling and respect of their landlords nevertheless. Let it not, however, be understood that I am condemning the attempt to legislate by Act of Parliament upon this most necessary subject, for it will be wise to do so if the desiderated security cannot be obtained without. We come, therefore, to the second question, viz.: Who is the most responsible? It may seem one-sided, but it cannot be denied that the man in power is the man most responsible, simply because he *can* meet the necessity if he will, and the tenant can use no force except it be that of combination, but combination is altogether averse to the farmer's practice, antecedents, or susceptibilities; in fact, in this particular it is just the thing he cannot do, because of his being continually outbid by others who are not farmers bred. "Perforce," then, is not his motto, but "Live and let live" is. Give him the fair chance to "live," and he will soon show you how he will both do so himself, and help others to do the same by supplying them with the necessities they require in abundance. Fourthly, let us not forget the landlord's point of view. He thinks that he has the right and the power to do what he likes with his own; most certainly he has, and the *responsibility* too. Let him see to this latter, or the others may slip from his grasp. His wishes, his interest, ought to be respected to their fullest extent, and it is hoped that no attempt will be made to the contrary; but whatever his wishes may be, his *interest* is undoubtedly bound up in the cause of agricultural development we have been considering, as well as the tenants, individually, and the nation's too. To say that the landlords have done nothing to this end would be wrong, for many of them have already conceded the requirements to some extent, and others will follow no doubt; but will they, as a body, do all that is neces-

sary if left to their own disposal? They may in time, but the progress is so very tardy that something more "express" and in accordance with the rapid movement of events and requirements of the nation seems necessary. We will, therefore, proceed to examine the proposed bill, with a view to passing our judgment as an agricultural body thereon; whether it appears likely to meet the acknowledged requirements or not. Having read and re-read the bill, since writing the foregoing introduction of the subject, I have, myself, come to the conclusion that it is worthy to become the law of the land, but with a few trifling alterations in its details. I will, however, confine my observations to the few leading clauses, which seem to me to contain the core and substance of the bill itself. Clause 1 declares that the tenant shall be compensated for his unexhausted improvements—just what is really needed. Clause 2 describes the improvements themselves, for which claim may be made, under three heads, viz., temporary, durable, and permanent, each of which is well defined. Clause 3 defines the mode of procedure, and is so well got up that it seems to me difficult for any tenant to rob a landlord under any of its provisions, and I have made calculations in various ways to ascertain whether the tenant would be able to run up an unfair bill against the new comer; but it appears to me that his chances of doing so are very small indeed. At the same time provision is made for a set-off in case of any neglect of the tenant. The leading valuers of every district would be sure to agree to a fair scale of remuneration for feeding stubs and purchased manures to serve as a general rule, and would know how to depart from it under any special circumstances. They, as practical men, would know how to work out the principles laid down by this clause so that no injustice might occur. Clause 4 having reference to "durable improvements," is most just, for if a tenant has added to the letting value of the farm he ought to be reimbursed, and there would be no claim under this clause if he had not. Clause 5 treats of "permanent improvements," and these must also add to the letting value in order to entitle to a claim for compensation. A most useful clause this is, and well got up; neither can I perceive how any hardship can accrue to an owner of property under its provisions. Clause 10. The justice of this clause no one can deny, and I am continually meeting with cases calling for its enactment and operation in my valuing peregrinations. Clause 12. Here is the point of attack; here is the "bone of contention." Do away with this clause, and then—why put the bill in the fire for all the use it is of. Why do not opponents attack the bill in its details, or as a whole? It is unjust or unequal why not show it? All the opposition I have yet heard, or read, to this clause only goes to prove that the bill itself is wanted. It is said to be un-English to bind people! Then do away with *all* Acts of Parliament, and let every one do as he likes, or that argument fails. Another talks about "freedom of contract." Well, *that* has been tried a long time, and found wanting. Why? Because the landlords, as a rule, are unacquainted with practical agriculture themselves, and very commonly leave their business in the hands of those who are wholly ignorant of it. The 12th clause is like the keystone to an arch; take it away and the structure falls to the ground. I now pass on to another important clause—the arbitration clause, the 13th—together with the schedule of regulations. This is good in itself; but I do trust that it will be so altered as to compel the arbitrators to *appoint their own umpire* before proceeding to business, instead of leaving it for the inclosure commissioners to make the appointment when required. The present provision of the bill in that respect would open such a wide door for extravagant costs as might destroy the weak party's chance of obtaining real compensation by the preliminary expenses. This should be avoided as much as possible. These appear to be the leading points of the bill, and all the rest we may pass over without special notice. After what I have said perhaps some may be ready to accuse me of expressing the opposite views to what I did a year ago on the subject of legislation in reference to agriculture. Well I still wish that legislation could be done without, but I am reluctantly come to the conclusion that it is necessary. Why, lately I have had to do with two large estates where a printed form of agreement is got up and enforced, in which a Michaelmas tenant is positively refused all payments for artificial manures used with the last year's root crop unless he has first obtained a written consent for them to be used, and yet the crop could

hardly be grown without them, and the entire benefit goes to the next comer! Nothing but Act of Parliament will ever cause such parties to do more than they are absolutely obliged in the direction of recompense. In conclusion, I beg to propose the following resolutions: "That this meeting, recognising the great necessity which exists for better security to the tenant-farmer, earnestly hopes that Mr. Howard's bill may become law." Agreed to by 15 to 4. Secondly, "The opposition raised against the 12th clause is considered to be one of the strongest proofs of the necessity for the bill itself, and this meeting hopes it will not be struck out." Agreed to by 11 to 3. Thirdly, "This meeting recommends that the arbitration clause should be so altered as to give to the arbitrators the power to appoint their own umpire, and only to bind them to appeal to the Enclosure Commissioners in case they fail to agree upon one themselves." These resolutions were all unanimously adopted.

BATH AND WEST OF ENGLAND AND SOUTHERN COUNTIES AGRICULTURAL SOCIETY.

The usual Council meeting of this Society was held at the White Lion Hotel, Bristol, Sir J. T. B. Duckworth in the chair. There were also present: Sir. T. D. Acland, Bart., M.P., Messrs. R. Bremridge, Jonathan Gray, R. K. Meade King, J. C. Moore-Stevens, H. G. Moysey, and R. Neville-Grenville, M.P., J. T. Boscawen, H. Badcock, C. Bnsh, R. H. Bush, W. Crabbe, R. R. M. Daw, Thos. Dyke, F. W. Dymond, Charles Edwards, Fredk. Gill, James Hole, J. E. Knollys, H. A. F. Luttrell, H. Spaekman, J. Stratton, W. Thompson, R. Trood, C. A. W. Troyte, W. H. Walrond, H. Williams, R. Wippell, and J. Goodwin (secretary and editor).

THE FINANCIAL STATEMENT for the year 1873 was considered and approved, and ordered to be printed and circulated through the medium of the Society's Journal. It appeared that the expenses of the Plymouth meeting were £6,383 11s. 5d., whilst the income derived from it was £7,108 5s. 3d., thus yielding a surplus of £724 13s. 10d. in favour of the Society.

THE BY-LAW REVISION COMMITTEE presented an *ad interim* report, and undertook to have their work completed by the next meeting of Council (March 31st).

For the superintendence and due enforcement of the Society's contracts, a committee was appointed consisting of Colonel Luttrell, Colonel Lennard, Mr. R. Neville, Mr. C. A. W. Troyte, and Mr. Arthur Grenfell.

For the accommodation of the representatives of the press on the occasion of the forthcoming Bristol meeting special provision was directed to be made by the Official Superintendent.

The following new members were elected: Messrs. T. R. M. English, Wynhol, Walton, Clevedon; W. Hunt, Burtonstreet, Bath; G. Turner, jun., Thorplands, Northampton; J. Temple and Sons, Slate Works, Canon's Marsh, Bristol; and W. Lane, jun., Sandford, Crediton.

[It seems to us that "a special provision for the representatives of the Press" would be the inclosure to the several offices of invitation admission-tickets, if any such courtesy be continued, instead of compelling people to crowd about a small window and a slow clerk on the opening morning. We declined to exercise any such "privilege" at Plymouth, nor do we know of any other Society where this obnoxious custom prevails.—EDITOR *M.L.E.*]

MR. CROSS.—The only new, and by far the boldest of all the appointments, is that of Mr. Cross to the Home Office. There are reasons for Mr. Cross's selection, young in Parliament and almost unknown as he is out of his own county of Lancashire. He is the man who left the Northern Circuit to defeat Mr. Gladstone in South West Lancashire in 1868, and he has steadily risen in the House of Commons until he was recognised as a leader of Conservatives in all the semi-legal administrative questions which interest country gentlemen. Besides the Home Secretary is always regarded as the second in the lead of the House of Commons, and there has been a little mutinous talk of a Derby-Hardy administration.—*Western Times*.

THE CENTRAL CHAMBER OF AGRICULTURE.

A Council Meeting of this body was held on Tuesday, March 3, at the Salisbury Hotel, Mr. G. F. Muntz in the chair. Among those present were Sir J. Pakington, Sir Massey Lopes, M.P.; Mr. C. S. Read, M.P.; Mr. A. Fell, M.P.; Mr. Chaplin, M.P.; Col. Paget, M.P.; and Mr. Storer, M.P.

The CHAIRMAN, in opening the proceedings, observed that the last meeting, having met merely to adjourn, that meeting was practically the opening one of the present year. Appearing there for the first time in the position of President, he must crave forbearance and indulgence for any shortcomings, especially as he succeeded a gentleman who was eminently qualified to occupy that position, and who, by his quickness of perception, his sound judgment, and his constant urbanity, had gained the respect and esteem of every member of that Chamber. About four years ago the then Chairman of that Chamber, speaking from the place where he then stood, and observing Mr. Knatchbull-Ingessen in the room, said it was seldom that they were honoured by the presence of a member of her Majesty's Government; but at that moment three gentlemen who had taken an active part in the proceedings of the Chamber had received the distinguished honour of being appointed to an office in the Government of the country. He looked upon that as a very auspicious event in connection with the influence the Chamber was likely to exercise in the country. It had been said that landlord influence predominated in that Chamber. That was not so, and it could not have been said by any one who had attended the meetings. The influence of the Chamber depended upon its being a truly representative body, a body representing the agricultural interest throughout the kingdom, not merely a section of it, and if that were recognised it would acquire a power which would enable it to confer immense benefit on the whole agricultural community. As regarded the programme for the year, they had before them two very great questions, and he thought no one would deny that they ought to have priority over all others—the question of Local-taxation and that of land-tenure and compensation for unexhausted improvements. In the case of Local-taxation they should not forget that they would have opposed to them a large, powerful, and interested minority, who were now exempt from such taxation—mortgagees, fundholders, shareholders, and others occupying a similar position, and a great deal of energy and perseverance would be required to enable the Chamber to accomplish the object. As regarded the question of land-tenure and compensation for unexhausted improvements, he believed their great difficulty was the want of knowledge and intelligence among those who were interested in the matter, and what was especially needed at present was calm and temperate discussion, with a view to a settlement, which would be just and equitable to all parties concerned (cheers). The question of education was daily becoming of more importance to agriculturists. The amendment of the Poor-law was also an object of great interest; and the importance of uniformity in weights and measures was increased by the increase of foreign competition. Another question which demanded careful attention was the protection of English cattle from infectious foreign diseases. The last question which he would mention—he would not say the least, because he knew that with many members of the Chamber it was a question of deep interest—was that of free-trade in agriculture, particularly in malt. That was a question which must be dealt with. If the principle of free-trade were a true principle, it was true not merely in one case but in all cases, and therefore he said the question of the repeal of the Malt-tax demanded earnest consideration.

Mr. HODSOLL (Kent) then proposed that three cheers should be given for the three members of the Chamber who had just been appointed to office in the Government—Sir M. Beach, M.P., Sir M. Lopes, M.P., and Mr. C. S. Read, M.P., and this suggestion was vigorously carried out.

During some routine business which followed, the Chairman alluded to the fact that a deputation was to see the Chancellor of the Exchequer on the following day in reference to the Malt-tax, and Sir John Pakington was, on the motion of Mr. C. S. Read, M.P., seconded by Mr. Hodson, elected Vice-Chairman for the current year.

Mr. SMITH (Essex) having inquired whether the amount of arrears of subscriptions previously reported, namely, £189, had been reduced.

The SECRETARY replied that a considerable number of arrears had come in, and that he had no doubt they would be able to get in the major portion of the remainder.

The election of the Business Committee was then proceeded with, the result being that the following were chosen for the current year: Mr. G. Whitaker, Captain Craigie, Mr. J. H. Hodson, Mr. J. Bowen Jones, Mr. J. S. Gardiner, Mr. Thomas Brown, Mr. G. Storer, M.P.

Sir M. LOPES, M.P., then read the following Report of the Local Taxation Committee, which was adopted:

Since the Local Taxation Committee presented their last report, Parliament has been dissolved, and a new Government has assumed the reins of power. The unaccomplished task of reforming our existing system of local taxation must now, therefore, be undertaken by a new Parliament; and upon the new Ministry will devolve the duty of initiating remedial legislation. While firmly adhering to their former demands, your committee will continue, as hitherto, scrupulously to avoid all mere party considerations in dealing with this subject. In the interest of the ratepayer, it has frequently been their duty to protest against the treatment of this question by the late Government. They are now equally anxious to press on the present Ministry the urgency of the ratepayer's claims to prompt and effective redress. In dissolving Parliament Mr. Gladstone indicated his future policy, and at last admitted "that a further portion of the charges hitherto borne by real and immovable property should, with judicious accompanying arrangements, be placed upon property generally." And in the sketch he gave of his intended Budget he also said: "The first item I have to set down in the financial arrangements proper for the year is relief, but relief coupled with reform, of local taxation." Your committee are glad to observe this tribute to the justice of their arguments, and to welcome the prominence thus given to the question throughout the late General Election—a prominence which must ensure its early consideration by the new Government. The combined necessity for both relief and reform has always been felt and admitted by your Committee. Their opposition to the proposals hitherto made has been directed against the order in which the subject was approached, the indefinite postponement of substantial relief and the attempted substitution of petty alterations of administrative detail for real and urgently-demanded remedies. The earliest and most reasonable step in general reform is now admitted to be the removal from the rates of the most peculiarly national of our present burdens, in cases where central control now determines the expenditure. A development of the existing system of Treasury Grants in the direction approved by Parliament in 1872, involves no complicated reconstruction of existing authorities. Such relief might, therefore, be given at once, even if the time at the command of the new Government should prove too limited to attempt more intricate reforms in the present financial year. It will not be forgotten that the late House of Commons assented to the charges imposed by the Education, Sanitary, and Vaccination Acts only on Mr. Gladstone, Mr. Stansfeld, and Mr. Forster severally undertaking that each imposition should be fully taken into consideration when the whole subject of local-taxation came to be reviewed. Whether, therefore, any of the charges now existing, especially that for police, should, as matter of justice, and at the same time with a view to greater efficiency and economy, be removed entirely from the local category; whether in other cases State aid could be further proportioned to State control, or whether any other means exist of alleviating existing hardships, will be matter for the earnest consideration of your Committee. Administrative changes, although not indispensable preliminaries to the relief of ratepayers, must ultimately be included in any general reform of local finance. Local Government, the machinery of assessment and collection of rates, the removal of all exemptions from rating liability, and the difficult questions of Highway, Turnpike, and Sanitary management will all demand careful consideration. With a view to elicit information and suggestions on some much-controverted points, your Committee propose to offer a prize of fifty guineas for the best Essay on Reforms necessary in the constitution of local authorities and the administration of local rates. The success of their former Prize Essay in awakening an interest in careful financial reforms leads your Committee to anticipate much advantage from a proposal which enables them to show as vital an interest in efficient and economic local government as in just and equal local taxation. In prospect of Parliamentary discussion on local taxation, the annual and other statistical returns recently distributed

become of special interest and value. The aggregate rates of England and Wales in 1872 exceeded £18,000,000, thus showing an increase of fully 80 per cent. in the last twenty years, and exceeding by nearly £2,000,000 the amount at which Mr. Goschen placed them in 1868. This rapid increase of local taxation contrasts forcibly with the frequent remissions of imperial burdens. About one-third of the rates raised are no doubt expended, as the late President of the Local Government Board has pointed out, for remunerative purposes. It must be remembered, however, that no less than £12,000,000 annually are now levied for what are officially acknowledged to be non-remunerative purposes. It is of the incidence of this large portion of our rural burdens your Committee especially complain. It is no doubt gratifying to see from the Annual Poor Rate Return a slight reduction in the cost of out-door relief, which is mainly attributable to the unprecedented prosperity of the country. From the figures now presented to us we may learn, however, some valuable facts. In the course of a single decade, while the actual cost of maintaining our paupers (*i. e.*, in-maintenance and out-door relief alone) shows but a small comparative increase, the demand made upon the Poor-rate by county, police, and borough authorities has grown by fully £1,000,000; or 50 per cent.; the cost of lunatics by 66 per cent., and the large item of miscellaneous and unclassified expenditure—for which recent legislation is accountable—by nearly 100 per cent. One-third of the whole sum levied under the name Poor-rate is now applied to purposes wholly foreign to the original intention of this impost. The returns moved for by Mr. Pell, at the instance of your Committee, give for the first time, though not yet in a complete form, a tabular analysis of the purposes to which rates are devoted. They also specially enforce the urgent necessity for some such measure as your Committee's Local Taxation Accounts Bill of last Session, and show the need of a real local Budget, while they pointedly direct attention to the confusion now existing in the varying dates to which local accounts are made up, and the irregular or deflection audit to which many of our local taxes are subject. Your Committee have before directed attention to the paper on Local Government and Taxation read by Mr. Dudley Baxter, at the Social Science Congress at Norwich. This paper has now been reprinted, together with a series of valuable letters by Mr. Baxter on Mr. Goschen's Report of 1870. Your Committee, while admitting the ability and research with which that Report was compiled, have already pointed out that many of its statistics were unreliable, and that its main conclusions were fallacious and misleading. The present very able letters of Mr. Baxter completely dispose of Mr. Goschen's arguments, whether derived from historical data, from the apparent rate in the £, or from comparison with foreign countries. Your Committee will take steps to give the widest publicity to Mr. Baxter's pamphlet. His careful analysis of the relative total burdens of rated and unrated property claims, in their opinion, especial consideration. Even assuming, as Mr. Baxter does, that only one-half of the rates fall ultimately on the property assessed, he very clearly shows that that property is charged to Imperial and Local taxes at 12 per cent., while unrated personality escapes with a total payment of 5 per cent.—a result which fully establishes the justice of your committee's protest against exceptional taxation. The annual report of your committee issued in November last attracted a large share of public attention during the recess, and nearly 4,000 copies of it have been circulated. At the invitation of the Leicestershire, Worcestershire, and Lincolnshire Chambers, the secretary of your committee attended and addressed meetings in Manchester, Worcester, and Boston, which were instrumental in increasing the interest felt in Local Taxation Reform. Your committee have on this occasion to acknowledge the expressions of approval of their past exertions and confidence in their future policy which they have received from local chambers, and from their supporters generally throughout the country. They have further to thank the contributors who have so readily responded to their appeal for help. To the Worcestershire Chamber of Agriculture they feel that special thanks are due for the welcome aid they have again offered.—MISSY LORIS, Chairman.

Sir M. LORIS, M.P., moved a vote of thanks to Mr. Dudley Baxter for the interest which he had taken in local-taxation reform, and for the able and valuable letters which he has written on the subject.

Sir J. PARKINGTON seconded the motion, which was adopted.

Mr. PELL, M.P., after reminding the meeting that at the commencement of the last Parliament a deputation from the Chamber had an interview with Mr. Gladstone on the subject of local taxation, proposed the following: "That the Premier be requested to receive a deputation from the Central and Associated Chambers on the subject of local taxation, and that it be referred to the Local Taxation and Executive Committees to make the necessary arrangements."

Colonel PAGET, M.P., in seconding the motion, observed

that the position of the Chamber in reference to that question was not affected by the recent change of Government. That question was free from the domain of party politics, and they would be just as eager to press their claims on the present Government as they were to urge them on the consideration of that which had ceased to exist.

The CHAIRMAN then presented and read the second report of the committee on "Unexhausted Improvements," which was as follows:

Since your Committee presented their first report, a large amount of additional information has been received; nevertheless, returns of agricultural customs are still wanting from several counties, and to complete the inquiry in which the committee are engaged will need some little time longer. Your committee have arranged the mode in which the details of customs shall be summarised, and are proceeding with the work of abstracting the several Schedules returned, and entering the particulars in the final summary forms. And the diverse customs and modes of compensation which appear in those returns have fully shown the absolute necessity for such a tabular synopsis of the whole, to enable members of the Council and of the Associated Chambers to obtain the information afforded in the most intelligible and comprehensive form. It is thought desirable, having regard to the magnitude of the work and the difference in the interests concerned in the respective classes of improvements, that "Temporary," "Durable," and "Permanent" improvements should form distinct sections of the final report. In the present report, your Committee confine their observations to such items as materially affect the question of compensation, omitting references to those which are comparatively unimportant. Your Committee desire to draw the particular attention of the Council to the marked differences between customs prevailing to-day and those existing in the year 1843 when Mr. Pusey's select Committee of the House of Commons issued its report. For example: In Lincolnshire, at that time, no allowances were given for guano or other highly-concentrated manures, which are now universally allowed for in that county. Compensation for draining was then only partially introduced, though it is now a general custom in Lincolnshire. At that time there was no allowance in Staffordshire for purchased oilcake, feeding stuffs, and artificial manure, or for marling, boning, liming, planting quickset hedges, or draining, all which are now subjects of compensation, in, at any rate, the southern division of that county. In Cambridgeshire, in that part called the Isle of Ely, allowance for oilcake for artificial manures, and for claying, is new, since the date of Mr. Pusey's inquiry. In Nottinghamshire allowances for draining were only partially introduced at that time, but are now universally the custom, together with compensation for road-making, planting quickset hedges, executing irrigation works, and making main drains, watercourses, and reservoirs. In Cheshire there was at that period no allowance for either draining or planting quickset hedges, which, however, obtains in North Cheshire at the present time. In parts of Oxfordshire compensation for chalking and boning have been introduced since 1843. In South Wiltshire allowance for purchased manures is new. In parts of Gloucestershire artificial manures are now allowed for, and compensation is given for draining, though neither of these improvements was recognised by custom in 1843. And in parts of Dorsetshire a small allowance for oilcake, feeding stuffs, and purchased manures, and also for draining, has been introduced, though there was no custom of the kind mentioned in the House of Commons report. This is sufficient to show that an inquiry and report of so early a date as 1843 is wholly insufficient to enable any one to arrive at a correct conclusion regarding the established customs of the various counties in the present day. Your Committee would direct attention to the absence of any uniform principle upon which Customs might be supposed to have originated. Thus, guano is allowed for in some counties when applied to corn crops, in other counties only when applied to root or green crops; and in the latter case, some counties or districts pay for all, and some for only half the quantity used in the last year; and while some counties pay for no guano used in the last year but one of the tenancy, other counties pay for one-third of what is applied in that year. For oil-cake the allowances vary from half the value of cake used in the last year, with nothing for cake used in the year before that, to one-fourth of the last year's and one-eighth of the previous year's cake, or two-thirds of the last year's and one-third of the previous year's consumption of oil-cake. Compensation for tile-draining ranges so diversely that improvement is calculated in some counties to extend over six years, and in other counties up to fourteen years. Planting quickset is spread over varying periods from three to ten years. Liming arable land is supposed to benefit the tenant from five years down to only two years; and liming pastures is taken as lasting three years in some counties up to six years in others. The Returns show that in some counties, in lieu of money compensation for purchased feeding stuffs and manures, the out-going

tenant is entitled to an away-going crop; but a large number of the Returns show that in many counties and districts no compensation whatever for temporary improvements is secured by custom either in money or crop, and up to the present time your Committee have not received a single intimation of the existence of any custom securing to the tenant compensation for buildings, excepting structures not attached to the freehold, which he is, of course, at liberty to remove. Looking at the results of the inquiry, so far as it has at present proceeded, revealing a very partial prevalence of equitable Tenant-Right customs, very conflicting practices as between one county and another, and even between different parts of the same county, and, over a very large number of counties and districts, the absence of any compensation whatever for unexhausted capital invested by the occupier (and this a quarter of a century after the labours of Mr. Pusey's Committee and the attempted legislation of 1848), your Committee cannot but conclude that the time has arrived for a settlement of the Agricultural Customs of the kingdom upon a uniform basis. And while the contemplated legislation which is supported by the Council will guarantee a universal recognition of the respective claims of landlord and tenant, your Committee believe that the application of the provisions of any Act for this object will be greatly facilitated by the framing of a general Scale of Allowances, founded upon the information which is being collected, embracing, as it does, the experience of leading agriculturists throughout England.—G. F. MURTZ, Chairman.

The Chairman having moved the adoption of the report, this was seconded by Mr. Caldecott, and agreed to.

Mr. H. NEILD having remarked that none of the recent election addresses contained any direct reference to the special interests of tenant-farmers, and intimated a wish to propose a resolution relating to that subject, the Chairman informed him that he was out of order, and called upon the Secretary to read a letter received from Mr. James Howard.

The Secretary then read this letter, in which Mr. Howard said: "As the Chamber is about again to discuss the subject of Tenant-Right, would it not be well, in the first place, to settle the principle upon which any legislative measure should be based? If the bill I had the honour of introducing into Parliament last session should come under discussion, perhaps I may be allowed to say that without the 12th clause, or some clause equally binding on both parties, I do not think the bill would be worth passing (cheers). But, by all means, I would press upon the Chamber the necessity, before going into the subject, of settling this point: Shall we seek a compulsory or a permissive measure? Mr. Read and I settled this point at the very outset, and why should not the Chamber? It would have saved endless discussions if the chambers and clubs had first settled this principle."

Mr. CARRINGTON SMITH said he wished to propose that clauses 12, 13, and 14 should be struck out of Messrs. Howard and Read's bill, and that there should be introduced in clause 1 words for providing compensation for unexhausted improvements in cases in which it was not provided for by lease or agreement. He would, however, first propose the following resolution: "That every effort should be made to secure the passing of the Landlord and Tenant Bill during the ensuing session." Without proper provision for compensation for unexhausted improvements the occupation of a farm was as purely speculative as the backing of a horse for the Derby. The present head of Her Majesty's Government had now, he believed, a splendid opportunity of effecting a settlement of that question. The present law said to the farmer in effect, "Thou shalt not improve." Let the right hon. gentleman, by legislation on that subject, erase the word "not," so that the law would in future say to the occupiers of land, "Thou shalt improve." He could not help thinking that clause 12 in the bill of last session was thrown as a sop to tenants and clause 13 as a sop to landlords. Surely the men who drew up those clauses knew that a large proportion of the land of England was held under annual agreements; and could they desire that every tenant who occupied in that way should give notice to his landlord in order that he might bring himself within the operation of the bill. In his opinion clauses 12 and 13 required elision from that bill, just as much as in the estimation of numbers the 25th clause required to be expunged from the Elementary Education Act.

Mr. MAY (Staffordshire) wished to observe that although Mr. Smith was chairman of the Staffordshire Chamber he did not represent its views on that subject, as was clearly shown by a resolution which it had adopted.

Mr. T. DUCKHAM then seconded Mr. C. Smith's resolution.

Colonel PAGET having pointed out that there was no Landlord and Tenant Bill now, Mr. C. Smith substituted the word "a" for "the," and with this alteration the resolution was adopted.

Mr. C. SMITH having then expressed his wish to propose the omission of clauses 12, 13, and 14 in the bill of last session.

Mr. BUTLER (Essex), put it to the Chairman whether it was competent for the meeting to take action on a bill which was no longer before the Legislature.

After some remarks from Mr. CORRANCE,

Mr. C. SMITH submitted his supplementary proposal in the following form: "And that in the opinion of this Council the best means of attaining this end is to take the late Landlord and Tenant Bill, with the exception of clauses 12, 13, and 14, and to make clause 1 run thus: 'Subject to the provisions of this Act, wherever in the opinion of the arbitrators such compensation is not provided for by lease, or agreement, or local custom, efficient and sufficient compensation should be made by law.'"

Mr. T. DUCKHAM seconded this motion.

Mr. BUTLER moved an amendment to the effect that the consideration of the question be postponed until some bill on the subject has been introduced in the House of Commons.

Mr. J. S. GARDINER seconded the amendment.

Mr. G. A. MAY said the Staffordshire Chamber, which he represented, had in the absence of their chairman (Mr. C. Smith) unanimously adopted the following resolution: "That this Chamber approves of the principle of Mr. Howard's bill, namely, that legal security should be given equally to both landlord and tenant, for bad husbandry and compensation for unexhausted improvements, and believes it to be necessary for the future improvement of agriculture and amicable relations between landlord and tenant." The feeling of his Chamber was, he remarked, unmistakably in favour of the 12th clause of Mr. Howard's bill, what it desired being that farmers should be enabled to invest their money safely in the land which they cultivated.

Mr. STRATTON maintained that although the bill of Mr. Howard was not then before Parliament, it was quite competent for the Chamber to discuss it with a view of its being made the basis of future legislation.

Sir J. PAKINGTON wished to say a few words with the view of simplifying a question which it seemed to him was becoming rather complicated. There could be no doubt that by means of conversation there they might lay a foundation for future action; but the report of the Committee just read showed how extensive and how difficult that subject was, and that while the principle of Tenant Right had been carried out in various parts of England, there was great variety in the modes of carrying it out. They had just passed a resolution declaring that it was desirable that the ensuing session should not pass away without legislation in reference to Tenant-Right. He thought that resolution was one of great value, and in his humble judgment it would be better to consider how far they should act upon it than to attempt then to lay down details with regard to a bill which it should be remembered was not before Parliament. He would advise his friend Mr. Smith not to be in a hurry to get a bill passed. He would remind him of the peculiar position of the new Parliament. They were now in the month of March, the new Parliament had not yet met, and practically the session could not commence till after Easter. Several gentlemen had thrown out suggestions with regard to a bill, but, as they had been already reminded, there was no bill. There was a bill last session which was brought forward by Mr. Howard and Mr. Read, but Mr. Howard was not now in Parliament, and Mr. Read was not likely to introduce that bill in the coming session; and he ventured to suggest that the first thing to be done now was to ascertain what two other gentlemen would consent to become the fathers of a new bill, or to reintroduce that which had been withdrawn. He thought it would be better to get a new bill introduced in Parliament, and then referred to a select committee, than to discuss the details of a measure which had ceased to exist. He would, therefore, suggest that both the motion and the amendment should be withdrawn, and that they should content themselves with having passed the important resolution already adopted.

Mr. STORER, M.P. hoped the excellent suggestion of Sir

John Pakington would be adopted, but, failing that, would support the amendment.

Mr. C. S. READ, M.P., agreed with Sir John Pakington that it was desirable that both the resolution and the amendment should be withdrawn, but thought it would be quite competent for the Council to pass a general resolution in accordance with the bill introduced by Mr. Howard. If they did not begin by settling what the main principle was to be, they could not have a bill of any value. Mr. Howard justly said in the letter which had been read, that the first thing for the Council to decide was whether it was wished to have a compulsory bill or a permissive one. He knew perfectly well from his experience with regard to the bill of last year that whoever might have charge of such a bill in future—and his own duties would certainly prevent him from occupying that position in the next session—should receive instructions from the Council as to the main principles to be adopted.

Mr. PELL, M.P., wished to make one remark in reference to what had just fallen from his friend Mr. Read. There was great ambiguity in the word "compulsory." A bill was not compulsory; but, if it passed into an enactment, it became compulsory. Therefore the question was what was meant and covered in the minds of Mr. Read and those who agreed with him by that term. They need not go beating about the bush. The question was whether that Council intended to ask the Legislature to prohibit landlords and tenants from making any contract they chose to make between themselves in reference to a holding, unless they excluded themselves from the operation of the bill by entering into an agreement or lease extending over 21 years. That he understood to be the point at issue. He believed the Council was aware that he was in favour of the principle of free contract, and he thought the meeting should be contented with reaffirming the principle which it had already approved.

Mr. JASPER MORE reminded the meeting that last session Mr. Disraeli having convened a meeting of the Conservative members of the House of Commons on that subject, they decided that the 12th Clause of Mr. Howard's Bill, making its operation compulsory, should be struck out. (Colonel PAGET, M.P.: No.) If that were not so, perhaps the hon. and gallant member would be kind enough to explain what was done at that meeting. All the leading journals announced what he had stated. Of course if any Liberal members were to introduce a bill, they would find themselves in a minority.

The CHAIRMAN reminded the Council that circumstances had entirely changed since that question was put down for discussion, and added that the Chamber had already decided in effect that any bill which might be passed should not be permissive.

A VOICE: No.

At the request of the Chairman, the Secretary then read the resolution on the subject passed by the Council last year, declaring that "security for this purpose, where not given by lease or agreement, should be provided by legislation."

The CHAIRMAN thought the principle of that resolution was that where tenants were not secured by other means the bill should give security. He thought it was on the whole desirable to follow the advice of Sir John Pakington.

Mr. T. HORLEY hoped the Council would not separate without passing some resolution respecting the principles of legislation. He was confident that if they did so tenant-farmers generally would be greatly disappointed. He did not agree with Mr. Pell that the bill should be permissive.

Mr. CHAPLIN, M.P., thought that that discussion was somewhat premature. They had been engaged during the greater part of that morning in considering a hypothetical bill—a bill which no longer existed, and if he might venture to make a suggestion, it would be that the wisest course would be to adopt the suggestion made by Sir John Pakington. He thought it highly desirable that the disputed question whether there should be a law prohibiting freedom of contract between landlords and tenants of England should be definitively settled. In what manner that question would be settled, he, for one, could not doubt for a single moment. He believed that the vast majority of the landlords and tenants throughout this country would oppose almost unanimously anything like interference with freedom of contract. (Cries of "No, no.") He thought that if the matter were brought to the test of a poll of the tenants, it would be found that his opinion was not unfounded. Before the Chamber expressed any decided

opinion on that subject, let a bill be introduced in Parliament, and let them see what sort of a bill it was.

Mr. BOWEN JONES, as a tenant-farmer, could not help expressing his great surprise that opposition to a legislative measure securing compensation to tenant-farmers for unexhausted improvements should proceed from a county where custom already gave such compensation. Why should not the advantages enjoyed in Lincolnshire be extended to the whole country? No one there wished to interfere with any freedom of contract which would not prevent justice from being done to the outgoing tenant.

Mr. LIFSCOMBE (Yorkshire) also expressed his surprise that gentlemen from Lincolnshire should object to the passing of a bill in accordance with the custom which prevailed there.

Mr. CHAPLIN, M.P., said he and other gentlemen connected with Lincolnshire wished to see the custom of Lincolnshire extended over the whole country. They had a custom, but it was a custom without the 12th clause.

Mr. BROMLEY (Lincolnshire) said the Lincolnshire agriculturists objected to the bill of last session because it would have interfered with existing agreements and contracts. They were decidedly in favour of compensation being given for unexhausted improvements, but they also maintained that the law should only come into operation in the absence of any lease or agreement to the contrary.

The amendment having then been withdrawn,

Mr. PELL moved another amendment, viz.: "That the Council, without pledging itself to details, approves of the principle of compensation to tenants for the unexhausted value of their improvements, and to landlords for dilapidation or deterioration caused by default of the tenant, and desires that security for this purpose, where not given by lease or agreement, should be provided by legislation, subject only to the written consent of the landlord in the case of permanent improvements."

Mr. BROMLEY seconded the amendment.

Mr. FOWLER (Dorsetshire) supported the amendment.

Mr. C. S. READ, M.P., said so much had been said about the 12th clause of the bill of last session, and there had been so much misunderstanding on the part of gentlemen who wished to misunderstand, that he could not help troubling them again. Mr. Pell had, he thought, purposely misunderstood the matter. If Mr. Howard's bill had passed into law, that clause would have prevented an agent from depriving a tenant of any compensation for unexhausted improvements. He had known cases in which landlords in England had contracted themselves out of a custom. Immediately after the passing of the Irish Land Act a large number of Irish landlords entered into an agreement with tenants paying rental over £50 by which they were prohibited from claiming sixpence for compensation under that Act. Again, with regard to game, the law said that it should be the property of the tenant; but did not landlords, as a rule, nevertheless keep the game in their own hands?

Mr. STORER, M.P., and Mr. PHIPPS, M.P., supported the amendment.

Mr. C. SMITH said he was perfectly willing to withdraw his resolution in favour of one for giving security by law to a tenant where it was not given by lease or agreement.

The motion was then withdrawn, and thereupon Mr. Pell's amendment was submitted as a substantive motion.

After a few words from Col. Paget, M.P., in support of this motion,

Mr. D. LONG moved as an amendment, "That this Council approves of the general principle of Messrs. Howard and Read's Landlord and Tenant Bill of last year, and earnestly but respectfully requests the attention of the Legislature to the subject as early as possible."

Mr. H. NELL, in seconding the amendment, expressed his astonishment that opposition to such a bill should emanate from Lincolnshire.

Mr. C. S. READ said he strongly desired that the Council might be unanimous on that subject, and he thought the resolution proposed by Mr. Pell did in fact embody the main principle of the bill of last session, which was simply this—that where compensation was not secured by lease or agreement the law should step in and protect the unfortunate tenant.

Mr. CHAPLIN, M.P., hoped the Council would be unanimous in passing the resolution now before it, to which he himself gave his hearty support, and trusted that this conduct on his part would relieve the minds of those who had persistently

said that Lincolnshire gentlemen were opposed to legislation on that subject. As to the 12th clause he regarded it as at once mischievous and useless. He had always held that if the agriculture of England was to prosper there must be unanimity and good feeling between landlords and tenants, and he felt certain that any legislation of that kind would be most injurious.

The CHAIRMAN, after reading the resolution, observed that either a good bill or a bad one might be founded upon it, and thought it very desirable that if it were adopted the Council should at an early period endeavour to found a good bill upon it.

Sir J. PAKINGTON said they did not want a tenants' bill and they did not want a landlords' bill, but one that would secure to the tenant the benefit of what he had expended on the land; and he was very desirous that they should come to a unanimous vote, because that would give increased strength to their proceedings.

After some conversation the resolution was adopted, only two or three hands being held up for the amendment.

Mr. ARKELL proposed that Mr. Pell and Mr. Chaplin should draw up a bill founded on the resolution, and lay it before a future meeting of the Council for consideration.

Mr. H. NEILD seconded the motion.

Mr. BROMLEY protested against the attempt to hook two members of Parliament in that way.

Mr. PELL, M.P., hoped the motion would be postponed till after the Speech from the Throne had been delivered.

The motion was then withdrawn.

The next subject on the agenda being "The thrashing machines Bill," on the motion of Mr. G. Turner, seconded by Mr. T. Horley, it was resolved "That this Council is of opinion that before any law is passed upon the subject of agricultural machines an inquiry into the extent, number, and circumstances of accidents arising from the use of all farm machinery should be instituted, with the view of ascertaining whether any legislation is necessary."

The SECRETARY then read a letter from the Secretary of the Association of Chambers of Commerce, asking the Council to join in a deputation to the Government having for its object the appointment of a Minister of Commerce and Agriculture.

At the suggestion of the Chairman it was decided that this matter should be considered at the next Council meeting.

It was afterwards resolved that "Highway legislation," including the question of the transit of locomotives on highways, should form another topic at the next meeting.

The Council then adjourned till the 14th of April.

A BEER-TAX v. THE MALT-TAX.

DEPUTATION TO THE CHANCELLOR OF THE EXCHEQUER.

On Wednesday March 4, a deputation of about a dozen members of the Central Chamber of Agriculture and the Associated Chambers, had an interview with Sir Stafford Northcote, in Downing-street, to lay before the right hon. gentleman the views of those bodies in reference to the Malt-tax. The task of introduction was performed by Mr. Joshua Fielden, M.P., and Mr. G. Storer, M.P., the only two Members of Parliament on the deputation.

Mr. J. FIELDEN, M.P., said he had long felt that the Malt-tax was very unjust in its operation as regarded the labouring people of this country, while it took very much more out of the pockets of the people than went into the Exchequer. Having been connected all his life with the manufacturing districts, he had observed how heavily it pressed on the labouring population there. It was the custom of many labourers in that part of the country to brew beer at their own cottages. It had been ascertained that in five townships 76 per cent. of the inhabitants, chiefly labouring people, brewed at home, that 8 per cent. would brew at home but could not afford to do so, that 6 per cent. bought beer, and that 10 per cent. did not drink beer. It was most important to encourage the habit of brewing at home, which tended so much to keep men from public-houses, and that could only be done by repealing or reducing the Malt-tax, which was practically a tax of 140 per cent. In Surrey, where he now resided, he had found that labouring men literally could not get beer, and for the sake of such persons, he wished to see the old practice of brewing at home revived. He knew, of course, that a Chancellor of the Exchequer, when asked to repeal a tax that yielded £7,000,000 per annum, would have to consider the subject from a different point of view from that which he (Mr. Fielden) had taken; but, seeing that within a few years the duties on tea had been reduced by one-half, and those on sugar by three-fourths, sugar being entirely a foreign production, he thought those who asked for remission in the case of a home-grown and home-manufactured article had a fair claim to consideration.

The following "statement" was here presented: Because the excessive taxation of 21s. 8d. per qr. discourages the growth of barley, thereby preventing the adoption of the most remunerative rotations of crops, and, as a consequence, limiting the production of meat and dairy produce. Because the operation of this high tax directly handicaps the production of second-class and medium-quality barleys, which alone are capable of very extended cultivation. Because the tax, in debarring the use of inferior barleys for malting purposes operates as a fine upon high farming—very heavy and prohibitive crops of barley being generally incompatible with the preservation of superior quality for malting. Because this discouragement of the production of all but high-quality barleys acts especially to the injury of agriculture in Ireland, where, owing to the climate, barleys of the finest quality can rarely be grown. Because an increased demand for barley would be of greater advantage to English farmers than an increased demand for any other grain, seeing that good malting barley is produced upon only a limited area in foreign countries, and thus our home growth would not be swamped in our markets by immense imports, as is the case with respect to wheat, oats, and other corn. Because the amount of taxation paid by farmers upon the beer consumed as a necessary item of expenditure in their business commonly exceeds the sum paid by the farmer in income tax. The tabular abstract of returns, appended to this statement, of particulars relating to 56 farms in 22 counties, shows that, on 30,000 acres, the tax upon the beer consumer (including as beer the extra wages paid in lieu of beer) amounts to no less than £3 3s. per 100 acres. This is reckoning the tax with its artificial enhancement of the natural price to be 7s. 6d. per barrel of 36 gallons, of the average strength of four barrels per quarter of malt. The income tax per 100 acres can hardly exceed 20s. Because the Malt tax is by far the heaviest of the imposts remaining upon articles of food and sustenance, and thus falls with peculiar pressure upon the labouring classes and, through them, upon employers of labour. It has been shown from statistics of the relative consumption of beer and of tea, coffee, and sugar, that the repeal of the Malt-tax would save the working classes per household a very much larger sum than the repeal of the duties on tea, coffee, and sugar. So that, even at the present restricted rate of consumption of beer, the working classes would gain far more from a "free dinner-table" than from a free breakfast-table." Because the discouragement of cottage brewing by the weight of the tax seriously detracts from the comforts, while it also deteriorates the habits and morals, of the labouring classes. Because the Malt-duty is extravagant by reason of the loss involved in its cumulative incidence; it having been repeatedly shown on the best authority that, by levying the tax at such an early stage in the manufacture of beer, the natural selling price to the consumer is raised probably one-third; while the tax cost the public 40 or 45 per cent. more than the seven and a half millions actually accruing to the revenue. Because the duties on wines, the beverage of the rich and well-to-do classes, have been lowered 60 per cent. since the year 1859, the average wine duties having been 5s. 2d. per gallon in 1859, while they are only 2s. at the present time. Because all other industries except husbandry have been considered by the State and have been delivered from exorbitant special taxation, whereas the British farmer is

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placed by the Malt-tax at a disadvantage in competition with foreigners. They prayed that any taxation remaining upon malt might be transferred to beer for the following reasons: Because liberation from Excise restrictions would give to farmers a new source of profit in their business from the use of malt as food for animals. As inferior barley malted contains 20 per cent. more of flesh-forming constituents and 100 per cent. more of sugar than the raw grain, while it would cost at least a third less than the same barley malted and charged with duty, and as malt is of very remarkable value as a food for young stock, freedom to use it in this way would have a great effect in augmenting the production of meat. Because the farmer using his own malted grain would be able to protect himself to a large extent against adulterated feeding stuffs, now too often victimising him in the market. Because the system of taxing beer by the sale of adhesive stamps to be affixed to barrels sold has been successfully adopted in other countries, and because it was given in evidence by high authorities of the Board of Inland Revenue, before the late Select Committee on the Malt-tax, that a taxation upon beer or by a system of brewers' licences, could be collected without danger to the Revenue.

Mr. G. F. MUNTZ said the Malt-tax interfered greatly with the productive power of the country, and on that ground he thought it ought to be repealed.

Mr. STORER, M.P., said for many years successive deputations had waited upon successive Chancellors of the Exchequer on that important subject, and urged the consideration of the claims of the agriculturists to repeal on the ground of strict justice, and as a necessary consequence of free trade in corn; and throughout, while the justice of the claims had been conceded, the relief sought had been persistently denied. He hoped the time had now arrived when justice would no longer be sacrificed to expediency. They asked the right hon. gentleman and the Ministry to take their claims into careful consideration. They remembered with gratitude that the present Prime Minister, while he was formerly Chancellor of the Exchequer, proposed to abandon half the Malt-duty. It was not for them to say what amount of remission it would be in the power of the Government to offer. They went for the ultimate abolition of the tax, but they were willing to accept an instalment, and an instalment of half the whole amount would be very valuable. They did not ask for remission merely in the interest of one class, though the tenant-farmers had a very strong case. Having to farm at a great disadvantage as compared with foreigners, they were compelled to use malt, the duty on which was, in many cases, sixpence in the pound, and in some instances—that is on clay and arable farms—as high as a shilling. Then there was the present state of the labour question. In the rural districts, interested agitators had done everything in their power to set the employed against the employers; and he believed the asperities which existed would be very much softened if farmers were enabled to allow their men good beer, or if labourers were enabled to produce beer at their own homes at a cheap rate. Labourers would then feel that there was something more for them in the land from which they were being urged to separate themselves. In many parts of the country the labour question was assuming an aspect which threatened the very existence of agriculture in the case of arable land. He wished to endorse what Mr. Fielden had said with regard to the necessity of encouraging private and cottage brewing. In nineteen cases out of twenty, drunkenness was the result of poisoned beer being imbibed at the public-houses; and it was clearly the interest of the town as well as of the rural labourer that there should be a remission of the Malt-tax.

Mr. H. NEILD said the question was one of great interest to the growers and the consumers, or would-be consumers, of barley. He represented the dairy farmers, and could state, from experience, that there was nothing so valuable as a condiment as malt, which should be liberally used in the production of milk and butter, and for the development of stock—cows, calves, sheep, and pigs. When that able Parliamentary committee was sitting on that question in 1868, one of the soundest practical farmers of the Yorkshire Wolds gave most valuable evidence as to the use of malt by stock-feeders and breeders. Having calculated the total number of head of stock, he estimated the quantity of malt that might be used per head with advantage, and he put it down at 17 million bushels. That was in 1868. He had seen him lately, and he now thought that 20 millions might be used with great benefit both

to producers and consumers. Recent legislation had very wisely checked the adulteration of milk; and farmers wished to fill up the gap thus created, and to be instrumental in supplying the increasing demand for pure milk. It was an urgent necessity that every facility should be afforded for good farming. The labourers now had the advantage of a rise of three or four shillings per head in their wages, and that of course increased the pressure on the farmers, and rendered it more imperative that the shackles on production should be removed. The deputation did not belong to a class which clamoured for the boasted surplus, but they wanted to have malt set free for farming purposes. After alluding to a recent meeting of farmers in Liverpool, and to a meeting of the Manchester Club, at which the repeal of the Malt-tax was strongly insisted upon, Mr. Neild concluded by quoting the strong language of the Parliamentary Committee of 1868, that the Malt-tax ought to be repealed, and a licence on brewing substituted for it.

Mr. G. A. MAY said he wanted to dispel an idea, which was very common, that the consumer of beer was the person who paid the Malt-tax. As a tenant-farmer he knew that that was not the case. An ordinary consumer might pay for a twopenny glass of ale a penny tax, but the farmer did the same thing. But beyond that the farmer had to face a very difficult, and under that tax a very unequal competition. In the centre of England there was a very large tract of strong land, lying either on marl or clay, or cold red sandstone. The rainfall was much greater there than near the eastern coast, where the land was lighter and altogether more fitted for the growth of barley, and he believed he did not exaggerate when he said that at least one-third of the barley grown in the Midland Counties was spoiled either by being down during growth or by being badly harvested. In consequence of this great loss in the barley crop many of his friends grew very little indeed. There was often a difference of 15s. a quarter, and never less than 10s. between the inferior barleys and the best, and the loss to which he alluded amounted to a very serious sum per acre. If they took 5 quarters as the average produce per acre, and that were worth 10s. a quarter less than the better class of barley, that made a loss of 50s. per acre. It was difficult even to place the lower qualities of barley, maltsters having to pay a much higher amount of duty on barley bought at 40s. than on barley bought at 50s. He had at that moment two large ricks of barley which he would be very glad to malt for the purpose of making beer on his farm and the feeding of his stock. He kept a rather large stock of sleep, and would like to give his ewes before and after the lambing at least half-a-pint of malt a day. He knew of nothing that would be more beneficial to both. It had been said that malt was of very little use as a feeding material. If that were the case it seemed strange that the refuse of the brewers fetched such a high price. He lived near Burton, and he believed that one firm there, that of Messrs. Bass and Sons, brewed something like 200,000 quarters of malt a year, and the simple grains at 3s. a quarter produced £30,000. Then there was the malt dust, the yeast, and the balm, the value of which was difficult to estimate. Altogether the commonest refuse of the brewers was of great money value, showing indisputably that it was a very valuable ingredient for feeding.

THE CHANCELLOR OF THE EXCHEQUER: Is that refuse used in the raw state, or is it mixed with other materials?

Mr. MAY: It is generally mixed with other things.

THE CHANCELLOR OF THE EXCHEQUER: What is the present regulation with regard to the use of malt for feeding purposes? Is there not a regulation that malt may be used for feeding purposes if mixed with linseed?

Mr. BIDDELL: That regulation has been found totally inapplicable to the farming business. I have tried it myself, and it has failed.

THE CHANCELLOR OF THE EXCHEQUER: I wanted to know with reference to the refuse of the breweries, how that is commonly used, whether it is mixed with anything else?

Mr. MAY said it was mixed with chopped straw and hay, and with meal. There must be great value in malt itself for feeding purposes when the refuse was so valuable. Farmers were now in a worse position than almost any class of tradesmen in the kingdom. Their business was getting less and less remunerative, and they justly asked for the remission of a portion of the Malt-tax with a view to its ultimate abolition.

Mr. G. TURNER said a large part of the county to which he belonged—Kent—grew an inferior kind of barley, and was

practically handicapped. In November he had a good, sound heavy barley, which the maltsters would not then look at, because it was not quite up to the mark. In March they were wishing to take it, and that showed that it was good enough to make beer. There was a large quantity of barley grown in Kent upon which the grower lost from 5s. to 7s. per quarter, because, instead of going to the maltster, it had to be used for distilling, grinding, and other purposes. He believed that remark was applicable to five-sevenths of the barley grown in Kent. The repeal of the Malt-tax would be a great blessing to the labourer, because he could then obtain beer from his master's cellar instead of visiting public-houses. The physical strength of the labouring class had been decreasing year by year, and the only thing that accounted for that was the difficulty of obtaining good and cheap beer.

Mr. W. BROWN wished to say one or two words, as a grower of high-priced barley. Some persons said that men of all classes did not want the Malt-tax to be repealed, but, coming from the county of Essex, he denied that. Malt was now the only raw material that was taxed, and they wished that tax to be abolished, in order that they might have "a fair field and no favour" in their competition with foreigners. To show how heavily the tax pressed upon them indirectly, he would give the figures with regard to his own barley. During the past season he had sold his barley at an average of 50s. per qr. The tax amounted to £5 per acre on the barley-growing land, and on the whole acreage of his farm it was 17s. per acre, or more than half the rental. He believed that if the malt-duty were repealed there would be a larger demand for the better kinds of barley. He had been told by a brewer that when malt rose to 70s. a quarter, brewers were obliged to have recourse to sugar. One of the largest brewery firms in London had threatened that if the Malt-tax were repealed he would use syrups; but it would be impossible to use a large quantity of syrups all the year, because it was well known that beer brewed from sugar would not keep during the summer months. Upon all beer exported from this country the malt-duty was remitted. That was a very great hardship to farmers who could not use their raw produce without having it heavily taxed. As regarded the question of monopoly, the repeal of the duty would no doubt in some degree open the trade. The large amount of capital that was required to compete with such firms as the Messrs. Bass tended to keep the trade in a very few hands.

Mr. BIDDELL said if, on looking round, he saw a tax imposed on other raw materials produced in this country, he would, as a farmer, cheerfully submit to a tax on malt. If he saw a tax levied on coal at the pit's mouth, or on iron after it had come out of the smelting furnace, he would not complain. But he maintained that farmers ought to be treated like other people. Neither Mr. Lowe nor Mr. Gladstone had contradicted what was said by previous deputations, but they both said it was a question of revenue, and the money could not be spared. There was now a surplus, and it was high time that something was done to meet the just claims of the farmers. When in 1852 the present Prime Minister proposed that half the duty should be remitted, only six more votes were wanted to carry that proposal. Since that period £20,000,000 of taxation had been removed, and he put it to the right hon. gentleman whether if that amount of remission would have been just then it would not be just now.

Mr. JASPER MORE said the Chancellor of the Exchequer had no doubt had many claims already for the present surplus, but, be that as it might, the present Government would probably remain in office so long that it would have sufficient time to give due consideration to the repeal of the Malt-tax. Mr. Lowe, whose special ambition did not appear to be in the direction of being the farmers' friend, had admitted that the tax was indefensible except on the ground of revenue; and many temperance advocates had come to the conclusion—in which he concurred—that the repeal of the Malt-tax would promote the cause of temperance.

Mr. MAY reminded the right hon. gentleman of the close connection between that question and the losses sustained by farmers in their stock by disease. In 1872 those losses amounted in the aggregate to millions of pounds. There was nothing which animals in a disordered state of mouth and stomach would take so freely as a solution of malt, and if that were the only ground for if the Malt-tax ought to be repealed.

Mr. NEVILLE urged that that obnoxious tax ought to be repealed in order that the principle of free trade might be fully carried out. That principle was now generally admitted to be true and correct, although, as was well-known, farmers suffered much for some years from the operation of free trade. Now that the English farmer had to compete with the corn growers of the world, it was most important that they should be freed from the burden of the Malt-tax. He believed the repeal of that tax would tend very much to decrease drunkenness. The other day a judge sitting at an Assize in Staffordshire—a county which was remarkable for the drunkenness which prevailed—said he thought the fearful drunkenness of that district was owing in a great degree to the existence of a great number of low-class public-houses where labouring men drank bad beer. If the Malt-tax were abolished many of those men would, he believed, practice cottage brewing and drink their beer with their families at home.

The CHANCELLOR of the EXCHEQUER said: Well, gentlemen, I am sure you will, as Mr. Jasper More pointed out to you the necessity for doing, make allowance for the difficulties of my position. The difficulties of a Chancellor of the Exchequer are always considerable when a Budget is approaching; but my difficulties, coming as I do so suddenly into office, are greater than usual; and therefore you will hardly expect that I should now give you any positive answer upon the important questions which you have brought before me. At the same time I must thank you for having brought before me in so convenient a form and with so much ability the different considerations which have been urged upon me, and several of which are put forward so well in the printed statement just handed to me. Of course, I feel that the Malt-tax is part of a very large question, morally and physically as well as financially, and that the whole subject is one which requires very great and very careful consideration, both on account of its magnitude in itself and on account of the various questions which are more or less directly connected with it. All I can say at the present moment is, that we will give the most serious consideration to the arguments which have been brought forward, and that I will take care to give due weight to them in considering what arrangements are to be made. There are one or two questions which, it occurs to me to ask, and upon which you will perhaps be able to give me some useful information. One argument which has been very much dwelt upon by several gentlemen is that the effect of the Malt-tax is bad as discouraging cottage brewing. It has also been suggested that it would be desirable, if the revenue can be spared, that the incidence of the tax should be altered by converting the tax on the raw material of malt into a tax on beer. Now I want to know whether you have considered the question how far the transfer of taxation from malt to beer would operate in the case of cottage brewing. The great difficulty which arises when we consider the question of transferring the duty from the raw material malt to the finished product beer is this—that instead of collecting the tax from a small area and a few manufacturers, you would have to collect it from a much larger area and a greater number of establishments, and that would perhaps make the levying of it more difficult and more vexatious. A question would of course be raised by the brewers as to the justice of transferring the tax from malt to beer, and leaving private brewing out of consideration. Have you considered at all how that should be dealt with?

Mr. FIELDEN, M.P., observed that the amount of private brewing was now very small, and he did not think that if it were left perfectly free there would be much complaint.

Mr. BIDDELL said that as an employer of labour he would not like to see occupiers of a cottage with a rental under £5 a year subject to a licence; adding that he did not think there would be any difficulty in the case of the middle classes.

Mr. H. NEILD remarked that the transfer in question had been suggested only as a *dernier ressort*.

The CHANCELLOR of the EXCHEQUER: Gentlemen, I don't know that I can really say much more at present! You can hardly expect me to do anything more now than say that I will take the matter into consideration. I feel its importance; and I feel the weight of many of the arguments that have been adduced. One thing is, I think, quite obvious—namely, that a reduction in the price of beer will tend to promote temperance, by leading people to drink wholesome and good beer in

preference to spirits; but if we are both to reduce the duty on malt and to lose revenue on spirits, we shall want a very good surplus (laughter).

Mr. J. FIELDEN, M.P., then thanked the right hon. gentleman for the manner in which he had received the deputation, and the interview terminated.

A BEER-TAX OR A MALT-TAX?

Mainly of course through the influence for good or evil of the Central Chamber of Agriculture, the cry for Malt-tax repeal is gradually dying away. At Norwich, Mr. Sewell Read said "there was not the same earnestness for the repeal of the Malt-tax there was a few years ago, for he was sorry to say there had not been that unanimity amongst farmers which he desired to see, or that persistency which it was necessary to manifest in order to obtain the repeal of the tax." At a meeting of the Chamber of Agriculture in the neighbouring county of Cambridge on the same day, a resolution was passed declaring "under present circumstances it is inexpedient to repeal the Malt-tax," while *The Times* says: "The deputation which waited upon Sir Stafford Northcote was not, indeed, in a parliamentary sense, very influential. Only two members formed part of it—Mr. Fielden and a new member, Mr. Storer. When we consider how many members there must have been in London waiting to attend yesterday's ceremonial, we may well feel that this was a weak array. Where were the members for Essex? Where the members for Hert? Where was Colonel Barttelot? All these were conspicuously absent." Precisely so, as *The Mark Lane Express* had been asking throughout the autumn how it happened that the chosen champion of repeal, this same absent Colonel Barttelot, had not a word to say about the Malt-tax in the many long speeches he was making about the country? To demonstrate what people do when they are really in earnest, let us but look to the strong array of members of the House who went up with the Anti-Income-tax deputation, and then to the "two-pennyworth" which introduced the Anti-Malt-tax people. Where, oh, where were "the Farmers' Friends," the Pells, Jenkinsons, Brises and the others? It is, however, only fair to add that Mr. Read gives another reason which he thinks will account very easily for this apathy—at least amongst farmers, if not amongst the M.P.s: "In 1865, he sold very good barley at 12s. a coomb; last Saturday he was offered 27s. a coomb; but he was positive that if barley were entirely free, in the average of years the price for it would exceed that of wheat."

It may be better or safer perhaps to take the question just as it stands before us at present; and here Mr. Read complains of a want of unanimity, as he says, amongst farmers, but as we say amongst the repealers themselves. It has so happened that we have had some considerable experience in organizing the action of deputations about to wait upon any member of the Government, when of course the great aim has been to take some clearly-defined line, and to put this as concisely as possible before the right honourable gentleman, who will be tolerably sure to catch at any inconsistency or contradiction on the part of his visitors. And on Wednesday last the deputed representatives of the Central Chamber of Agriculture went as comfortably together as a litter of pigs engaged in a free fight. Instead of going straight on and enlisting the support of other classes, by showing that with free barley they could produce more meat and drink of a better quality, they tried to fight barley against tea and sugar, and went on to suggest a substitute the very mention of which would put one of the most influential interests alike in the House and the country dead against the movement. The

deputation asked by way of relief for the imposition of another duty, fiddling and inquisitorial in its character, whereby people would be required, under the direction of the exciseman, to stick postage stamps on their beer-barrels, and so forth.

It was in this fashion, in fact, that the Chancellor of the Exchequer was besieged: Mr. Fielden, a veteran in the cause, said "labourers preferred to brew beer in their own cottages. In his own district there were five townships, in which 76 per cent. of the inhabitants brewed at home, 8 would brew at home if they could, 6 per cent. bought beer, while 10 per cent. did not drink any. Considering that the habit of brewing beer at home was a worthy and beneficial one to the labourer's family, and that such persons were taxed even to the extent of 100 per cent., he held that the Malt-tax was a cruel tax. Its removal would encourage the good old practice of home brewing; the labouring man and his wife would then have an abundant supply of pure, nutritious drink." Whereupon, the secretary appropriately read a statement, which, by way of helping the labourer, suggested the renewal of a tax upon beer in accordance with the report of the Select Committee. Then Mr. Storer, the new member, "endorsed what had fallen as to the necessity of encouraging private and cottage brewing, especially in the interests of morality; for every one cognisant with the administration of justice must know that nineteen out of every twenty cases of drunkenness arose from the poisoned beer men imbibed at low public-houses." And everybody said *Hear, hear* to this, just as everybody had of course agreed to the statement and its precious "fourteenth" and lastly. Soon after naturally followed Mr. Neild, who straightway declared that "no language could be stronger than that of the Committee of 1868, who came to the conclusion, after hearing the evidence brought before them, that the Malt-tax might with justice be repealed, and a licence to brew be substituted, and that no loss to the revenue would be incurred thereby." This "strong language" was very much as Mr. Neild gives it; but when he refers again to the report he will find that over this paragraph recommending a beer-tax six of the Committee "came to one conclusion" and six to another; as it was only carried by the casting vote of the Chairman, Colonel Barttelot, who had himself drawn up the report. On precisely the same terms a proposal from Mr. Dent was rejected—that is, by the Chairman's vote. It may be useful to compare the two, as Mr. Dent's paragraph ran thus: "Various propositions have been submitted to your Committee as to the substitution of a beer-tax in lieu of the Malt-duty; but the difficulty of imposing a tax upon private brewers, and the inconvenience from the interference of the Excise in the operations of the public brewer, as well as the serious expense of collection, do not incline your Committee to look with favour upon the proposal."

The remainder of the argument was equally contradictory; as Mr. Jasper More "would promote the social happiness and welfare of the labouring classes by inducing them to drink their beer with their wives and families" by clapping on a beer-tax! Uttil, at length, the Chancellor of the Exchequer seeing an opening was bound to "observe that one or two arguments put forward in the statement presented, and one which has been much dwelt upon by several of the gentlemen who have

spoken, is that the effect of the Malt-tax is bad as discouraging cottage brewing. I see also that you suggest that it would be desirable if the revenue cannot be spared, that the incidence of the tax should be so far altered as to convert it from a tax upon malt—that is, the material in its first stage of manufacture—into a tax upon beer. I want to know whether you have considered the question how far you think that the transfer of the taxation from malt to beer would operate in the case of cottage brewing. A difficulty which arises when you consider that question of transferring the incidence of the taxation from the material malt to the finished product beer is, that you would have to collect the tax at a great number of establishments instead of a few. A question would, of course, be raised by the brewers as

to the justice of transferring the tax from malt to beer, leaving private brewing out of consideration." The breweries, the cottagers, the private families! If Sir Stafford Northcote wishes to get up "a row" of the regular match-box pattern let him venture on a beer-tax forthwith. The division over such a proposal was so narrow in the House of Commons Committee, that it would only have been prudent to have at once put it aside; but the Chamber of Agriculture has now the credit of reviving a scheme, the very mention of which will raise hostility on all sides against the repeal of the Malt-tax. Surely the Chamber had better to stick to its Local Taxation labours, over which at length even *The Times* begins to laugh.

THE CHESHIRE CHAMBER OF AGRICULTURE.

A MODEL AGREEMENT.

At a general meeting held at Crewe, to discuss the points of agreement between landlords and tenants which would be most just and beneficial to both parties upon taking and leaving farms, Lord de Tabley presided.

The Secretary, Mr. T. RIGBY, said Captain Smith, chief constable of Cheshire, had told him that morning that pleuro-pneumonia had broken out in a very virulent form in the Hyde district, on two farms which had lately been tenanted by a Derbyshire farmer, who brought his stock from Derbyshire, and had only bought one cow since he removed to the Hyde district. That purchase he made in August last at Hazelwood fair. Two animals had died, and 10 had been killed. The other portion of the county was comparatively free. The farmer said there was no disease in the district from which he removed, and he could not account for it, unless it had been caused by the cold Cheshire clays.

Sir HARRY MAINWARING: There is some obnoxious smoke there, and perhaps that may have caused it.

The CHAIRMAN said the Council had met since the last meeting, and drawn up a report, which they recommended to the meeting as a basis for consideration and agreement. The Council was unanimously attended by practical agriculturists and landlords, and the points agreed upon were those which they thought best calculated to meet with general adoption in the district. Of course any landlord could vary any particular point, but it was wished that the attention of the Chamber should be drawn to the desirability of having some uniform custom, particularly as to tenancy, time of incoming and outgoing, and compensation for unexhausted improvements.

Considerable discussion took place on the various points of agreement suggested by the Council, which were taken *seriatim*. The Council recommended that the tenancy as to houses and buildings should be from the 25th of March, but the Chamber decided that it should be from the first of May. On the question of notice, the Council suggested that six month's notice should be given by either party to terminate the tenancy, but the meeting resolved by 26 to 9 votes, that twelve months notice should be given. The clause as to game read thus, as it left the hands of the Council: "The landlord reserves all game, fish, and wild-fowl, with full liberty for himself, friends, or servants to enter on the ground at any time, and hunt, shoot, fish, and sport." An amendment that the word "winged" should be placed before the word game was proposed, and carried by 28 to 8 votes.

Mr. G. W. LATHAM said that all cases of heart-burning or ill-feeling in Cheshire that he had ever known with reference to game had been owing to the letting of game, and he wished to move a rider to the resolution to the effect that in all cases of letting game the tenant should have the first offer. There were of course some exceptional cases. A landlord who let his house was very often obliged to let the game with it, and in such a case the tenant practically stood in the same position as he did to his landlord before the house and game were let, and very little harm would be done. It was in cases when the game, apart from the house, was let to gentlemen from large towns that oppression occurred.

Mr. EDWARDS (Malpas) seconded the proposition, which was unanimously passed, and the words "In all cases of letting game the tenant to have the first offer," were added to the clause. The points of agreement, as amended, were as follows; and it was agreed that they should be printed and further discussed at the next meeting:

TENANCY.—From year to year. As to the arable land from 1st November, except that portion of it to be sown with wheat; the meadow and mowing land from 31st December; all other land, except an outlet for cattle and garden, from 2nd February; and as to house and buildings and said outlet, from the 1st May next, subject to the following provision:

NOTICE.—12 months' notice given by either party in any year to terminate the tenancy, such notice to be given on or before the 2nd of February.

UNDERLETTING.—The tenant not to assign, underlet, or part with the possession of the premises, or any part thereof, without the consent of the landlord or his agent.

RENT.—To be due and payable on the 24th June in each year of the tenancy.

TAXES.—All tithe, rent charge, land tax, and other taxes and rates, whether parliamentary or parochial (excepting landlords' property tax), to be paid by the tenant.

CULTIVATION.—The land to be farmed in a proper, husband-like manner, and kept and left in a good state of cultivation. Proportion of tillage to be mutually agreed upon between landlord and tenant.

FENCES, DITCHES, &c.—All fences to be kept and left in good condition. All ditches and under drains and outfalls to be kept free and clear from all obstructions; and if this be not done in any year of the tenancy the landlord to have power to do the work and charge the tenant with the cost.

GATES, POSTS, RAILS, &c.—To be put in repair by landlord on entering, and to be kept in repair by the tenant, landlord allowing timber in the rough.

REPAIRS.—The tenant at his own cost to keep in good repair and condition the inside of the house and buildings, as taken from the landlord, including the glass in windows, locks and bolts, and do all papering, painting, plumbing, and colouring; to keep pumps, wells, cesspools, drains, spouts, paved yards in good order (being allowed stones for paving by the landlord), to keep all occupation roads in good working order, and so hand them over at the end of tenancy. The landlord to do all outside repairs, painting and plumbing, and keep the outside doors and lead in windows in repair, and renew spouts when necessary, tenant to do all carting required in carrying out the same.

GAME.—The landlord reserves all winged game, fish, and wild fowl, with full liberty for himself, friends, or servants, to enter on the ground at any time, and hunt, shoot, fish, and sport. In all cases of letting game the tenant to have the first offer.

TRESPASS.—The tenant to do his best to prevent trespass over his land, and report the same when necessary to his landlord, agent, or gamekeepers.

ENTRY.—The landlord, his agents, and servants to have

free access (ingress and egress) to the laud, house, and buildings, and to all woods and plantations at any reasonable time, to take land for building, planting, or other purposes, and to have all minerals, clay, gravel, stone, &c., with power to get, manufacture, and take away the same at any time without notice, allowing reasonable compensation to tenant for the crop that may be growing, and for the reduction of the extent of his farm.

TREES.—The tenant not to cut, lop, or fell any trees, and to keep and preserve from damage all timber and other trees, and to leave the orchard and garden as fully planted with fruit-trees and shrubs as upon entry.

FIXTURES, &c.—All the grates, cupboards, and boilers on the premises, as specified in schedule annexed, to be paid for on entering, and to be sold to the incoming tenant or landlord at fair valuation on leaving.

UNEXHAUSTED IMPROVEMENTS.—The landlord to allow the outgoing tenant for permanent improvements, such as specified in the schedule previously adopted by the Chamber, on the terms, and in accordance with the said schedule, as fixed by arbitrators appointed as hereafter stated, deducting from it the value of any deterioration or dilapidation in the premises, buildings, land, &c., caused by default of the tenant, as specified in the said schedule.

CONDITIONS BETWEEN OUTGOING AND INCOMING TENANT.—Outgoing tenant to have half the crop of wheat sown upon land that carried a crop other than wheat the previous year, and two-thirds, if grown upon a bare summer fallow, and also the straw in which it grew; but he must pay for the spring cultivation, and for the cutting of all the growing crop at harvest.

TITHES.—Outgoing tenant to pay the whole tithic rent-charge, due October 1st, in last year of tenancy. Incoming tenant to pay the same, due 1st of April, in year of his incoming.

SEEDS.—Outgoing tenant to be paid by incoming tenant for the cost of all clover and grass-seeds sown during the last

year of his tenancy, upon production of vouchers, provided the produce of such seeds has not been grazed with any other stock than sheep or calves under one year old, and not after the 1st November.

MANURE.—Incoming tenant to pay two-thirds the market value of all manure left upon the farm that has been properly cared for and put into midden. No manure to be removed from the farm.

HAY AND STRAW.—The outgoing tenant to remove no hay or straw grown during the last year of his tenancy, and to be paid by the incoming tenant two-thirds of the market value of the hay and straw left upon the premises.

ARBITRATION.—All differences between the landlord and tenant, or between the outgoing and the incoming tenant, shall be settled by arbitration. If both parties concur a single arbitrator may be appointed, and his decision shall be final and binding. If both parties do not concur in the appointment of a single arbitrator, each party shall appoint an arbitrator, and the two arbitrators so appointed shall appoint an umpire to decide upon any or all matters of dispute between them, and his or their decision shall be final.

ARREARS AND POWER OF LANDLORD TO RECOVER.—If the rent, or any sum due and payable to the landlord under this agreement shall be in arrear, or if the tenant shall make default in the strict performance of all or any of the conditions and agreements on his part herein before contained, or if he shall become bankrupt, or file a petition for liquidation, or composition with his creditors, or assign over his estate for the benefit of his creditors, or if his goods or chattels shall be seized, or taken under a bill of sale or legal execution, the landlord may re-enter upon the premises, or any part thereof, in the name of the whole, and thereupon the tenancy shall cease and absolutely determine, but without prejudice to any action, distress, or any other proceeding for the recovery of any rent in arrear, or for damages for breach of this agreement which may have previously occurred.

AGRICULTURAL HALL COMPANY, LIMITED.

At the thirteenth ordinary general meeting on Tuesday, March 3rd, the following report of the directors was presented:

Since the last general meeting the purchase of the freehold of the Agricultural Hall has been completed. Thus leasehold property annually decreasing in value has been converted into freehold, which the directors believe will increase in value. The share capital, which was previously £45,000, is now £55,000. The loan capital, which was formerly £14,000, is now £26,000.

Total..... £51,000

Out of the £5,000 debentures authorised to be issued £2,000 has not yet been raised. The balance-sheet for the year ending 31st of January last shows a net profit to the credit of revenue of £3,464 2s. 6d., which, added to the sum of £1,632 16s. 6d. (the balance of the previous year's account) makes the sum of £5,146 19s., out of which your directors recommend a dividend of 7 per cent. clear of income tax, on the capital of £53,000, which will absorb £3,850, leaving a balance of £1,296 19s., out of which your directors recommend that £596 1s. 1d. should be carried to the credit of the capital account, leaving £700 17s. 11 to be carried forward. During the two best days of the Cattle Show—Tuesday and Wednesday—a fog of unexampled density and duration hung over London, in consequence of which the receipts at the doors during the week were £1,800 under those of 1872. Notwithstanding the consequent unavoidable falling off in the income of the year, the directors feel themselves justified in congratulating the shareholders on the sound and promising condition of their property. The refreshment department has been let for a term of five years at a fixed rent of £1,000 a year. Your directors continue to avoid undertakings of a speculative character. The new buildings, besides increasing the value of the refreshment department, continue to produce a good income, and the Great Hall has been well let during the winter season. The directors retiring by rotation are Mr. Leeds, Mr. Shuttleworth, and Mr. Banister, who are eligible, and offer themselves for re-election.

At the request of your directors, Mr. Charles Dorman consented to continue to act as "law clerk" for last year. He has now finally resigned that post, and your directors recommend his appointment as a director, feeling that through his intimate knowledge of the Company's affairs, that course will be beneficial to the shareholders. Mr. Howard retired from the board in April last, and your directors recommend the election of Mr. Alfred Crosskill, implement maker, Beverley, Yorkshire, in his place. The auditor, Mr. Cufflin, also retires, but is eligible and offers himself for re-election.

The auditor's report was also presented: I have examined the capital and revenue accounts and the balance sheet, and I find that they are in accordance with the books of the Company. I have also seen the vouchers and receipts, which confirm the expenditure account. I am of opinion that it is time the capital account was closed, and that all the expenditure should come from revenue. I am also of opinion that the desire expressed by some of the shareholders, for a more detailed account, is not unreasonable, and might very properly be furnished.

Mr. ROBERT LEEDS, the chairman, said that the report, which had been adopted by the unanimous voice of the board, contained full information of the company's proceedings during the year, and therefore he would not detain them with any remarks of his own. He moved the adoption of the report. Mr. J. Shuttleworth seconded the motion, observing that the directors had used their best endeavours to promote the interests of the Company. During the year they had been at considerable trouble and expense to enfranchise their valuable property. A large sum had been expended, but he believed it had been spent well.

Mr. CUFFLIN moved, as an amendment, that the dividend be 5 per cent., and expressed his opinion that if they divided 7 per cent. it would be a great deal more than was fairly earned. He thought that the business was not conducted upon safe principles, and instead of adding to the capital it should be reduced,

or the account closed. The Company being entirely dependent for its revenue upon two annual shows, the better plan would be for the shareholders to husband their resources, and periodically set aside a considerable sum for contingencies. Mr. Brewster seconded, and Mr. Rudkin supported the amendment, criticising at considerable length the management of the property. Mr. Druce defended the action of the directors, and considered they were entitled to the confidence of the shareholders. The amendment was then put to the vote, and

negatived by a majority of two to one. The original motion was then carried.

The vacancies in the directorate were next filled up. In opposition to a board nomination, Mr. Thomas Rudkin was brought forward, but the motion being treated by the Chairman as one of want of confidence, it was, after a protracted discussion, negatived. The retiring auditor was then re-elected, and votes of thanks to some of the officials were put or about to be put when the meeting broke up rather abruptly.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, WEDNESDAY, March 4.—Present: Mr. Holland, President, in the chair; the Duke of Bedford, Earl Cathcart, the Earl of Leicester, the Earl of Lichfield, Viscount Bridport, Lord Chesham, Lord Kesteven, Lord Skelmersdale, Lord Vernon, the Hon. W. Egerton, M.P., Sir A. K. Macdonald, Bart., Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Dent, Mr. Druce, Mr. Edmonds, Mr. Evans, Mr. Brandreth Gibbs, Mr. Hornsby, Mr. Bowen Jones, Colonel Kingscote, M.P., Mr. Leeds, Mr. McIntosh, Mr. Milward, Mr. Shuttleworth, Mr. Jabez Turner, Mr. Wakefield, Mr. Welby, M.P., Mr. W. Wells, Mr. Whitehead, Mr. Jacob Wilson, Colonel Wilson, Professor Simonds, and Dr. Voelcker.

The following members were elected:—

Agg, Colonel W., Hewletts, Cheltenham.
 Branwhite, F., Chapel House, Long Melford.
 Briggs, T., Babraham, Cambridge.
 Camm, Rev. J., B.M., Monkton Wyld, Charmouth, Dorset.
 Carruthers, R. B., Guards Mill, Gretna, Cumberland.
 Cope, E., Leighton Hall, Wellington.
 Crisp, C. E., Sittles Farm, Alrewas, Lichfield.
 Cutlack, H., Ely, Cambridgeshire.
 Cutlack, J., Ely, Cambridgeshire.
 Davies, J., Plasnewydd, Llanrhadr, Oswestry.
 Dean, W., Worth, Horbling, Folkingham.
 Ellis, P. H., Clayton Court, Hurstpierpoint.
 Hague, J., Gawsorth, Macclesfield.
 Leatham, G. A. B., Thoraby Hall, York.
 Little, J., Fauld, Longton, Cumberland.
 Longman, A. H., Shendish, Hemel Hempstead.
 Ratcliffe, C., Womanswold, Canterbury.
 Scarborough, E. I., Coly House, Colyford, Clonon.
 Smallbones, P. G. V., Gramal-Neusidd, Vienna.
 Stilgoe, H., Lower Clopton, Stratford-on-Avon.
 Stimson, W., Marston, Amphilh.
 Tuning, J., Chillesford Lodge, Wickham Market.

FINANCES.—Major-General Viscount Bridport presented the report, from which it appeared that the secretary's receipts during the past month had been examined and found correct. The balance in the hands of the bankers on Feb. 28 was £1,732 6s. 8d. The committee have received a report from their solicitor stating that he had collected arrears to the amount of £168, and the committee recommend that the names of six members who gave notice to withdraw, and twenty-six members whose arrears from various causes cannot be recovered, be removed from the books. This report was adopted.

JOURNAL.—Mr. J. Dent (chairman) reported that the publication of the *Journal* had been delayed in the hope of receiving Mr. Stephenson's report on last year's farm competition. Mr. Stephenson's continued illness had prevented his furnishing this paper, and the *Journal* will be published during the ensuing month without it.

The Lincolnshire Agricultural Society having applied for permission to republish the paper of Professor Simonds on the "Lamb Disease," at their own expense, it was recommended that the Society present to the Lincolnshire Agricultural Society the number of copies of the paper which they require. The judges had made their

first inspection of competing farms in Bedfordshire. This report was adopted.

CHEMICAL.—Mr. W. Wells (chairman) reported that the committee recommended the usual grant of £200 to Dr. Voelcker for chemical investigations. Dr. Voelcker had brought under the notice of the committee several cases of inferior artificial manures and feeding stuffs, but the committee did not consider them suitable for publication. Further correspondence, not yet completed, had taken place in reference to the last quarterly report of the Chemical Committee. This report having been adopted, and the further correspondence in reference to the last quarterly report having been read, it was moved by Mr. Wells, seconded by Mr. Dent Dent, and carried unanimously, "That the committee have power to sit in a fortnight, and decide as to the republication of the previous report in the *Journal*, and as to the publication of the subsequent correspondence both in the *Journal* and the agricultural newspapers."

IMPLEMENTS.—Mr. T. C. Booth (chairman) reported that the committee recommended that the offer of the Society's Gold Medal made at the last meeting of the Council be worded as follows: "For the best guard or appliances to the drum of a thrashing machine for preventing accidents to people employed." The committee also recommended that the secretary obtain from the consulting engineers an estimate of the cost of testing machinery which it is proposed to provide for the trials of carts and other implements at Bedford. This report was adopted.

GENERAL BEDFORD.—Earl Cathcart (chairman) reported that the Local Committee were making satisfactory progress with the showyard; and that the Committee recommended that the secretary be authorised to make arrangements as usual with a banker at Bedford, and to let the vacant refreshment shed in the showyard. This report was adopted.

EDUCATION.—The Duke of Bedford (chairman) reported that twelve candidates had entered to compete for the Society's prizes and certificates at the ensuing examination; and that the committee had had an interview with the sub-committee of head masters of middle-class schools, who had undertaken to draw up in writing their suggestions for consideration by the Committee at their next meeting. This report was adopted.

POTATO DISEASE (SPECIAL).—Mr. C. Whitehead (chairman) reported that six entries of potatoes had been made to compete for the prizes offered by the Society for disease-proof potatoes. One cwt. of five of these entries (of a ton each) had already been sent to the potato-growers who had consented to grow the potatoes subject to the regulations adopted at the last meeting of the Council in seventeen of the districts recommended in the last report of the committee. The committee had no doubt that the arrangements with the growers in the remaining three districts would be made very shortly, and that the bags constituting the sixth entry would be forwarded to the growers in the course of this week. This report was adopted.

VETERINARY. — Colonel Kingscote, M.P., reported that the committee had elected Viscount Bridport chairman for the year 1874. He further reported that two letters had been addressed by Colonel Maitland, of Holyweh, Eden Bridge, Kent, to the secretary, with respect to the mortality of cattle from the disease called "Quarter evil," or "Black-leg," and that the same had been laid before Professor Simonds; the committee recommended that his letter on the subject be published in the proceedings of the Council meeting. A letter had also been addressed to the secretary from Mr. J. F. Cooke, Gaston Hall, Attenborough, stating that he had suffered very severely from abortion in his ewes, almost every ewe being affected. This letter had also been forwarded to Professor Simonds, who communicated with Mr. Cooke, informing him that he considered that the result was due to too lavish a use of succulent food, especially turnips, which Mr. Cooke eventually acknowledged had been the case. The committee recommended the payment of the grant of £200 to the Royal Veterinary College for the year 1873. The committee desired to express their regret at finding from reports received that foot-and-mouth disease had again broken out in many parts of the country. This report was adopted.

The following is Professor Simonds' letter in reference to "Quarter-evil:"

"Royal Veterinary College, Camden Town, N.W.,
"Feb. 21, 1874.

"MY DEAR SIR,—I return Colonel Maitland's letter on the subject of the disease known as 'Black-leg,' or 'Black-quarter,' &c. This affection, as you are doubtless aware, prevails more or less in every part of the country, and being a blood disease proves destructive to life in by far the larger number of cases.

"The attention of the Society has often been called to the malignancy and fatality of the malady by myself under the scientific name by which it is known, viz.:

"Hæmatosepsis—a septic condition of the blood. Like maladies in which the blood undergoes changes affecting its vitality, science fails to a great extent to elucidate its courses; but this much is known, that well-bred calves which are well-cared for are more susceptible to the disease than others, especially between the 6th and the 14th or 15th month of their age. It is during this time that great care is required

in the feeding of the young animals, and in the selection of their food. Turnips and all succulent vegetable matter ought to be sparingly given, especially in a season like the present. Experience has proved also that much good may be done by the use of saline agents, such as common salt mixed with the food. An occasional saline aperient, and a few doses of an ordinary antiseptic, such as the hypo-sulphate of soda, will frequently prove prophylactic.

"Among herds in parts of the country where the disease is very rife it is the custom to bleed the calves once or twice in the year, to insert a seton in the dewlap, give some aperient medicine, and follow it by preparations of bark. These means are preventive, and to preventives we must chiefly look for good to be done in lessening the losses from 'black-leg.'—I am, my dear sir, very truly yours,
"JAS. B. SIMONDS.

"H. M. Jenkins, Esq."

It was moved by Mr. Jacob Wilson, seconded by Mr. T. C. Booth, and carried unanimously, "That the stock prizes committee, the implement committee, and the stewards of live stock and implements be appointed a committee to recommend judges of stock and implements at the Bedford meeting."

Lieut.-General Viscount Bridport then moved the resolution of which he had given notice at the last meeting of the Council. This was seconded by Mr. W. H. Wakefield, and, after some verbal amendments suggested by Earl Cathcart, Mr. Dent Dent, and Mr. W. Egerton, M.P., it was unanimously carried as follows: "That the Council call the attention of the Secretary of State for the Home Department, and the President of the Local Government Board, to the present unsafe condition of many bridges throughout the country for the passage over them of ploughing and traction engines, the increased use of which in agricultural operations is becoming more and more necessary.

Mr. Wakefield drew attention to the removal of pony stallions from the prize-list of this year.

Letters were read in reference to an International Exhibition of dairy utensils and products, to be held at Milan on March 30th and the following days; and also in reference to an International Exhibition of horses, cattle, sheep, pigs, and implements, to be held at Bremen on June 13 and eight following days.

AMERICAN DAIRYMEN'S DISCUSSIONS.

WINTER MEETING OF THE VERMONT ASSOCIATION.

The dairymen of the Green Mountain State were present in force at the convention held during three days at Essex Junction. There was a sprinkling of solid men from other parts of New England and New York; particularly, St. Lawrence County was influentially represented. An equal number of persons of sounder sense, or better up in their calling, it is rare to find in one audience. Worthy descendants of their pilgrim sires, the Vermont yeomanry, as a whole, are genuine Yankees, in talent, energy, enterprise, and *physique*, and even in the instinctive inclination to ask questions. They have taken the lead in organised effort for improvement in their speciality of butter-making. There is only one other association—the Western N. Y. Butter-makers—organised in the interest of butter manufacture. The labours of the Vermont society have left their impress upon the butter of the State. Vermont butter has become celebrated for its superior excellence; and St. Albans, her leading butter market, is widely known as the centre of a large trade, and is recognised and quoted with as much regularity to indicate the pulse of the butter traffic, as Little Falls and Utica are to indicate that of cheese. The good influence does not end with the education of her own sons in the perfection of her favourite art. That influence is cast far and wide, and other States and nations are picking up and appropriating the facts, and becoming educated by the teachings of Vermont. With unassuming modesty, her noble sons gathered this year in an obscure village, hid away among

the hills and swelling peaks of her mountainous surface; but the light of their intelligent deliberations rises above the enveloping heights, and shines away into the distance, the reporters carrying the result of the deliberations to readers numbered by the hundred thousand, to be studied, sifted, and, as far as applicable to their several needs, utilized.—[This is tall talk.]

The eceremonies, in true Puritan style, were introduced with prayer by the Rev. Edwin Wheelock. The President, the Hon. E. D. Mason, in a well-timed and thoughtful address, reminded the members of the Association that their success depended on themselves; that they must be their own native power in the work of bringing forward and comparing fact with fact till they raise and establish their speciality to the dignity of a science as well as an art; that the foundation of success is to properly appreciate the importance of mutual advantage and improvement by associated effort. He urged a more liberal patronage of agricultural newspapers as a cheap vehicle of valuable and current knowledge. Every dairyman who does not inform himself through this agency is sure, in a short time, to get behind; and, for like reasons, the formation of farmers' clubs was earnestly urged. Again, the farmer should not only study thrift, but a well-ordered thrift, and strive for a more refined taste in all that pertains to the structure and appearance of his buildings, ornamental trees, yards, gardens, and flowers, and thus add to his own happiness, and

increase those home enjoyments that make the household satisfied, and stay the drift of his young people to the far West, or to the follies too common in town and city. Dr. L. C. Butler then welcomed the Association to the village, and was followed by Mr. Henry Clarke, who recounted the history and labours of the Association which have so influenced for good the dairy products of the State and nation.

MILK AND ITS TYPICAL RELATIONS.—Dr. E. Lewis Sturtevant, of South Framlingham, Mass., read a paper on this subject. Each breed of cattle has its own type and its individual departures. The Shorthorn has the brisk form, and is adapted to the production of beef. The type of the dairy cow is wedge-form—the result of the development of those organs connected with the production of milk. In the Ayrshire we have the form most economical for the production of milk. The marvellous pliability of the animal nature causes a marked development of function as well as of form. In treating of leading breeds for the dairy the typical udder was described. The glands forming the udder in the Ayrshire cow are broad and flat, and the teats, corresponding with this form, are short and set far apart. The teat is a prolongation of the gland structure, and corresponds in form and serves as an outlet for the secretion. The short and somewhat cylindrical teat of the Ayrshire, which is often complained of, is just what constitutes a feature of her usefulness. To make a long teat on an Ayrshire cow would be to make a long udder instead of a broad and flat one, and would thus cast her out of her milk-producing type. In the Jersey breed the glands of the udder are pointed, and the teats corresponding to this form of udder are cone-shaped. The udder glands are pendant and the teats are consequently set close together. In the Holstein, the large black and white cattle from Holland, the udder is elongated. To correspond with this form, the teats have the shape of an elongated cone. The forms which these several varieties of udders have assumed have been determined by external circumstances. In like manner have changes been wrought in the milk. The milk of these several types of cows varies as distinctly as the form of their udders. Dr. Sturtevant showed by microscopic illustrations that the cream globules in the milk of the Jersey cow are very large comparatively, and of a more uniform size than in the other breeds named. There were but few small globules, and when set for the cream to rise, the whole of the cream comes up quickly and leaves a blue skim milk. In the Ayrshire milk the globules were smaller than in the Jersey, and more unequal in size. The milk of two strains of Ayrshire blood was examined. One had been bred for butter making and the other for cheese. The globules in the butter strain of blood were larger than the other, and rose more rapidly to the surface, but from the great number of very small globules that did not rise at all, the skim milk was white instead of blue, as in the case of Jersey milk. The globules in the Holstein milk were the smallest of the three, but were more uniform, and having but few that were very small, the cream rose readily and so completely as to leave a blue skim milk. In four hours the Jersey milk threw up so much cream as to make the milk blue; the Holstein did the same in five hours, and at the end of ten hours the Ayrshire was still white, the samples being all treated under like circumstances. In churning, the larger the globules the sooner was butter produced. The large globules came to butter in each kind before the smaller ones, and the samples in which they were nearest uniform in size produced the greatest quantity of butter. The colour of the Jersey was yellow and orange, more or less deep. The Ayrshire yellow, and the Holstein pale. The butter from these different breeds had different keeping qualities, and melted at different temperatures. That the peculiarities in the structures and size of the globules in the different types would modify their influence in cheese making is evident. The breed yielding milk having the smallest globules being the best, because the globules do not separate so readily as when large. In breeding these different types, Dr. S. suggests that the peculiarities that belong to the type should be carefully looked after and preserved. Thus, to breed for long teats in the Ayrshire, is to breed away from the type that makes the Ayrshire the milker she is; and to breed for a broad, flat udder in the Jersey would, in like manner, be breeding away from the distinctive characteristic of the Jersey type. The experiments of Dr. Sturtevant led to the result that the milk of the different breeds mixed does not produce as much butter as when churned separately; that the milk of the

Jersey, for instance, mixed with the Ayrshire will produce less butter than if each is churned by itself. The reason of this peculiarity appears in the fact that the globules in the Jersey milk (or cream) are larger than those in the Ayrshire and come first, leaving the smaller Ayrshire globules unchurned. If the churning is continued long enough to have the smaller globules come, the larger ones will be overchurned and greasy—a circumstance that points to best results when the milk of the different breeds is churned separately. It also appears that generally, when there is much difference in the size of the milk globules in individual cases, whether in different or the same breed, it is better to keep them apart for churning. As Dr. Sturtevant has had access to and examined several herds, as well as the individuals in each herd, the typical features of form and milk which he pointed out are interesting and significant.

THE SCIENCE OF CHURNING.—Mr. L. B. Arnold, Secretary of the American Association, discoursed of churning. He analyzed the operation by going back to the structure of cream and showing what was necessary to be done. The fatty matter in milk is not uniform—a part of it consists of the essential oil of the grasses, which correspond to the oil of peppermint, wintergreen, &c., of the druggists, and which give the nutty flavour to butter and cheese. These exist in small quantity, and in a naked and uncombined condition, and may be separated from the cream by treatment with ether. The bulk of the cream consists of minute globules of fat in the form of an emulsion with albuminous matter and water, and covered with a thin albuminous envelope. The existence of this envelope is denied by some investigators, but it is a reality. As an evidence of the tendency in the secretion of milk to coat over the globules, Mr. Arnold exhibited a microscopic illustration of one large globule with several smaller ones inside, with a portion of the envelope broken off and lopped over on the side of the globule. The globules of cream contain yellow and white fat—olein and margarin—in the same envelope. To get off the envelope and leave these little specks of mixed fat unbroken and unaltered is what we desire in churning. These skins, so to call them, can be got off in two ways: one is by wearing them off as with the paddles of a rotary churn when the cream is sweet, the other is to loosen and peel them off, which is done by souring. The watery part of the envelopes separates from the solid part by souring, just as it does from the curd or solid part of milk, and the envelope shrinks and cracks and peels off with little effort, very much as the bark is loosened and peels easily from the body of a tree by partial decay. By using a dash-churn with a dasher that will fill three-fourths of the section of the churn the cream will be subjected to a yielding pressure at each stroke, and the sacks are peeled off with the least injury to the globules. By wearing the sacks off as is done when a dash is used that is so small as not to ensure something of pressure on the cream, and as is done in most of the 8,000 patent devices, the skins of the larger globules wear off first because they meet with the most friction, and the work is done unevenly. If the churning is continued till the small globules "come," the larger ones will be overchurned, and the emulsion become greasy. Relatively there is often as much difference in the size of the globules as there is between cannon balls, musket balls, and shot; and hence, when the work is done by wearing off, it is done very unequally. Just souring enough to effect coagulation is best. Too much souring produces new products and injures the butter, and makes the churning more difficult.

THE LACTOMETER AN AID.—The Hon. Harris Lewis, President of the New York State Agricultural Society, followed with an address on the use of the lactometer, taking the ground approved at Utica, that this instrument is a good evidence of the specific gravity of milk, and that the specific gravity is a probable, but not positive, evidence of quality. Taken in connection with the per-cent. glass, which measures the per cent. of cream that rises, it is nearly a positive indicator of pure and watered milk. Mr. Lewis declared that much of the disrepute in which the lactometer is held arose from not regarding the circumstances under which experiments were made. The temperature of the milk to be tested must have exactly the right temperature, and the effect of feed must be considered. At the close of Mr. Lewis's paper an animated discussion sprang up between Leander Witherell on one side, and Messrs. Lewis, Hoskins, and Arnold on the other, in regard to the use of the lactometer. Mr. Witherell condemned it because it cannot positively, and with scientific exactness,

decide as to the exact per cent. of water a sample of milk may contain, nor whether an excess of water which it might be found to contain came into the milk by natural or artificial means. On the other side, it was recommended as a valuable aid to the factory-man. Though, when taken with the per cent. glass, it does not afford the positive evidence necessary to convict, it does afford evidence so nearly positive as to enable the factory-man to decide as to the necessity of further or more positive proof when dilution is indicated.

PACKING AND MARKETING BUTTER.—Mr. Henry Stewart, of New York City, declared his conviction that 10 to 15 cents per pound can be gained by attention to packing and while the product is on its way to the consumer. Damage is often done to butter at the cellars of the city dealers by exposing it to contamination from the odours of fish, vegetables, and other substances imparting objectionable taints. The man who is solicitous in regard to the reputation of his butter will do well to see that his goods are properly attended to while being disposed of. He urged the necessity of putting up butter for market in a more attractive form than is customary. Neat, small, tidy packages were suggested—packages of such size that families could take them without breaking bulk. There is a demand for something more attractive than our own people furnish. This demand is now supplied by importations from France at a cost of 1 dol. 25c. per pound, wholesale. Our dairymen could well afford to take the pains necessary to satisfy this taste. It is not that the butter of France is so much better than ours, that it commands this high price. It is due more to the very neat and tasty style in which it is put up. Among other suggestions, small tin boxes were recommended. Make the butter into cakes or cubes of a size suitable for putting on the table, and wrap each separately in fine muslin; fill the tin boxes with these, and then pack the tins in a larger box or case. In this way the butter would come to the table without being jammed or mangled, as it must be in digging it out of a tub.

FOOD FOR THE DAIRY.—The question of food for the dairy was well discussed by Mr. T. S. Gold, Secretary of the Connecticut Board of Agriculture. He favours grass, green for summer and dry for winter—other food, such as grain and coarse fodder, coming in necessarily as auxiliaries. In the dry part of the grazing season, when grass makes a slow growth, soiling crops may and should be supplemented with the pasturage. Mr. G.'s views of feeding were given at some length, and met the approbation of his hearers. Mr. Wait, of St. Lawrence Co., also read a paper on the "Production of Food for the Dairy," and insisted strongly on the necessity of cutting early the food which is to be cured for winter use—a position which is sound, and in which he was sustained by his hearers. The question of the value of sown corn for fodder was sprung upon the Convention in a paper by Dr. Hathaway, of Milton. He especially advocated the Sanford variety. He said he had sowed four quarts of this corn on one-quarter of an acre of ground, and had raised fodder enough from it to keep three steers from November 1 to the 1st of April following. Mr. Stewart had tried the Sanford corn, and said that, so far as his experience goes, it would ripen, if the weather remained fine, all winter. Mr. Mumford had tried something called Sanford corn, and he obtained a grain which chickens would not eat sooner than beans. The question, turned, however, upon the value of corn for fodder, and for this purpose Mr. Stewart considered Sanford corn excellently adapted. The discussion which ensued upon the value of fodder corn as food for dairy animals was general, and an opinion prevailed that, as very much of the quality depends upon the method of raising and cultivation, much of the denunciation which the forage receives comes from those who have not given the plant a fair chance. Mr. Stewart never gained good fodder from corn sown broadcast, but planting it so that the air could circulate between the stalks he obtained so satisfactory a yield of fodder, and of such quality, that he wintered his herd upon it, with bran and straw, and did not use a particle of the hay which he stored up to piece out the winter with. He cut his stalks, and thought by so doing he saved 50 per cent. Mr. Smith has raised fodder corn for 20 years. He regards it as of less value when the kernel is perfected than when the grain is just glazing and the juices remain in it. Secretary Bliss considers green corn fodder as not good, but favoured the food when properly dried. The discussion tended plainly toward establishing the value of sown corn, and the earnestness with which its advocates defended it showed that it was an im-

portant question to them. For there is a necessity in the summer-time for a supplemental food in most regions. Sown corn is admirably adapted for this purpose. The dairymen of Vermont raise it in large quantities, and say that they will continue to do so. Mr. Willard alluded to the experiments of Kuhn and Boussingault, showing that quality of milk must be sought for in the breeds of cows rather than by feeding meal and rich foods, always premising that the animal is supplied with a sufficiency of healthful food. The supplemental food may and does increase the quantity of milk, but the relative proportion of constituents remains the same or nearly so.

Mr. X. A. WILLARD read a paper, in which he discussed a variety of interesting topics. One of the points considered was the effect upon the probable price of cheese in the future by the diversion of milk from cheese manufacture, by its finding an increased use in the large and growing cities, both on the seaboard and inland. The increased facilities of railroad transportation contribute essentially to this end. The effect of this change in the direction of milk is felt more effectually from its being derived, to a large extent, from the butter and cheese producing districts. A division in the production of milk in these districts is now going on by a change in the mode of farming. Hay is being grown for market in the place of milk. Formerly the demand for hay was supplied by a comparatively small circuit around even the largest cities. The increased demand and high price of hay which have of late years prevailed have carried the production of hay for market far into the interior, along the railway lines. While milk is to this extent finding new uses, the demand for cheese is likely to increase, first by the increased consumption at home, and an increased use of cheese abroad—Mr. W. brought forward statistics to show that the cost of producing milk in England is steadily increasing, having advanced, within the last few years, from 25 to 30 per cent. In New England the cost of producing a gallon of milk is put at 12 cents. At this cost land near the cities can be used with more profit for producing truck and high-priced crops. The formation of fat in cheese by curing it properly was treated at some length, and as an illustration of the fact reference was had to his examination of the Limburger cheese factories and their method of curing. He thinks one of the leading requirements of the dairy practice of to-day is a better method of curing cheese than now obtains. One of the faults complained of in American cheese is its dryness. The best specimen of English cheese is shown by analysis to be from 3 to 5 per cent. more moist than the best American. We lose therefore in quantity and quality by the imperfect manner in which cheese is cured.

Mr. F. D. DOUGLASS, of Whiting, said the day is gone by when it is wise to think a blockhead will do for a farmer. He illustrated his position with several estimates. He represented a case in which a man with muscle only gained 32 dollars 50 cents per cow in a dairy, and instanced another case in which a man with brains, by improving the quality and increasing the quantity of the products, gained 180 dollars per cow. He applied these figures to a herd of 650 cows, and claimed a clear compensation of 2,000 dollars per annum for brains. Brains, he asserted, are necessary to raise the general quality of dairy products, and thus via people to their consumption. By so doing the demand is increased, the price is raised, and brains secure their reward. Dr. Geo. F. Cole, of Potsdam, N.Y., argued that farmers are behind the times because they have not, like other great interests, any concert of action through which to post and protect themselves, and he favoured a compact of brains with industry and applied with common sense.

A paper from T. D. Curtis, of Syracuse, was read by Secretary O. S. Bliss, which discussed making butter and cheese from the same milk, and condemned the practice as affecting the consumption and reputation of American cheese. Advocated curing cheese in an even temperature and moist atmosphere—72 degrees for whole-milk cheese, a higher temperature for skims. Was opposed to small cheeses generally, and square ones in particular. The dry instead of curing. He made a strong point of curing as against drying. Preferred 16-inch and cheese weighing 50 pounds. Thought farmers should look more to food of cows to improve quality of dairy products. Was in favour of grass as the food for cows, but would not reject meal and other food. Points in butter making were also discussed. The discussions through the whole of the sessions were earnest and animated and full of

good sense and good cheer, and the assemblage broke up on the afternoon of the third day, and the disputants separated

with the best of feeling and with the conviction that their time and effort had been well rewarded.

THE AMERICAN NATIONAL GRANGE.

This Society has issued the following manifesto :

Profoundly impressed with the truth that the National Grange of the United States should definitely proclaim to the world its general objects, we hereby unanimously make this declaration of the purposes of the Patrons of Husbandry :

1. United by the strong and faithful tie of agriculture, we mutually resolve to labour for the good of our Order, our country, and mankind.

2. We heartily endorse the motto, "In essentials, unity; in non-essentials, liberty; in all things, charity."

3. We shall endeavour to advance our cause by labouring to accomplish the following objects: To develop a better and higher manhood and womanhood among ourselves; to enhance the comfort and attractions of our homes, and strengthen our attachments to our pursuits; to foster mutual understanding and co-operation; to maintain inviolate our laws; to stimulate each other to labour to hasten the good time coming; to reduce our expenses, both individual and co-operative; to buy less and produce more, in order to make our farms self-sustaining; to diversify our crops, and crop no more than we can cultivate; to condense the weight of our exports, selling less in the bushel and more on hoof and in fleece; to systematise our work, and calculate intelligently on probabilities; to discontinue the credit system, the mortgage system, the fashion system, and every other system tending to prodigality and bankruptcy. We propose meeting together, talking together, working together, buying together, selling together, and, in general, acting together for our mutual protection and the advancement the association may require. We shall avoid litigation as much as possible, by arbitration, in the Grange. We shall constantly strive to secure entire harmony, good-will, and vital brotherhood among ourselves, and to make our Order perpetual. We shall earnestly endeavour to suppress personal, local, sectional, and national prejudices, all unhealthy rivalry, all selfish ambition. Faithful adherence to these principles will ensure our mental, moral, social, and material advancement.

4. Our business interests: We desire to bring producers and consumers, farmers and manufacturers, into the most direct and friendly relations possible. Hence we must dispense with a surplus of middlemen; not that we are unfriendly to them, but we do not need them. Their surplus and their exactions diminish our profits. We wage no aggressive warfare against any other interests whatever. On the contrary, all our acts and all our efforts, so far as business is concerned, are not only for the benefit of producers and consumers, but also for all other interests that tend to bring these two parties into speedy and economical contact. Hence we hold that transportation companies of every kind are necessary to our success—that their interests are intimately connected with our interests, and harmonious action is mutually advantageous. Keeping in view the first sentence in our declaration of principles of action, that individual happiness depends upon general prosperity, we shall therefore advocate for every State the increase in every practicable way of all facilities for transporting cheaply to the seaboard, or between home producers and consumers, all productions of our country. We adopt it as our fixed purpose to open out the channels in nature's great arteries, that the life blood of commerce may flow freely. We are not enemies of railroads, navigable and irrigating canals, nor of any corporations that will advance our industrial interests, nor of any labouring classes. In our noble order there is no communism and no agrarianism. We are opposed to such spirit and management of any corporation or enterprise as tends to oppress the people and rob them of their just profits. We are not enemies to capital, but we oppose the tyranny of monopolies. We long to see the antagonism between capital and labour removed by common consent and by an enlightened statesmanship worthy of the 19th century. We are opposed to excessive salaries, high rates of interest,

and exorbitant per-centage profits in trade, as they greatly increase our burdens and do not bear a proper proportion to the profits of the producers. We desire only self-protection and the protection of every true interest offered by legitimate transactions, legitimate trade, and legitimate profits. We shall advance the cause of education among ourselves and for our children by all just means within our power. We especially advocate for our agricultural and industrial colleges that practical agriculture, domestic science, and all the arts which adorn the home, be taught in their courses of study.

5. We emphatically and sincerely assert the oft-repeated truth taught in our organic law, that the Grange, national, State or subordinate, is not a political or party organization. No Grange, if true to its obligations, can discuss political or religious questions, nor call political conventions, nor nominate candidates, nor even discuss their merits in its meetings; yet the principles we teach underlie all true politics, all true statesmanship, and if properly carried out will tend to purify the whole political atmosphere of our country, for we seek the greatest good to the greatest number. But we must always bear it in mind that no one by becoming a Grange member gives up that inalienable right and duty which belongs to every American citizen to take a proper interest in the politics of his country. On the contrary, it is right for every member to do all in his power legitimately to influence for good the action of any political party to which he belongs: it is his duty to do all he can in his own party to put down bribery, corruption, and trickery; to see that none but competent, faithful, and honest men, who will unflinchingly stand by our industrial interests, are nominated for all positions of trust, and to have carried out the principles which should always characterise every Grange member, that the office should seek the man and not the man the office. We acknowledge the broad principle that difference of opinion is not crime, and hold that progress towards truth is made by differences of opinion, while the fault lies in the bitterness of controversy. We desire a proper equality, equity, and fairness, protection of the weak, restraint upon the strong; in short, justly distributed burdens and justly distributed power. These are American ideas, the very essence of American independence, and to advocate the contrary is unworthy of the sons and daughters of an American Republic. We cherish the idea that sectionalism is, and of right should be, dead and buried with the past. Our work is for the present and the future in our agricultural brotherhood and its purposes. We shall recognise no North, no South, no East, no West. It is reserved by every patron as his right as a free man to affiliate with any party that will best carry out his principles.

6. Ours being peculiarly a farmers' institution, we cannot admit all to our ranks. Many are excluded by the nature of our organization; not because they are professional men, or artisans, or labourers, but because they have not a sufficiently direct interest in tilling or pasturing the soil, or may have some interest in conflict with our purposes. But we appeal to all good citizens for their cordial co-operation to assist us in our efforts towards reform, that we may eventually remove from our midst the last vestige of tyranny and corruption. We hail the general desire for internal harmony, equitable compromise, and earnest co-operation as an omen of our future success.

7. It shall be an abiding principle with us to relieve any of our oppressed and suffering brotherhood by any means at our command.

Last, but not least, we proclaim it among our purposes to inculcate a proper appreciation of the abilities and sphere of woman, as is indicated by admitting her to membership and position in our Order. Imploring the continued assistance of our Divine Master to guide us in our work, we here pledge ourselves to faithful and harmonious labour for all future time to return by our united efforts to the wisdom, justice, fraternity, and political purity of our forefathers.

NATIONAL SHORTHORN BREEDERS' ASSOCIATION.

At the second annual meeting of this Association at Hopkins' Hall, in Cincinnati, O., President, Dr. A. C. Stevenson, of Greencastle,

Dr. SPRAGUE, of Iowa, read an essay on Shorthorns — Conformation, Contour, Quality: In offering these thoughts to this concourse of breeders, each delegate here being presumed to be an expert in his line of business, we premise by saying that our thoughts are shaped in this brief essay to meet the wants of the amateur and the novice, rather than to presume to aid the breeder whose judgment has been matured by a tedious process of self-education to be sure, but the principles that are fixed upon his mind are none the less satisfying because of his having been his own teacher. Through all animated nature there is uniformly found a fitness in structure, an adaptation to surroundings and habits. It has hardly entered the mind of man to endeavour to improve upon the conformation and contour of the antelope, gazelle, or the deer. Their formation is admirably adapted to their necessities and habits, and even when appropriated for use as food, we find the most meat in the best parts. Their wonderful speed owes itself to large lumber muscles, and a deep, broad, thick quarter. In this wide, well-packed back, and about this capacious pelvis, we find luscious roasts. The antelope of to-day is undoubtedly a correct counterpart of the antelope of many generations back. Take the tiger and panther also as examples among the beasts, and the wild goose as an example among the feathered tribe, and who will say that any change has occurred in the conformation of any part of either of these during the last hundred years? that the entire weight of an average mature animal has been lessened or increased a pound, or the weight of any single bone or muscle half-an-ounce? We presume that it was not a part of man's province to tamper with these beasts and fowls, and they were sent adrift, to breed by instinct, an admissibility of in-and-inbreeding being planted in their natures, with only one restriction upon the manner of doing this. You ask what this restriction was? It grew out of the power of the strong over the weak, and afforded a safeguard infinitely superior to the judgment of man, as evidenced upon nine-tenths of the farms in christendom. While these are asserted as facts inseparable from the history of wild beasts and fowls, it is no doubt a fact that the domestic cow was placed under man's control, with the expectation that he would manipulate the breeding and care taking, governed by that higher order of intelligence which is supposed to govern man in the care he takes of himself. "Know thyself," is an admonition having a wider significance than can be expressed by any two words in the English language. So, taking up this idea, and applying it to the business that we represent here to-day, I would say to the amateur breeder, "Learn your subject." This admonition is required because it is proverbially the case, that each breeder has measurably set up a standard of his own. The show ring, according to our present mode of procedure, is the highest, and final test of excellence, though acknowledged experts rarely make up the majority in these show rings. The leading lines of business have long since systematized their movements, and adopted certain standards for their guidance. While this assemblage is the second one of the kind in the history of the world, and all this time, in the absence of any concerted action, a few men of intelligence and enterprise have brought up the standard in Shorthorns, a portion of them to a high state of excellence in form and quality, every breeder fashions the animal in his own herd; so likewise do machinists fashion their handiwork, but upon fixed principles. To learn a trade, is to learn to do things precisely upon the same general principles, and up to the same general standard that acknowledged experts, in the same trade, attain to. To shoot off on this crotchet, or on that, is to scatter shot. The laws and rules which govern the construction of machinery are in a measure fixed and arbitrary until a better way is fixed and adopted. The principles are simple, though the parts are complicated. The object is to evolve fine fabrics, and fashion high-wrought things from crude fibre and ores. So of the Shorthorn beast. He is merely a machine for converting crude grain or grass, into bone, muscle, adipose matter and hair, and the whole secret of

excellence,—the superiority of one beast over another—consists in his ability to convert the most crude food in a given time into the finest quality of the tissues named. So distributing these as to give us a roony frame of bone, in the parts where we want room for the vital organs, and for the choicest cuts, and thick fleshy, well marbled roasts, and broad, well marbled steaks, in the parts where the best fibre is produced. Such a conformation should be secured as will answer these ends as effectively as the engine is expected to generate steam through the consumption of fuel in the furnace. The beast with a broad face, and great depth from the point of union of the head with the first cervical vertebra, has larger masseter muscles than the beast with a narrow head, and through this conformation, possesses greater leverage power in masticating food. The short, broad head of the panther gives him immense power in his jaws, enabling him to crush and masticate the bones of his prey. So when we scrutinize the head of a Shorthorn, and express our gratification if it carries a short, broad head and a fine muzzle, the thought of a good feeder comes into the mind when we find this kind of a head. We can also comfort ourselves with the assurance that this is not altogether a matter of fancy, but that the beast with this sort of head will grind old dry corn as rapidly and perfectly as the narrow long-headed cow will grind soft rubbins, the latter lacking in size of masseter muscles, and leverage power. Thus our fancy is gratified by a conformation, which, when put to practical use, proves itself the cheapest feed mill we can put upon the farm. Carrying out the ideas already advanced, the conformation of the trunk of the cow is a subject worthy of very careful study. The bony frame is of secondary importance, the vital organs within being of the first importance, and the size and vigour of these, if accompanied by a liberal distribution of cellular tissue throughout the system, ensures a rapid conversion of food into nutritive particles, and the deposition of these in the various tissues. Large lungs, a large heart, stomach, and liver give size and rotundity to the trunk and width to the bosom. A large stomach is of the utmost importance, because furnishing a large surface. From this the gastric juice issues; and when we consider the inner surface of the stomach, and the air-cells of the lungs, we must prize an extended surface in those organs as highly as we do a large surface in a steam boiler, if we expect great results. Two of the worst faults in the construction of a Shorthorn are the following, viz., the ribs starting from the spine in a downward direction, giving a wedge shape to the upper third of the chest; the other is, a long rib deficient at the lower end, causing a curve upward in the lower line, immediately back of the fore legs. We doubt if any other two defects are so hard to breed out as these. A drooping rump or low carriage forward may be brought up in one or two crosses, so that with after care they may not reappear; but the defects in the chest, pointed out above, depend upon deficient vital organs within. It is much easier to raise one corner of a house that droops than to re-model the inner walls and fixtures; so it is difficult, even by several well-advised crosses, to plant large vital organs in the offspring, where deficient even in one parent. The reorganisation and enlargement of the heart, lungs, stomach, and liver require many discreet crosses to accomplish. These are the seat of family peculiarities. The innate vigour of one family, and the manifest constitutional weakness of another can be traced to these organs, and the strong likenesses traceable to these parts cannot be easily effaced. And, as before intimated, while it is somewhat easy to fashion some portions of the outer frame, changing the conformation by changing the relative position of the parts, it would be utterly futile to attempt to implant long, well-sprung ribs upon an animal in whom the vital organs had not been brought up to sufficient size to fill the increased space so obtained. The idea of giving rotundity to the chest, where the internal organs had insufficient volume to fully fill the space, thus causing a vacuum, would be preposterous in the highest degree. Nature abhors a vacuum, and only tolerates one when produced and maintained by artificial means. Passing from the chest backward, we would call attention to the importance of the short ribs being long, and standing out horizontally from the spine, forming a level plain

ward of the hips. This broad, level loin generally keeps company with a round, deep chest, and is a point of excellence that should always be sought. When we reflect that in every inch of additional width we get in the rear third of a beast we secure what would be represented by a section, or cut, one inch in thickness, and extending from top to bottom, and front to rear of the hind quarter—a pretty good slice, the cook would say. The hind quarter that holds its width well back carries a large amount of meat not represented in the quarter that narrows in rapidly from the hip back. The contour of the animal, to be pleasing to the critic, must present a smooth surface, and this is secured by the framework we have described, and an even distribution of muscular tissue over the surface. In other words, a perfect contour depends upon a symmetrically organised frame, with the fleshy parts so distributed and packed in as to make it difficult to tell where one portion of the carcass ceases and the next begins. This is the goal to be aimed at, and when reached, the breeder producing such an animal can cry, with the gardener who has crossed up his tomato until it has no indentation or crevasse upon the surface, "Eureka"—I have produced it. This is symmetry, the essence and ultimatum; nothing else is; no combinations other than these can take on the appearance of it, or approach it. The third and last portion of our subject, "quality," we will treat very briefly. No intelligent breeder, whilst striving to increase the depth and breadth of the carcass, loses sight of the equally important point, the texture of those parts of the animal that are to be consumed as human food. This idea of texture is never lost sight of by the fruit grower, and the excellencies which fix the value of an apple, viz., fair size, smooth surface, and tender juicy meat, are the three things upon which we base our estimate of a Shorthorn. Our skill in fashioning the contour of our favourite breed of cattle is entitled to and has received the highest praise; but nature laughs at our efforts, for, going back to the wild animals cited, as far as the knowledge of man reaches, the texture and flavour of the flesh of the deer has not changed. It affords the same delicious roast as it did a hundred years ago—no less flavour, no higher, no different. But who, when he takes a cut of beef on his plate, though he may have himself bred the animal from which it was taken, and have declared the beast to be mellow under the touch, can fully anticipate whether the morsel will be savoury or not. While our efforts to appear well in the show-ring, and to possess specimens of certain favourite families, are commendatory, we are too much led away by the surface of things. The demands of fashion in cattle are too much like the demands of fashion in dress: if the surface captivates by its splendour, no matter how much shoddy is beneath. Throughout the system, under the skin, between the muscles, and under the fibres of these, there is distributed what is termed cellular tissue. As its name implies, this is made up of cells, and in these cells the accumulations of adipose matter is deposited. The extent to which this tissue is found varies very much in different animals. Where abundant, and associated with strong digestion, active absorbents, and a well-formed carcass, flesh is taken on very rapidly, and if with these combinations the skin be pliable and soft, the animal will almost invariably handle mellow when in fair flesh. Now the common notion is, that all animals that handle mellow have high-flavoured tender flesh. This is an erroneous idea, proved so every day upon the butcher's block. We couple two animals together expecting to secure well-formed, ready feeders, in the progeny, and if the parents possess this fattening tendency, they will generally transmit it. But if both the parents have dark, unsavoury flesh, they and their get, and all the progeny after for all time, will have the same, unless modified and improved by new crosses having light-coloured savoury flesh. Many Shorthorns carry light-coloured, well-marbled, firm flesh, which, when cooked, is equal to the flesh of any of the smaller breeds, but in place of tests being made in all herds as should be done, by slaughtering offshoots from every animal in the herd, so far as practicable, testing the meat of the old cows when no longer of value, as an index to what she leaves in the herd, there is hardly a thought given to this, and we propagate for colour and contour. If I were to advise, and this body of men should endorse the recommendation, that we greatly, or even materially lessen the size of our Shorthorns, aiming thereby to approach the quality of meat found in the little Kerry cow, this recommendation would not avail. The popular demand is for size. We are a fast people, and slow growth makes us

restive. We like to turn an honest penny, and turn this quickly. We can do this with Shorthorns, and please our fancy at the same time, but we have not found that we can do this with any other breed. Hence our policy should be to breed for exquisite quality of flesh, thus enabling us at all times to offer our friends a savoury roast or steak, as well as to treat them to the finest view that can be placed before a man of expanded ideas, viz., a collection of representative Shorthorns.

Mr. DOTY asked Mr. Sprague if he intended to say that touch did not indicate the quality or excellence of the flesh of an animal.

Mr. SPRAGUE replied that it was not an unfailling test, but it was the only one that could be made before the butcher's block revealed the truth; he was satisfied that the delicacy of touch varied with different coloured animals.

Mr. CHRISTIE, of Canada, agreed cordially with the positions taken by Dr. Sprague, and as the question of colour had been brought up, he would say that the prevailing opinion of the country was entirely wrong. Alluding to the preference for reds in Shorthorns, he said it was a foolish prejudice. His own experience, as a breeder for thirty years, was that some of the best feeders and most tender and excellent fleshed animals, were light-coloured, whites or roans—in fact the very best feeders, handlers, and best fleshed animals he had bred were white. Referring to the colour of the early Shorthorns (as Hubbard) said they were not a deep red but a yellow red. In England there was no such prejudice against colour, and the two premium bulls of the past season were pure whites.

Mr. DOTY insisted that the best quality of beef was found in red cattle, so far as his experience went.

Mr. SADOWSKY (Ill.) said his first experience was with white cattle, gradually worked into the red, and from that into roans; had never got as good handlers among the reds as the roans. The light colours were the best feeders, and he liked them, as a whole, the best. Did not see any good arising from controversy about colour, and thought the quality of beef ought to be more looked after.

Mr. THRESHER (Indiana) said his experience was that the reds were not as good handlers as the whites or roans; the whites were the best handlers of all, and he would say that he had never put his hand on what he called a first-rate handler in a red animal. The reason for the preponderance of red was that breeders kept bulls simply for their colour, not regarding handling and other qualities.

Mr. PICKRELL (Illinois) said it might be very well to talk down red cattle, and try to educate the people out of their partiality for them; but he raised stock to sell, and as his bread and meat were involved in it, and as long as that colour was demanded, he should try to supply it; let other gentlemen hand their names down to posterity by removing false notions, if they choose to do so.

Mr. GODDARD said his impressions were that light-coloured cattle did not stand variations of weather as well as reds, and in winter did not feed as well.

Mr. GOMME (Ky.) asked if the white animals could not stand cold weather, why the Almighty had placed the white bears in the Polar regions.

A MINISTER OF COMMERCE AND AGRICULTURE.—At the fortnightly meeting of the Council of the Bradford Chamber of Commerce, Mr. Charles Stead presiding, Mr. Jacob Behrens observed that now the new Government had taken office he thought the Chamber ought to try to take as much work out of them as possible. There were two measures which the Chamber had long advocated very strongly without making great progress in them. Perhaps they might find the new Government more pliable than the last. He proposed that a memorial should be addressed to the Executive Council of the Associated Chamber of Commerce requesting them to take immediate steps to urge Her Majesty's Government to appoint a Minister of Commerce and Agriculture with a seat in the Cabinet, and also to take immediate steps to introduce a Bill in Parliament for the establishment of tribunals of commerce. Mr. Garnett seconded the motion, which was carried unanimously.

PRIZE FARMS IN AUSTRALIA.

The Victorian Department of Agriculture having offered prizes for the best farms of a certain size and acreage, the following is the report upon the competition.

The farm of Mr. A. Anderson, known as the Green-Hill Farm, is situated on the slope of one of the famous Bullarook hills bearing that name, and contains 590 acres, principally of chocolate soil. The situation of the homestead, as far as scenery is concerned, is unrivalled in the district, as it not only commands a fine view of all the surrounding country, including Kangaroo-hills, Kooroocheang, Moorookyle, and, nearer home, Birch's Scrub, Forest and Spring Hills, but has two beautiful sheets of water within a short distance, namely, Hepburn's Lagoon, within a mile, and the reservoir of the Clunes waterworks, the waters of which are only separated from the boundary fence by the main road to Rocky Lead. The land is principally laid down in grass, it being the proprietor's intention to grow wool in future instead of so much cereal crops. There are 170 acres of cultivation, including wheat, oats, barley, and potatoes; of the latter there are about 20 acres. The farm is subdivided into a number of paddocks, the whole of which is surrounded by a substantial, close three-rail fence, perfectly sheep-proof. There is no less than seven miles of good fencing on the 500-acre block, three miles and a-half of which have been sown this season with kangaroo acacia. On the north-western side is a paddock, containing sixty acres, laid down in ryegrass last summer; the quantity of seed sown was one bushel of ryegrass and four pounds of red clover to the acre. The crop is a good one, but the clover has not quite destroyed the sorrel, being only its first year; the paddocks which have been sown a few years being tolerably free from this weed. This paddock has been nine years under cultivation, and two years in fallow; the hay crop off it last season yielded two tons to the acre. Adjoining this is a 72-acre paddock in grass, sown with a crop last year. Four hundred sheep of the Cotswold breed obtain the principal sustenance from these two enclosures, and they evidently thrived well, for they are rolling fat. South of the homestead is a paddock containing 55 acres of wheat, purple straw; the crop is a very heavy one. This land has also been nine years cultivated, and fallowed one year. We next came to 47-acre field of clover and grass, forming a rich pasture, such a one as cattle like to luxuriate in. This land, which has been cropped in every respect similar to the other grass land, exhibited the advantage of a proper system of draining. There are in this and the other paddocks between 1,100 and 1,200 chains of drains, ranging from 2 feet 6 inches to 3 feet in depth, which are all partly filled up with stones and earthed over. The next field contained 45 acres of grass and clover, laid down two years ago, after five crops had been taken off it. Between 500 and 400 well-bred long-wool sheep are grazing in these paddocks. The adjoining division contains 35 acres of grass, laid down three years ago. The crop is a light one, as the land is poor soil; four crops had previously been taken off it. The next is 40 acres of bush land, heavily timbered, and well grassed and watered. In this paddock were quietly browsing three or four capital Clydesdale draught horses of the right stamp, the identical ones which were awarded first prize for a team of four waggon-horses at the recent agricultural show at Smeaton. We next came across a forty-acre paddock of grass, sown last year after ten crops and twice fallowed. Thirty-five bushels of wheat to the acre was taken off this land last year, and from an adjoining paddock of thirty acres thirty-eight bushels of wheat were thrashed to the acre the same season. This brought us to a small clover paddock which surrounds the homestead, which consists of a large and substantial comfortable wooden dwelling-house with kitchen attached, a small garden in front containing fruit trees and flowers, and a large one at the rear devoted to an orchard. The kitchen is supplied with water from a large brick tank cemented, capable of holding 5,000 gallons of water, raised by means of a force-pump. The barn, which is built of blue stone, is capable of storing 12,000 bushels of grain, and is so admirably adapted for the saving of labour that a waggon can be drawn up at the rear and then be on a level with the first floor; a staging which runs out from

the building enables the bags to be trucked in off the waggon after which it is emptied out of the bags through the openings in the floor, one of which is over each bin. The front of the barn has the same advantage, as bags can be wheeled out from the bin to the waggon. The other improvements consist of a stable for eight horses, chaff-house, fitted with chaff-cutter by Buncle, with horse-works; hay shed alongside, capable of holding twenty tons of hay, cow-shed and stock-yard, men's huts (three), waggon-shed, wool-shed, and drafting-yards for sheep, &c. Everything about the homestead betokens order and regularity; there is a place for everything, and everything is in its place. Independent of the numerous running streams and rivulets on the farm, there are two wells, besides the tank, for convenience in watering stock; the water is raised in each by force-pumps. Although there is little danger of getting bogged with a load with such cattle as Mr. Anderson's, yet, as a precaution, he has had half a mile of metal road constructed, leading from the barn to the main telegraph road, which has been rolled and levelled by the steam road-roller. The stock consists of six draught horses, one buggy horse, 800 sheep, two excellent milch cows, and several pigs. The machinery is of a very superior description, and includes a thrashing machine, with eight-horse power portable engine, by Ransome and Sims; two reaping machines, by Grant and Nicholson; two double-furrow ploughs, by Kelly and Preston; two single ploughs, by Grant; three pairs of harrows, two drays, and one spring cart. In addition to the paddocks enumerated, Mr. Anderson has about 100 acres in cultivation, extending to the banks of Birch's Creek, and recently leased to the late Mr. George Clark, the crops on which are of a very fair character.

Mr. W. Macpherson's farm, which was awarded first prize under 100 acres, is situated at Newlyn, and possesses one of the snugest and most comfortable homesteads of any farm in the district. The dwelling, which is of brick, with slate roof, is of a very superior description, being large and commodious, with brick kitchen attached. Around the dwelling are planted a large number of valuable ornamental trees, from the nursery of Mr. David Anderson, of Dean, whose generous gifts in the tree line help to beautify many a farmhouse in this district besides the one alluded to. The garden, in which the house is situated, contains a large number of fruit-trees loaded with fruit of every description. It is surrounded with an excellent fence, and kept in first-rate order, and had been planted many years. The farm-yard is enclosed with a rail fence, in which is situated all the requisites for a well-managed farm, and includes a large wooden barn, waggon and cart sheds, potato-house, stabling, poultry-shed, cattle and sheep yards, &c. The implements consist of a reaping-machine, a double and single furrow plough (the former by Kelly and Preston, and the latter by Davidson, of Newlyn), horse hoe, waggon, dray, spring-cart, harrows, &c. The stock consists of three first-class draught horses and one light harness horse for spring-cart, 73 sheep, 3 head of cattle, and several pigs. The farm contains 96½ acres, in six paddocks, 84 acres of which are cultivated as follows: 22 acres of wheat, white Kent and Frampton, good. This land has been fifteen years under cultivation, during which time it has been fallowed three times. 13 acres of oats, Tartarian, a fair crop, and the eleventh off the same land, and one season fallowed. The principal grazing paddock consists of 34 acres, sown down with rye grass and clover, the greater portion of it last year. There is also 5 acres of peas, and the remainder of the land in root crop, excepting 10 acres of bush land, which is too swampy for cultivation, but excellent for grazing in summer. Mr. Macpherson intends to place a sixth part of the farm under root crop every season, and to follow a proper course of rotary cropping. Some of the best crops grown in the rich chocolate soil of Bullarook have come of this and the adjacent farms.

The farm of Mr. Charles Naples, at Dean, which received honourable mention, consists of 170 acres of rich chocolate forest soil, subdivided into eleven paddocks, varying in area from 2 to 65 acres, cropped with 63 acres wheat, 11 oats, 25 peas, 13 potatoes, and 53 clover and rye-grass. The fences are substantial sheep-proof post and rail, with the exception of a

division fence or two of log still remaining; but these are being supplanted by post and rail as fast as they can be consumed for firewood. The fact, however, that the most substantial post and rail is only a temporary fence is recognised by Mr. Naples, and he is now planting whitethorn hedges, 60 chains of which is already in an advanced state. The wheat sown in June, and eaten down with sheep in spring, is a splendid crop, standing 5 feet high, and the ears long and well filled. The peas also look well, but the oats are not good. The clover lands on this farm are among the most luxuriant in the district, the live stock kept, consisting of 30 head of cattle, 15 horses, and 130 Leicester sheep, being evidently far under its carrying capability. The quantities sown by Mr. Naples for pasture is three-quarters of a bushel of rye-grass to 3lbs. of mixed clover, and his practice is to sow down with the crop. The farms of this and the neighbouring districts are notable for having a first-class assortment of the newest and best machinery and implements, and this one is no exception to the rule. The usefulness of a Penny's patent rotary corn separator, for which he was awarded a prize, was specially alluded to by Mr. Naples. The live stock are all first-class; the fact that it does not pay to keep an inferior animal of any kind apparently being fully recognised, not only by Mr. Naples, but by every farmer in the district. The draught stock especially are up to a very high standard throughout the entire district represented by the various competing farms. The buildings of this farm are numerous, and well built of weatherboard and shingle, but are somewhat irregularly laid out. A general want of trimness and order about the homestead contrasts unfavourably with the appearance of the rest of farms, but this defect the proprietor, who has only lately devoted his whole attention to agriculture, appears to be busily engaged in remedying, and evidently intends generally to make this splendid property a model establishment.

In the same vicinity is Mr. McCormick's farm, which was also favourably mentioned by the judges, but there requires to be much labour expended here, especially in the way of clearing, before a prize can be reasonably expected. Forest trees are scattered amongst the growing crops, and there are too many log fences. This latter defect is, however, being remedied by substitution of sheep-proof post and rail. The farm consists of 226 acres, subdivided into 12 paddocks, containing 79 acres wheat, 48 acres oats, 16 peas, 8 potatoes, and 75 clover and grass. The pasture on this farm is of a superior character, and is carrying 500 longwooled sheep, and 40 well-bred cattle, and seven horses, two of which received the 1st prize for the best pair for farm purposes. As a rule Mr. McCormick ploughs specially for the reception of his grass seed, which he sows at the rate of a bushel of rye-grass to 3lbs. of clover. The wheat crop is an average one, but the oats are not heavy, excepting in a field that was clover last year, proving that cereals do well on clover lea. The peas promise to be a 40-bushel crop, and the usual crop of potatoes obtained from this farm is from 8 to 10 tons per acre. Mr. McCormick has a more than usually extensive and varied assortment of machinery, amongst which, in addition to a Ransome and Sim's steam thrasher, and eight-horse power engine, appear the invariable Kelly and Preston's double plough, and Nicholson's reaper. The most notable of the farm buildings are the barn and stable, commodious structures of sawn stuff, roofed with shingles.

Mr. Broomfield's farm, on the Bullarook Creek, containing 84 acres, competed for the prize awarded to Mr. McPherson, and was commended by the judges chiefly for having no land under, or in preparation for, root crops. This farm is subdivided into five paddocks, and all the fencing on the place is superior sheep-proof post and rail, well kept. The larger portion of the farm consists of white clover, sown down about eight years, forming a most superior and even piece of sheep pasture. One field contains a very regular crop of rye-grass, to be cut for seed. The buildings, machinery, &c., on the steading are numerous and superior, equal indeed to the requirements of a much larger establishment. Nine cows, twelve horses, three pigs, and 230 sheep, all of superior breed, represent the live stock of the farm; and the change that has lately taken place in the operations of the district is significantly marked by the circumstances of the farm being filled with fleeces of wool, and the stackshed being used for a sheep-fold. A general trimness about the fields and homestead,

which latter includes a tolerably well-kept orchard, are attractive features in Mr. Broomfield's management.

The farm of Mr. Robert Anderson occupies the other half of the same hill, on which is situated the farm of his brother, which received first prize. It contains in all 240 acres, subdivided into six paddocks by post and rail fencing. There are to sheep on this farm, and the crop, comprising wheat, oats, barley, hay, and potatoes are amongst the most regular in the district. The oat crop, so inferior generally, is very good here. The majority of the fields are sown down along with the crop, with 5lbs. of mixed clover, and 1 bushel rye-grass. Upwards of 1,000 chain of covered drains have been put in, and everything in the way of machinery is of a handy and superior character. Amongst the live stock, Mr. Anderson's draught horses are worthy of especial note.

Messrs. Howe and Pool's Tiptree Farm, Mount Prospect, is 400 acres in extent, containing ten paddocks. A small portion of the farm in proportion to its size is sown with wheat, oats, barley, lucerne, turnips, horsebeans, and potatoes; all of these, except the latter, having been put in with one of Garrett's drills, which sows broadcast along with the seed. These crops are all looking very well. The remainder of the farm, with the exception of a few acres in bush, is under a magnificent pasture produced by sowing 4 lbs. white clover with 1 bushel mixed grasses, as follows: Timothy, rib-grass, prairie, cocksfoot, cow-grass, rye-grass, and Yorkshire fog. There are about 70 head half-bred Shorthorns on the farm, 40 of which are dairy cows, from whose milk is manufactured daily about 120 lbs. of cheese, which is sold at from 8d. to 9d. per lb. A large number of pigs are also fattened off yearly. The list of machinery includes a bone mill and apparatus for boiling the bones previous to crushing. The liquid used in the process is distributed over the farm by means of a liquid manure cart with good effect. The fencing is post and rail, and the homestead, which has a large accommodation of one kind and another, has a somewhat dilapidated appearance, which probably stood in the way of this farm receiving honourable mention for the many good points it possesses. The orchard is well stocked with fruit trees and bushes, the goose-berries, of which there are several varieties, being very fine. The apple trees are badly blighted, and amongst these Mr. Howe pointed out one of the Majetin stock as bad as the rest.

BAD ADVICE.—The Central Chamber of Agriculture have solicited the Government to deal this year with the subject of local taxation. They say: "The earliest and most feasible step in general reform is now admitted to be the removal from the rates of the most peculiarly national of our present burdens in cases where central control now determines the expenditure. A development of the existing system of Treasury grants in the direction approved by Parliament in 1872 involves no complicated reconstruction of existing authorities. Such relief might, therefore, be given at once, even if the time at the command of the new Government should prove too limited to attempt more intricate reforms in the present financial year." But no worse advice could be given to the present Government by their bitterest opponent. The comparison of local with imperial taxation is peculiarly a question which ought to be dealt with as a whole when it is dealt with at all. The principles which should regulate a readjustment should be thoroughly considered, and their application to existing facts precisely determined. The present Government is more bound to be careful on this matter than on any other Government measure, and is more bound than any other Government. The gravest objection which can be made to it is that it is a Government too predominately elected by a particular interest. More than one-half of its supporters are county members, elected principally by the landed interest; but the landed interest is not nearly one-half of the country. If it should begin by gratifying its own supporters, its moral prestige will be destroyed. Right or wrong, the world will at once say, "This is not a fair Government which looks entirely to the interest of the whole nation; it was brought into power by certain particular classes; it has begun to sacrifice the public welfare to those classes." Whether just or unjust, no accusation could be more plausible and more dangerous to an administration at the commencement of its career.—*The Economist*.

C O R N T R A D E C A S E.

SPEDDING v. WALMSLEY AND SMITH.

COUNTY COURT, ULVERSTON, MONDAY, FEB. 23, 1874. [Before T. H. INGHAM, Esq., Judge.]

In this case Mr. S. H. Jackson, of Ulverston, was engaged for the plaintiff, and Mr. Tilley, of Lancaster, was for the defendants.

Mr. Jackson stated that the action was brought to recover the difference in value between a number of quarters of barley which were sold by the defendants through their agent, Mr. L. Robertson, as malting barley, and the price of the same barley which plaintiff had to re-sell as feeding barley, together with the cost of freight from Barrow to Ulverston, which plaintiff had to pay. Mr. Spedding, the plaintiff, a maltster in Ulverston, wanted some barley in June last, and knowing that Mr. Robertson, who was defendants' broker in Ulverston, had a quantity to sell, went to him and asked whether he had any malting barley. Mr. Robertson mentioned that the barley in question belonging to Walmsley and Smith was for sale, and quoted 41s. as the price of it. After a good deal of conversation, they struck a bargain for 50 quarters at 40s. per quarter. The bargain was concluded on the 1st July, subject to the arrangement that the barley was to be paid for in one month, and that it was to be at the plaintiff's risk after the end of fifteen days. Plaintiff did not send for the barley to Barrow at the end of 15 days, but allowed it, with the rest of the great bulk of Walmsley and Smith's barley, to lie in the Barrow warehouse till the 2nd of August. Then a day or two after that date he put in a certain number of quarters to steep, but soon he entertained a strong doubt as to whether it was malting barley at all. On Thursday following he saw Smith, jun., and told him that he doubted whether it was malting barley, and Smith, jun., said he was sorry to hear it as they had a large quantity of it at Barrow. Mr. Spedding said he would tell the result of trying to malt it next Thursday. Accordingly he told Smith jun., on the next Thursday, that the barley would not malt, to which Smith replied that they (Walmsley and Smith) had nothing to do with it, as plaintiff had bought it and paid for it at his own risk. Mr. Spedding then disputed that, and claimed the difference between the price paid for the barley and its price as feeding barley. Now the only question was whether Mr. L. Robertson had any authority to say that it was malting barley; but that question could not arise between the defendants and the plaintiff, because it was laid down in law that a broker is a general agent, and that the principal is liable for the acts of a general agent in course of trade. If, therefore, Mr. Robertson stated that the barley in question was malting barley the defendants were liable to the plaintiff, whether or not they said it was malting barley. It was thoroughly well known throughout Furness that if barley sold to a maltster, as malting barley would not malt, it was returned to the seller, or producer, that he might make what he could of it. Evidence would be produced to show that that was an everyday occurrence—when barley would not malt, it was returned. The barley in question was sold for good malting barley at 40s. per quarter. About that time and immediately afterwards plaintiff bought malting barley at 38s. and 39s. per quarter. He now called upon defendants to recompense him for the loss incurred by the misrepresentation of the barley in question. No doubt the loss was serious to plaintiff, because 9 quarters of barley was put in to steep; and Mr. Spedding had not only lost that, but had actually to pay duty on it. That, however, he did not sue for, but simply for the difference of price between feeding barley and malting barley on the quantity of barley which plaintiff never used, and which defendant refused to take back. The following evidence was given in support of the claim:

Mr. Jas. Spedding, the plaintiff, stated: I am a maltster in Ulverston. I remember in June last I went to Mr. Robertson to buy some malting barley, and I was offered by him the barley in question for malting at 41s. per quarter. I bought fifty quarters for 40s. a quarter, when I asked him the condition of it he said it was all right and quite fit for malting.

Mr. Tilley, interrupting, put in the ordinary "bought"

and "sold" notes, which he contended was the best evidence of the contract.

Mr. Jackson explained that the note simply stated fifty quarters of Danish barley.

Mr. Tilley contended that when a broker sold on "bought" and "sold" notes these notes constituted a contract.

His Honour: No doubt; if you make out that Danish barley is malting barley, that would do.

Mr. Jackson would do so, and would also show from Mr. Smith's letters that it was described as malting barley.

His Honour: You must show that Danish barley in the trade is always meant to be malting barley.

Mr. Spedding's examination continued: In the end of July I paid for the barley. On the 2nd of August it came to me in Ulverston. Have here a receipt (produced) for £100 on account of the barley. I never had any writing from Mr. Robertson about the barley. I put seven and a half quarters of the barley into steep, but only about one-third of it grew. On the following Thursday I told Smith about it, and that I did not think it was going to malt. The next Thursday I told him exactly that it would not malt. In reply, he said that if it would not malt it would be a bad job when they had so much of it left at Barrow. At last I asked him what I would make of it. He did not give me any particular reply to that, except that they had nothing to do with it so far as the transaction went. I then told him I should be obliged to sell it, and come on them for the loss. I have been a maltster for sixteen years in Ulverston, and when I have bought barley that would not malt I have returned it, and it has been taken back without demur. That is the usual custom in the trade. I never had any difficulty of this sort till this transaction took place. About the time of buying this barley I bought some others for 39s. a quarter. I caused the remainder of the barley in question to be sold for feeding barley at a loss of 6s. 8d. a quarter. The total loss by so doing amounts to £16 16s. 2d.

Cross-examined by Mr. Tilley: I saw a sample of the barley when it came in in April, and on trying it, then it malting well. Very few qualities of barley will malt over the season, if it be not properly kept. If the barley in question were well kept till the 15th July, I would have no fear of it till the 2nd of August, as it would not become unfit for malting in that number of days.

His Honour told Mr. Tilley that he had clearly fixed himself by selling it as malting barley. If, however, he could show that deterioration of the barley took place in a fortnight and at plaintiff's risk, that would be a good defence.

Mr. Tilley maintained that it was for the plaintiff to show that; but

His Honour ruled otherwise, and pointed out that the only question was whether from the 15th July to 2nd August it had grown bad, for it was sold as malting barley up to the 15th July.

Mr. Tilley contended that there was no written contract that it was malting barley.

His Honour had not a shadow of a doubt about it being sold as malting barley. The case was clear, unless the defence could show, by evidence, that the barley grew bad after the 15th July.

Mr. Tilley said the plaintiff had an opportunity from the 1st July to go and try the barley, but, instead of doing so, kept it there from the 15th July to 2nd August, and then brought it up to Ulverston.

His Honour observed that there was nothing to show that it was not spoiled before. No doubt, Mr. Robertson knew what the barley was bought for.

Mr. L. Robertson, corn broker, called and examined by Mr. Jackson, stated: On the 7th of April, I received a letter (produced) from Walmsley and Smith, the defendants in this case, that I might sell, as malting barley, the Danish barley subsequently sold to Mr. Spedding. In June, I wrote to them,

asking whether any of it was then on sale, and, in reply, I received this telegram (produced).

His Honour: This is conclusive as to its being malting barley.

Mr. Robertson's examination continued: After receiving that telegram Mr. Spedding applied to me for some malting barley, and I sold the lot in question to him as malting barley. At that time I thought it was malting barley. I had a letter from Walmsley and Smith on the 16th July, in which the barley was described as malting barley (letter produced). I saw the barley after it came to Mr. Spedding; it smelled very fusty indeed. I have been in trade as a grain merchant for over 14 years. If this barley had been in good condition on the 15th July, it would not have grown bad on the 2nd August. Forty shillings was a good price for it as malting barley. I afterwards sold it for 33s. 4d. per quarter as feeding barley, at the request of Mr. Spedding. Between the time that Mr. Spedding received this barley and that I re-sold it as feeding barley, there was an advance in the price of feeding barley. The custom of the trade is to return barley that will not malt, especially is that the custom in Furness.

Mr. Tilley stated that the defence was that defendants did not guarantee that it was malting barley.

His Honour: You say it is malting barley, and there could not be a better guarantee. There is a letter here of July 16th, in which it is called malting barley. What does this mean in that letter: "We can only allow you to offer it to buyers with whom we are not acquainted personally, say Yorkshire." What does that refer to?

Mr. Robertson: To that particular barley. After receiving that letter I declined to deal further with them.

His Honour: Do you think that barley in the state in which it was in when Mr. Spedding got it, could have been perfectly good on the 15th July?

Mr. Robertson: Decidedly not.

His Honour then told Mr. Tilley that defendants were bound to deliver the barley in good condition on the 15th July.

Mr. Tilley argued that the question was, What was the contract between Walmsley and Smith and Mr. Spedding? The contract between these two parties was the "bought" and "sold" note which he had put in. It had been decided over and over again that a broker as agent between to parties bound them. The court must therefore look at these notes only, because if there were any warranty, the notes must contain it; and where there was a written contract, parties must not go out of it.

His Honour said it was idle to waste time in arguments like that.

Mr. Tilley then put it that plaintiff must make out a case of fraud before he could recover.

His Honour: No, no. I am quite satisfied about it. This is a case that ought never to occur between tradesmen. You knew long ago about it; you have the plaintiff's money in your pocket for an article you could not give him, and therefore you must refund it.

Judgment was accordingly given for plaintiff, and an application for a case of appeal was refused.

JOHN SMITH'S SHANTY.

He was standing in the ditch leaning heavily upon the long handle of his axe. It was a straight stick of ash, roughly shaved down to some sort of semblance of smoothness, such as would have worked up an unpractised hand into a mass of blisters in ten minutes' usage, but which glided easily through those horny palms, leaving no mark of friction. The continuous out-door labour, the beating of innumerable storms, and the hard, coarse fare, had dried up all the original moisture of the hand, till it was rough, firm, and cracked or chapped like a piece of wood exposed to the sun and weather. The natural oil the skin, which gives to the hand its beautiful suppleness and delicate sense of touch, was gone like the sap in the tree he was felling, for it was early in the winter. However the brow might perspire, there was no dampness on the hand, and the helve of the axe was scarcely harder and drier. In order, therefore, that the grasp might be firm, it was necessary to artificially wet the palms, and hence that custom which so often disgusts lookers-on, of spitting on the hands before commencing work. This apparently gratuitous piece of dirtiness is in reality absolutely necessary. Men with hands in this state have hardly any feeling in them; they find it difficult to pick up anything small, as a pin, the fingers fumble over it; and as for a pen, they hold it like a hammer. His chest was open to the north wind, which whistled through the bare branches of the tall elm ever-head as if they were the cordage of a ship, and came in sudden blasts through the gaps in the hedge, blowing his shirt back, and exposing the immense breadth of bone, and rough dark skin tanned to a brown-red by the summer sun while mowing. The neck rose from it short and thick like that of a bull, and the head was round, and covered with a crop of short grizzled hair, not yet quite grey, but fast losing its original chestnut colour. The features were fairly regular, but coarse, and the nose flattened. An almost worn-out old hat thrown back on the head showed a low, broad, wrinkled forehead. The eyes were small and beared, set deep under shaggy eyebrows. The corduroy trousers, yellow with clay and sand, were shortened below the knee by leather straps like garters, so as to exhibit the whole of the clumsy boots, with soles like planks, and shod with iron at heel and tip. These boots weigh seven pounds the pair; and in wet weather, with clay and dirt clinging to them, must reach nearly double that. In spite of all the magnificent muscular development which this man possessed, there was nothing of the Hercules about him. The grace of strength was wanting, the curve lines were lacking; all was gaunt, angular, and square. The chest was broad enough, but flat, a frame-

work of bones hidden by a rough hairy skin; the breasts did not swell up like the rounded prominences of the antique statue. The neck, strong enough as it was to bear the weight of a sack of corn with ease, was too short, and too much a part, as it were, of the shoulders. It did not rise up like a tower, distinct in itself; and the muscles on it, as they moved, produced hollow cavities distressing to the eye. It was strength without beauty; a mechanical kind of power, like that of an engine, working through straight lines and sharp angles. There was too much of the machine, and too little of the animal; the lithe, easy motion of the lion or the tiger was not there. The impression conveyed was, that such strength had been gained through a course of incessant exertion of the rudest kind, unassisted by generous food and checked by unnatural exposure. John Smith heaved up his axe and struck at the great bulging roots of the elm, from which he had cleared away the earth with his spade. A heavy chip flew out with a dull thud on the sward. The straight handle of the axe increased the labour of the work, for in this curiously conservative country the American improvement of the double curved handle has not yet been adopted. Chip after chip fell in the ditch, or went spinning out into the field. The axe rose and fell with a slow, monotonous motion. Though there was immense strength in every blow, there was no vigour in it. Suddenly, while it was swinging in the air overhead, there came the faint, low echo of a distant railway whistle, and the axe was dropped at once without even completing the blow. "That's th' express," he muttered, and began cleaning the dirt from his shoes. The daily whistle of the express was the signal for luncheon. Hastily throwing on a slop hung on the bushes, and over that a coat, he picked up a small bag, and walked slowly off down the side of the hedge to where the highway road went by. Here he sat down, somewhat sheltered by a hawthorn bush, in the ditch, facing the road, and drew out his bread and cheese. About a quarter of a loaf of bread, or nearly, and one slice of cheese was this full-grown and powerful man's dinner that cold, raw winter's day. His drink was a pint of cold weak tea, kept in a tin can, for these men are moderate enough with liquor at their meals, whatever they may be at other times. He help the bread in his left hand and the cheese was placed on it, and kept in its place by the thumb, the grimy dirt on which was shielded by a small piece of bread beneath it from the precious cheese. His plate and dish was his broad palm, his only implement a great jack knife with a buck's horn handle. He ate slowly, thoughtfully, deliberately; weighing each mouthful, chewing the cud as it

were. All the man's motions were heavy and slow, deadened as if clogged with a great load. There was no "life" in him. What little animation there was left had taken him to eat his dinner by the roadside—the instinct of sociality—that if possible he might exchange a word with some one passing. In factories men work in gangs, and hundreds are often within call of each other; a rough joke or an occasional question can be put and answered; there is a certain amount of sympathy, a sensation of company and companionship. But alone in the fields, the human instinct of friendship is checked, the man is driven back upon himself and his own narrow range of thoughts, till the mind and heart grow dull, and there only remains such a vague, ill-defined want as carried John Smith to the roadside that day. He had finished his cheese and lit a short clay pipe, and thrust his hands deep into his pockets, when there was a rustling noise in the hedge a little farther down, and a short man jumped out into the road—even jumping with his hands in his pockets. He saw Smith directly and came towards him, and sat himself on a heap of flints used for mending the road.

"What's thee at to-day?" asked John, after a pause.

"Ditching," said the other, laconically, pushing out one foot by way of illustrating the fact. It was covered with black mud far above the ankle, and there were splashes of mud up to his waist: his hands as he proceeded to light his pipe were black, too, from the same cause.

"Thee's bin in main deep," said John, after a slow survey of the other's appearance.

The fellow stamped his boot on the ground, and the slime and slush oozed out of it and formed a puddle.

"That's pretty stuff to stand in for a man of sixty-four, yent it, John?"

With a volubility and energy of speech little to be expected from his wizened appearance, the hedger and ditcher entered into details of his job. He began work at six that morning with stiff legs and swollen feet, and as he stood in the mangled mire and water, the rheumatism came gradually on, rising higher up his limbs from the ankles, and growing sharper with every twinge, while the cold and bitter wind cut through this thin slop on his chest, which was not so strong as it used to be. His arms got stiff with the labour of lifting up shovelful after shovelful of heavy mud to plaster the side of the ditch, his feet turned cold as "flints," and the sickly smell of the slime upset his stomach so that when he tried to eat his bread and cheese he could not. Through this speech John smoked steadily on, till the other stopped and looked at him for sympathy.

"Well, Jim, anyhow," said Smith, "thee han't got far to walk to the job;" and he pointed with the stem of his pipe to the low roof of a cottage just visible a few hundred yards distant.

"Ay, and a place it be to live in, that," said Jim. There were only two rooms, he explained, and both downstairs, no upstairs at all, and the first of these was so small he could reach across it, and the thatch had got so thin in one place that the rain came through. The floor was only hard mud, and the garden not big enough to grow a sack of potatoes, while one wall of the house, which was only "wattle and daub" (*i.e.* lath and plaster), rose up from the very edge of a great stagnant pond. Overhead there was an elm, from the branches of which in wet weather there was a perpetual drip, drip on the thatch, till the moss and grass grew on the roof in profusion. All the sewage and drainage from the cottage ran into the pond, over which at night there was almost always a thick, damp mist, which crept in through the crevices of the rotten walls, and froze the blood in the sleepers' veins. Some times a flood came down, and the pond rose and washed away the cabbages from the garden, leaving a deposit of gritty sand which killed all vegetation, and they could only keep the water from coming indoors by making a small dam of clay across the doorway. There was only a low hedge of elder between the cottage and a dirty lane; and in the night, especially if there happened to be a light burning, it was common enough for a stone to come through the window, flung by some half-drunken ploughboy. A pretty place for a human being to live in; and again he looked up into Smith's face for comment.

"Thee built 'un thee-self, didn't 'ee?" said John, in his slow way.

"Ay, that I did," continued Jim, not seeing the drift of the remark. He not only built it, but he brought up nineteen

children in it, and fourteen of them lived to grow up, all the offspring of one wife. And a time she had of it too. None of them ever fell in that pond, though he often wished they would; and they were all pretty healthy, which was a bad thing, because it made them hungry, and if they had been ill the parish would have kept them. All that he had done on 12s. a-week, and he had minded the time when it was only 9s., ay, and even when it was 6s., and 'twas better then than it was now, with 15s. That was before the Unions came about, in the time of the old workhouses in every parish. Then the farmers used to find everybody a job. Every morning they had to go round from one farmer to the other, and if there was no work then they went to the workhouse, or sometimes to the vestry-room in the church, where every man had a loaf of bread for every head there was in his family, so that the more children he had the more loaves of bread, which was a capital thing when the children were small. He had known a man in those times sent seven miles with a wheelbarrow to fetch a barrow-load of coal from the canal wharf, and then have to wheel it back seven miles, and get one shilling for his day's work. Still they were better times than these, because the farmers for their own sake were forced to find the fellows something to do; but now they did not care, and it was a hard thing to find work, especially when a man grew old, and stiff about the joints. Now the Boards of Guardians would not give any relief unless the applicants were not ill, or not able-bodied, and even then they were often required to break stones, and he was very much inclined to throw his spade in that old pond and go to the Union with the "missis" and all the lot for good. He had the rheumatism bad enough. It would serve them right. He had worked "nigh handy" sixty years, and all he had got by it he could put in his eye. They ought to keep him now. It was not half so good as the old times for all the talk. Then the children could bring home a bit of wood out of the hedges to boil the pot with; but now they must not touch a stick, or there was the law on them in a minute. And then coal at the price it was! Why didn't his sons keep him? Where were they? One was a soldier, and another had gone to America, and the third was married and had a hard job to keep himself, and the fourth was gone nobody knew where. As for the wenches, they were no good in that way. So he and his "missis" muddled on at home with three of the youngest. And they could not let them alone even in that. He did go into the Union workhouse for a bit, a while ago, when the rheumatism was extraordinary bad; but some of the guardians smelt out that he had a cottage of his own, and it was against the law to relieve anybody that had property; so he must pay back the relief as a loan or sell the cottage. He was offered £25 for the place and garden, and he meant to have taken it, but when they came to look into the writings it was not clear that he could sell it. It was quit-rent land, and although the landlord had not taken the rent for twenty years, yet he had entered it in his book as paid (out of good nature), and the lawyers said it could not be done. But as they would not let him sell it he would not turn out—not he. There he would stop, just to spite them. He knew that nook of his was wanted for cattle-stalls on the new principle, and very handy it would be with all that water close at hand; but he had worked for sixty years, and had had nineteen children there, and he would not turn out—not he. The parson's "missis" and the squire's "missis" came the other day about that youngest boy of his. They wanted to get him into some school up in London somewhere, but he remembered how the squire had served him just for picking up a dead rabbit that laid in his path one hard snow time. Six weeks in gaol because he could not pay the fine. And the parson turned him out of his allotment because he saw him stagger a little in the road one night with the rheumatism. It was a lie that he was drunk. And suppose he was? The parson had his wine, he reckoned. They should not have his boy. He rather hoped he would grow up a bad one, and bother them well. He minded when that sharp old Miss ——— was always coming round with tracts and blankets, like taking some straw to a lot of pigs, and lecturing his "missis" about economy. What a fuss she made, and scolded his wife as if she was a thief for having that fifteenth boy! His "missis" turned on her at last, and said, "Lor, miss, that's all the pleasure me an' my old man got." As for this talk about the labourers' Unions, it was all very well for the young men; but it made it worse still for

the old ones. The farmers, if they had to give such a price, would have young men in full strength: there was no chance at all for an old fellow of sixty-four with rheumatism. Some of them, too, were terribly offended—some of the old sort—and turned off the few pensioners they had kept on at odd jobs for years. However he supposed he must get back to that ditch again.

This long oration was delivered not without a certain degree of power and effect, showing that the man, whatever his faults, might with training have become rather a clever fellow. The very way in which he contradicted himself, and announced his intention of never doing that which a moment before he was determined on, was not without an amount of oratorical art, since the turn in his view of the subject was led up to by a variety of reasons which were supposed to convince himself and his hearer at the same time. His remarks were all the more effective because there was an evident substratum of stern truth beneath them. But they failed to make much impression on Smith, who saw his companion depart without a word.

The fact was that Smith was too well acquainted with the private life of the orator. In his dull, dim way, he half recognised that the unfortunate old fellow's evils had been in great part of his own creating. He knew that he was far from faultless. That poaching business—a very venial offence in a labourer's eyes—he knew had been a serious one, a matter of some two score pheasants and a desperate fight with a gang. Looking at it as property, the squire had been merciful, pleading with the magistrates for the mitigated penalty. The drunkenness was habitual. In short, they were a bad lot—there was a name attached to the whole family for thieving, poaching, drinking, and even worse. Yet still there were two points that did sink deep into Smith's mind, and made him pause several times that afternoon in his work. The first was that long family of nineteen months, with the father and mother making twenty-one. What a number of sins, in the rude logic of the struggle for existence, that terrible fact glossed over! Who could blame—what labourer at least could blame—the ragged, ill-clothed children for taking the dead wood from the hedges to warm their naked limbs? What labourer could blame the father for taking the hares and rabbits running across his very path to fill that wretched hovel with savoury steam from the pot? And further, what labourer could blame the miserable old man for drowning his feelings, and his sensation of cold and hunger, in liquor? The great evil of these things is that a fellow-feeling will arise with the wrong-doer, till the original distinction between right and wrong is lost sight of entirely. John Smith had a family too. The other point was the sixty years of labour and their fruit. After two generations of hardest toil and rudest exposure, still dependent upon the seasons even to permit him to work, when that work could be obtained. No rest, no cosy fireside look: still the bitter wind, and the half-frozen slime and slush rising above the ankle. In an undefined way Smith had been proud of his broad, enormous strength, and rocklike hardihood. He had felt a certain rude pleasure in opening his broad chest to the winter wind. But now he involuntarily closed his shirt and buttoned it. He did not feel so confident in his own power of meeting all the contingences of the future.

Thought without method and without logical sequence is apt to press heavily upon the uneducated mind. It was thus that these reflections left a sensation of weight and discomfort upon Smith, and it was in a worse humour than was common to his usually well-balanced organisation that he hid away his tools under the bushes as the evening grew too dark for work, and slowly paced homewards. He had some two miles to walk, and he had long since begun to feel hungry. Plodding along in a heavy, uneven gait, there overtook him a tall raw young lad of eighteen or twenty, slouching forward with vast strides and whistling merrily. The lad slackened his steps and joined company.

"Where bist thee working now, then?" asked Smith.

He replied, evidently in high spirits, that he had that day got a job at the new railway that was making. The wages were 18s. a week, 3s. a day; and he had heard that as soon as the men grew to understand their work and to be a little skilful, they could get 24s. easily up by London. The only drawback was the long walk to the work. Lodgings close at hand were very dear, as also was food—so dear as to lower the actual receipts to an equality, it not being that of the agricultural labourer. Four miles every morning and every night was the price he paid for 18s. a week. Smith began in his slow, dull

way to reckon up his wages aloud against this. First he had 13s. a week for his daily work. Then he had 1s. extra for milking on Sundays, and two good meals with beer on that day. Every week-day he had a pint of beer on finishing work. The young navy had to find his own liquor. His cottage, it was true, was his own (that is, he only paid a low quit-rent of 1s. a year for it), so that that could not be reckoned in as part of his earnings, as it could with many other men. But the navy's wages were the same all the year round, while his in summer were often nearly double. As a stalwart mower he could earn 25s. a week and more; as a laymaker 18s., and at harvesting perhaps 30s. If the season was good, and there was a press for hands, he would get more. But looking forward there was no prospect of rising higher in his trade, of getting higher wages for more skilful work. He could not be more skilful than he was in ordinary farm work; and as yet the call for clever men to attend to machinery, &c., was very limited, nor were such class of workmen usually drawn from the resident population where improvements were introduced. The only hope of higher wages that was held out to him was from the gradual rise of everything, or the forced rise consequent upon agitation. But, said he, the navy must follow his work from place to place, and lodgings are dear in the towns, and the farmer in country places will not let their cottages except to their own labourers—how was the navy even with higher wages to keep a wife? The aspiring young fellow beside him replied at once sharply and decisively, that he did did not mean to have a wife, leastways not till he had got his regular 30s. a week, which he might in time. Then John Smith made a noise in his chest like a grunt. They parted after this. Smith went into the farmhouse, and got his pint of beer, drinking it in one long slow draught, and then made his way through the scattered village to his cottage. There was a frown on his forehead as he lifted the latch of the long low thatched building which was his home. The flickering light of the fire on the hearth, throwing great shadows as it blazed up and fell, crazed his eyes as he stepped in, and he did not notice a line stretched right across the room on which small articles of clothing were hanging to dry in a row. A damp worsted stocking flapped against his face, and his foot stumbled on the uneven flag-stones which formed the floor. He sat down silently upon a three-legged stool, an old milking stool, and putting his hands on his knees stared into the fire. It was formed of a few sticks with just one knob of coal balanced on the top of them, evident care having been taken that not a jot of its precious heat should be lost. A great black pot with open lid swung over it, from which rose a slight steam and a bubbling noise; and this huge, gaunt, bare-boned, hungary man, looking into it saw a large raw swede, just as from the field, with only the greens cut off, simmering for his supper. That root in its day of life had been fed well with superphosphate, and flourished exceedingly till now its globe could hardly go into the pot. Down the low chimney there came the monotonous growl of the bitter winter wind, and a few spots of rain fell hissing on the embers.

"Is this all thee has got?" he asked, turning to a woman who was busied with some more damp clothes in a basket.

She faced round quickly—a short, narrow, meagre creature, flat-chested and square-shouldered, whose face was the hue of light-coloured clay, an almost corpse-like complexion. Her thin lips hissed out, "Ay, if thee takes thee money to the pot-house thee won't get bacon for supper." Smith said nothing in reply, but stared again into the fire. The children's voices, which had lowered the moment there seemed a coming quarrel between their parents, rose again. There were three of them—the youngest four, the eldest seven—playing on the stone flags of the floor, between whose rough edges there were wide crevices of hardened mud. With a few short sticks and a broken piece of earthenware for toys, they were happy in their way. Whatever their food might have been they showed no traces of hard usage. Their red "puddy" fists were fat, and their naked legs round and plump enough. Their faces were full and rosy, and their voices clear and anything but querulous. The eager passions of childhood come out fierce and unrestrained, and blows were freely interchanged, without, however, either cries or apparent hatred. Their naked knees were on the stone-flags, and the wind, creeping in a draught under the ill-fitting door, blew their ragged clothes about.

"Thee med well look at 'em, John," said the woman, seeing Smith cast a sideway glance at the children; and

rapidly manipulating the clothing, her thin nervous lips poured forth a torrent of words upon the silent man. They had had nothing but bread that day, and nothing but bread and lard the day before, and now the lard was gone, and the baker would not trust any more. There were no potatoes because the disease had destroyed them, and the cabbages were sold for that bit of coal; and as for the swede, she took it out of Mr. —'s field, and he was a cross-grained man, and who knew but what they might have the constable on them before morning? Jane W. and Sarah Y. went to prison for seven days for stealing swedes. All along of that cursed drink. If she were the squire she'd shut up all the pot-houses in the county. The men went there and drank the very shirts off their backs, and the clothes off their children, ay, and the shoes off their feet; and what was the use of their having more money when it only went into the publican's pocket? There they sat, and drank the bread out of the babies' mouths. As for the women, the most of them, poor things, never tasted beer from one year's end to another. Old Carter handed her a pint that day, and when she tasted it she did not know what it was. He might smile, but it was true though: no more did Jane W. and Sally Y.; they did not know what it tasted like. And yet they had to be out in the fields at work at eight o'clock, and their washing to do before that, and perhaps a baby in their arms, and the tea as weak as water, and no sugar. Milk, they could not get milk for money—he knew that very well; all the milk went to London. A precious lot of good the higher wages had done them. The farmers would not let them have a drop of milk or a scrap of victuals, and talked about rising the price of the allotment grounds. Allotment, did she say, and how did he lose his allotment—didn't he drink, drink, drink, till he had to hand over his allotment to the landlord of the pot-house, and did not they take it away from both as soon as they heard of it? Served him right. They had not got a pound of potatoes, and the children did use to lick up the potato-pot liquor as if they liked it. Smith

asked where Polly was, but that was only a signal for a fresh outburst. Polly, if he'd a looked after her she would have been all right. (Smith turned a sharp glance at her in some alarm at this.) Letting a great girl like that go about at night by herself while he was a drink, drink, drinking, and there she was now, the bad hussy, gone to the workhouse to lie in. (Smith winced.) She never disgraced herself like that; and if he had sent the wench to service, or stopped her going down to that pot-house with the fellows, this would not have happened. She always told him how it would end. He was a good-for-nothing, drunken brute of a man, and had brought her to all this misery; and she began sobbing. After twelve long hours of toil, including the walk to and fro, exposed to the bitter cold, with but a slice of cheese to support the strength of that brawny chest, this welcome to his supper was more than the sturdy, silent man could bear. With a dull remembrance of the happy sunlit summer, twenty years ago, when Martha was a plump, laughing girl, of sloe-black eyes and nut-brown complexion—with a glimpse of that merry courting time passing across his mind, Smith got up and walked out into the dark rainy night. "Ay, thee bist agoing to the liquor again," were the last words he heard as he shut the door. It was too true. But what labourer, let us ask, with a full conception of the circumstances, would blame him? Here there was nothing but hard and scanty fare, no heat, no light, nothing to cheer the heart, nothing to cause it to forget the toil of the day and the thought of the morrow, no generous liquor sung by poets to warm the physical man. But only a few yards farther down the road there was a great house, with its shutters cosily closed, ablaze with heat and light, echoing with merry laughter and song. There was an array of good fellows ready to welcome him, to tell him the news, to listen eagerly to what he could tell them, to ask him to drink, and to drink from his cup in boon companionship.—Mr. Richard Jeffries in *Fraser's Magazine*.

THE MANAGEMENT OF SHEEP.

No. 1.

By THE NORTHERN FARMER.

The enormous rainfall, cold cutting winds, and general severity of the spring of the past year, extending over the entire lambing season, and causing much extra trouble by night and day, besides unavoidable loss, taught flock-masters, in a way many will not readily forget, the absolute necessity of providing abundant hand-feeding and extensive shedding for the sustenance and shelter of their stock at this most critical period of the whole year. With an extended range, sheep with but moderate attention will continue thriving and healthy for the greater part of the year, and will stand a good deal of hardship and exposure with apparent impunity. During the lambing time, however, if great care and diligence are not exercised in attending to their wants, the mortality will scarcely fail to be so considerable as to absorb the greater portion of the profit which might fairly be expected in return for the trouble and outlay. The gradually increasing value of meat which has been going on for years, has placed the produce of the flock in a highly important and leading position, and sheep of all breeds, whether in merely store condition or fat, represent such a large amount of capital, that it becomes a serious matter to lose them by death; and apart altogether from the pecuniary loss, it is particularly galling to lose valuable property, and to know that it might have been saved if foresight had been exercised, and a very little extra cash expended in food and shelter. Although the present winter has been as exceptionally fine as its predecessor was severe, and stock of all kinds, sheep included, have been brought through in capital health and condition at comparatively trifling expense, yet it is not at all

improbable but that very severe weather may be experienced before the advent of summer, and precautionary measures, undertaken and prepared while the weather is fine, will be found invaluable at the very time they are most required, which embraces a period of two months, viz., from 15th February to about the same time in April.

In the treatment of ewe stock the most obvious and pressingly necessary preparation for the lambing time is to feed well—not to fatten, but to have the animals in healthy fresh condition, so that their offspring may be strong when dropped, and able to get up and find the teat the moment they are licked dry, and that the mothers themselves may be strong and well able to bear the strain on the system necessarily involved by having to supply nourishment to a couple of growly lambs of keen and continually enlarging appetite. With regard to food, the leading feature to be attended to in the successful breeding and rearing of sheep is to have such ample provision made for the mother's in the first instance while carrying and suckling their young, as will keep the body well-nourished, and preserve the flow of milk from the birth of the lamb, without the slightest check or partial drying up, until the day of final separation, when it is turned off to shift for itself and preserve an independent existence. A badly nourished lamb, apart altogether from the loss which it entails, is an exceedingly painful sight, and even when it does struggle through, never attains the size or weight requisite to make it pay for its keep, let the after conditions be ever so favourable. Highly bred ewes of some of the leading whitefaced breeds are naturally such shy

milkers as to give no end of trouble and annoyance during the lambing season; and often with the best of care a magnificent ewe may be seen followed by a puny ill-thriven lamb, while she herself is fit for the butcher. Left to struggle on by themselves and unaided by extraneous food, many of these lambs dwindle and die from sheer inanition, never having had the remotest chance of life. There is only one remedy for such extreme cases, and it is within every man's power who owns a flock of sheep to apply it, and that is simply to give the shepherd an abundant supply of cow's milk, and an assistant to go round the flock at regular intervals by night and day, giving a drink to every weakly lamb, whether twin or single, that appears to require it. Attention of this kind persisted in from the commencement of the season will greatly reduce not only the number of deaths, but also the number of weakly lambs, as a few drinks given from the first will enable the little creature to follow its mother until she has milk enough to support it, many ewes not springing properly until the third or fourth day after parturition, whereas if not thus supplied with a little strengthening food, but just held to the mother to draw what it could, it would be unable to follow her, and die eventually of starvation. Whatever expense is incurred by being thus liberal of time and money, it will soon show itself by creating a uniformity amongst the entire flock of lambs, highly pleasing to the eye, and satisfactory as to results on the day the money they make is credited to the farm, and the milk thus used will make more by the gallon than it possibly could in any way it can otherwise be manufactured, or converted into cash. For ordinary market purposes, it is of the utmost importance to select a breed of sheep that are naturally free milkers, this property so invaluable to the stock-owner being inherited as surely as the remarkable propensity to lay on flesh or grow a heavy crop of wool is inherited and transmitted by Leicester and Lincoln. A flock of ewes possessing this property by inheritance, and not accidentally in which case it never can be universal, save a vast amount of trouble and anxiety to their owner during the lambing and suckling seasons over and above the gratification of having their progeny come early to maturity, and being saleable at full rates and without loss, at any time he finds it convenient to dispose of them. Singularly enough the ewes of nearly every black or grey-faced breed of recognised merit are excellent milkers, and will often keep their lambs fat, and themselves in good fresh condition, under the most disadvantageous circumstances, indifferent pasture and a terribly severe spring being too frequently combined. The blackfaced Highland, the Shropshire, and Southdowns are very prominent examples of breeds possessing this quality in a very eminent degree, and in consequence they suit admirably for crossing, the sire used being generally a first-class Leicester. By thus taking advantage of a well-known and beneficent law of nature, which gives to the male a much greater power of transmitting his character and qualities to the offspring than is possessed by the female, the intelligent breeder can, by a union of pure-bred parents of widely different qualities, habit, and character, rear up a cross-bred flock which will combine to an extraordinary extent the best qualities of the two distinct races from which they are descended. Thus a flock of Down ewes, crossed by a Leicester ram of good descent, will, if moderately well cared for in respect to food and shelter, produce lambs which in early maturity, aptitude to fatten, weight of wool, and high monetary return for quantity of food consumed, rival the pure Leicester, however advantageously the latter may be situated. The Leicester, of all varieties, make capital sires, imparting bone and substance to the future herd, and increasing the clip of wool, the latter to such an extent that frequently when, say a score of cross-bred fleeces are put on the scales they

will be found to outweigh by some pounds an equal number of pure-bred fleeces from the same flock, both lots having received the same treatment from birth. The Down ewes being excellent milkers, it will under almost any circumstances be found most profitable, when a cross is desirable, to use them instead of white-faced ewes of almost any large breed, the free milking property forcing the lambs into vigorous growth, and the fleece, partaking largely of the closeness of the Down, retains its form in the most severe storms, greatly to the comfort and well-doing of the animal. For early lamb, the Cheviot and blackfaced Highland ewes, crossed with a Leicester ram, do capitally, and are largely used in the North for this purpose. Both breeds are remarkably free milkers, and, on suitable grass, will keep a pair of lambs fat from birth until finally disposed of to the butcher, the mothers themselves following in about a couple of months, so well finished as to be *nicked* along the whole of the backbone. It is of paramount importance that in beginning a flock a sound foundation should be laid by first of all procuring a breed that will be neither too light nor yet too heavy for the land on which it is to be kept, as time and money will be lost in increasing the size of bone and weight of wool and carcase before it can possibly be brought to full profit on the one hand, while on the other deterioration will at once begin—a backward process—which, occurring amongst a flock of sheep, invariably entails a heavy loss of capital, and much personal annoyance and anxiety of mind.

By following the two leading principles now indicated, viz., to select as sires animals of pure descent, and of a breed famed for early maturity and good substance, and putting them to ewes of thrifty habit, though only moderate bulk, and, over and above all, free and continuously-abundant milkers, but little mistake can be made, as the result of such a cross will, if liberally fed, never fail to be remunerative.

“AN EQUINE HISTORIAN.”—The March number of *The Book of the Horse* quite maintains the character of the work as a literary curiosity. Thus, Mr. Samuel Sidney, the manager of the Islington Horse Show, tells us that “the Oaks was founded in 1799, and in the following year the Derby,” whereas they had both been established *many years previously*. Mr. Sidney tells us that “in 1801 the distance being then a mile, and the two races being run on the two following days, they were both won by Sir Charles Bunbury's Eleanor,” whereas in 1801 the Derby and Oaks course was *not a mile* but a mile and a half. On the same page Mr. Sidney tells us that the “foreign horse Gladiateur retired from the turf to the stud without ever having been beaten;” and again, a page or two further on, that “Gladiateur won every race he started for as a three-year-old;” whereas Gladiateur *did not* win every race he started for as a three-year-old, while as a two-year-old Gladiateur *was beaten in two* out of the three races for which he ran! Further, Mr. Sidney tells us that Edmund, by Orville, of which horse he gives a portrait, “does not appear to have ever run in public;” whereas Edmund was in front all the way and finished well up, about *third for the Derby*, his historian “not appearing” to know much about it. Nevertheless *The Book of the Horse* is often very amusing reading, evincing as it does here and there considerable imaginative power.

THE ENGLISH LABOURER IN CANADA.

[The following letter has been forwarded to us by the Rev. John Storer, to whom it was addressed by Mr. W. Carr.]

Mr. Arch, in his address at Leamington, is reported to have said that he found men in the Canadian bush earning 45s. a week. I think it probable that Mr. Arch added, or meant to have added, that these were overseers, or men in a position requiring skill and experience. It is not the new settler who can earn these wages. If he, with his unskilled labour, can obtain a third of this and his board, he is doing well. "Lumbering" is a craft which requires a long apprenticeship, and few men who come to Canada can earn more than 50s. a month and board, the first year, or can ever acquire the dexterity of a native, who wields the axe from his boyhood. A man who takes to it after 40 makes but a lumbering lumberman, and had better stay at home unless he has three or four stout sons growing up. It is the labouring class of young married men and men with families, that should come to Canada. Their children will have the advantage of a fair education, the district schools being free. The sons, if steady and hard-working, will become owners of farms, and the daughters generally marry well. If the girls go into domestic service they may get from 30s. to 50s. a month. The Irish, as a rule, have done well in this part of Canada (the Eastern township of the Province of Quebec). Indeed the Celt generally appears to do better when he has changed his country and finds himself thrown upon his own resources amongst strangers. The Continent of America is largely made up of well-to-do Hibernians, who would have done nothing at home. In this section of Canada there are numerous instances of Irishmen who came out at the time of the potato famine without a penny, and who now own their farms of one to three hundred acres, and whose sons have become small landowners, buying cleared farms, with good buildings, at about £6 per acre. Another class that may do well are men who come to Canada with three or four hundred pounds. They can buy improved farms, paying about one-third of the purchase-money down, and the remainder in five or six yearly instalments, with interest at six per cent. But it is all important that before investing their small capital they should come and get an insight into the ways of the country. They should go to a farmer for a couple of years, and learn how to clear land, chop wood, make maple sugar, and manage crops and live stock according to the usages of the country. Without this noviceate Hodge here would make hodge-podge of everything. By those who will wait and look about them, there are generally bargains to be got of men wanting ready money; while such as are in haste to buy are often victimised, not unfrequently by their own countrymen, who are too apt to foist off upon new comers farms which have not answered to themselves. The man who uses due circumspection before purchasing, and is temperate and industrious is pretty sure to manage to live comfortably, but no man must expect to come to this country and not work. For the first five years he must work hard, and be a man of sober, frugal habits. He should by that time be in a position to reap a fair return from his land, and go smoothly on. Too many of the emigrants from the old country have been the refuse of cities sent out on charity. It is frequently the fool of the family, or a drunken, miserable vagabond, kept here on allowance as long as he will stay away from England, and whose principal occupation is drinking "scald-panch" whiskey, until, in local phraseology, it "fetches him." Amongst the

farming population, however, drunkenness is very rare in Canada.

I observe Mr. Arch says, "The Government would clear from five to six acres of land for each emigrant, and allow him the option of taking 100 acres." Mr. Arch does not say in what district this grant would be made. It may be so far removed from towns, railways, or rivers as to be of little value. When within reach of good markets, or stations where fuel is required for locomotives, the wood is worth from twelve to sixteen shillings a cord—a cord of wood consisting of a pile of logs 8 feet long by 4 feet high and 4 feet wide. 50 cords an acre would be about an average yield; so that, in a favourable locality, well-timbered land is worth much more than cleared. If in a remote quarter, the timber is of trifling value; and the main object of a settler with a hundred acres is to get rid of the wood as quickly and inexpensively as he can until he has 75 acres clear, reserving 25 acres in forest to supply him with timber for building and fencing purposes and for store wood. It would, in fact, be a good rule in clearing bush always to leave one-fourth of the best timbered land intact, not only for the purposes I have mentioned, but to shade the cattle, break the winds, and invite the rains. The neglect of this precaution in the French districts, and in many parts of Western Canada, has produced the same results as like causes have done in Spain and Greece. It has shrunk the streams and springs, occasioned severe and protracted droughts and periodical famishment of cattle. But to return to the question of the free grant. If, in addition to the five acres cleared for him by the Government, the settler can clear another five the first year, he does well, because he must probably, to some extent, work out for his living, being able to get little return for his land the first year, except by the sale of salts, for the manufacture of potash, from the ashes of the refuse food. The usual mode of clearing, I should observe, is, first, to select the choicest timber, and draw it out on the snow in winter. The remaining trees are then cut down about 2½ feet from the ground. When dry, in summer, the whole of the fallen timber is set on fire. What is left unconsumed is cut up into 20-foot lengths, piled, and burnt. The ashes are collected, and put into perforated tubs and leached. The water flowing out is then boiled into black salts, as they are called, which command a good price. Unless the settler can afford to purchase or hire the huge plough, used with three or four yoke of oxen to cut the roots, and afterwards the ponderous machine for dragging up the stumps (a laborious process), he must sow his crops as he would cultivate a grave-yard crowded with head-stones, until, with the lapse of years, the trunks rot away or can be burnt by setting fire to the roots in dry summer weather. It is not considered remunerative to clear the land of stumps until they decay, which they will do in five or six years, when they can be drawn out by oxen. Meanwhile the best grain and sweetest pasture grows round the stumps, because manured by the rotting roots. The usual course of cropping the new-cleared land is something as follows: First wheat (or sometimes oats or potatoes); then wheat with clover and timothy, the latter remaining down three or four years; then peas without manure. Next year wheat again; then, if in Western Canada, maize, to ripen or be cut green and chopped into chaff (miserable, fibrous feed), or turnips, potatoes, &c. As good roots and cabbages can be grown in Canada as in England, potatoes yielding from 150 to 300 bushels per acre. New land will frequently grow 300 bushels of the

finest quality, and heavier crops might be got, but for the unnecessarily wide planting—three feet between the drills, and from twenty to twenty-four between the sets.

Milk cows—the scrub cattle of the country—can be bought in this district at from four to six pounds a-head. The bulk of the milk is usually taken to the cheese factories. Four establishments of the kind in this district each converts into cheese the yield of three hundred to four hundred cows. The milk goes every day to the factory for the five summer months. The managers give a daily receipt for the amount of milk, and sell the cheese, deducting from the proceeds, before paying the balance to the farmer, 20 per cent. for the making. The cheese brings from 5d. to 7d. a lb., and is generally very much like that made in Wensleydale. In Western Canada, and especially about Niagara, the vine is cultivated successfully; but Bacchus does not preside over these northern wine-vats, from which there issues a villainous compound of sugary vinegar that plays “old gooseberry” with an unwary Britisher’s inside. The making of maple-sugar necessitates a considerable outlay in vats, buckets, &c., and leaves little profit, at the present rate of wages, unless a farmer has sons to undertake it. The reputed profits from this source have been much exaggerated.

There are two sides to this picture of emigration to Canada, and the advocates of the movement are too apt to show one only. Not the least serious drawback is the long winter. There is continuous feeding of sheep, cattle and horses for six or seven months—not a scrap of anything for live stock out of doors. There is no farm-work to be done in winter, except carting out manure—not a plough to be put into the ground before April, when all the work comes at once—ploughing, sowing, harrowing. Fortunately the medium soils here do not require so much working as in England. Mellowed by six months of frost they fall to pieces like ashes on the first ploughing. On the heavier lands, however, the good done by the winter frost is marred by the spring rains, and the ground becomes sodden and plastery.

The winters, though pleasant enough to the robust, who, wrapped in furs, can enjoy their sleighing in the clear frosty atmosphere, are very trying to the delicate, who must either hibernate in close stove-heated rooms, whose scorched air parches the skin, and gives the appearance of premature age, or trudge or sledge through snow, muffled up to the eyes. The alternations of temperature are often sudden and extreme; as for example, on the 1st of December, 1873, the thermometer sank to 33 degrees below zero, and on the 3rd it was 50 above zero, in the shade, with a northern exposure, making a difference of 83 degrees in 48 hours. With the thermometer at 30 below par you cannot touch cold iron ever so lightly with a moistened hand without its sticking to the fingers as if it were bird-lime. The nails in the wooden-framed houses start with reports like pistol shots, and it is only by the unsparing use of fire-wood night and day that life can be maintained in the weakly. Nor is the other half of the year all “ethereal mildness.” If you are not vexed by the rains of England, you are often sweltered for weeks together by a branding sun, which dries up man and beast, watercourses and crops, so that the straw and hay, which is the winter feed of the cattle, has not half the virtue in it that English-grown farm-produce contains. Autumn is the pleasantest season in Canada, when Nature, like the Assyrian monarch,

Puts on her gorgeous pageantry to die.

The air is then cool, bright, and invigorating, and the wood-grouse afford good sport in the forests, and in the back country deer in the greenwood too. But these de-

lights are for the man whose business is to while away time, and not for the hand of the diligent. The hardships of a Canadian settler’s life press heaviest on the women, who up and working early and late appear to have little time for the necessary intervals for rest and food. When the cares of maternity are added to those of the household and the farm, two or three years often suffice to convert the buxom young matron into a brown and faded-looking middle-aged woman. I have been credibly informed that a large proportion of the female inmates of the lunatic asylums are farmers’ wives, whose reason has been impaired by incessant toil and anxiety of mind, and this is notoriously the case in the States, as the statistics of the New York State Lunatic Asylum and many others will show. On the whole, I am disposed to think—though I express the opinion with diffidence—that if the English labourer could get a fair increase of wages at home, and would take as much pains to acquire there the knowledge and skill, the habits of self-denial and endurance, which are necessary to his advancement here, he might, in most instances, improve his condition of life more happily and effectually at home than in Canada. True, he would not become a landowner, but he may work into the position of a tenant-farmer, and it may be doubted whether the condition of a tenant-farmer in England, under the new régime, especially if clause No. 12 in Mr. Howard’s bill be retained, is not more desirable than that of a landowner here, who with his one or two hundred acres of cleared land, as the reward of years of toil, seldom finds himself in a position to do more than support his wife and family, and hold his head above water. Where money has been made by Canadian agriculturists it will generally be found, when you come to inquire into it, that it has been derived from other sources than farming.

Mr. Arch is doubtless right in his view that an amelioration of the condition of the English labourer would accrue from the improved cultivation of the soil, but when he tells us that this improved cultivation would be secured by the labourer having four or five acres of land leased to him, on the same terms as to farmers, while under the present system one-half of its capabilities are not developed, it is difficult to go along with him. Under this con-acre system is the labourer to buy implements and horses to work his five acres, and cattle to manure it? or is it to be spade husbandry with bought manure? In the latter case two acres would find work for him for nine hours a day. What wages could he earn for such a half service as he would be capable of rendering his employer? If Mr. Arch had visited the French provinces of Canada he would have seen the evil results of small holdings. The pernicious system which prevails in France of equal distribution of land amongst the children has followed the French immigrants here, and many sections of the country are a chess-board of small holdings. The consequence is there is no improvement in agriculture in those districts. In parishes that twenty years ago produced 15 or 20 bushels of wheat per acre, not a bushel can be grown now, so exhausted has the land become through want of system. There is no rotation of crops. A favourite course of husbandry is first a “peage,” viz., a pea-stubble left to accumulate weeds, no grass seeds being sown. This remains about six years for grazing. It is then broken up, and sown for two or three years in succession with oats, yielding from 6 to 10 bushels to the acre; then follow peas rolled in plaster, and sown broadcast. In a favourable season the result may be 10 bushels per acre. In a damp season the peas never stop growing; the bine runs ten feet long, and blossoms till the snow falls, the pods not filling at all. The quantity of seed sown is oats 2 bushels, peas 1½ per

acre. Potatoes are grown on the same ground for 20 or 30 years. Manure is, in some places, carted away and thrown into rivers, or buildings actually moved to get out of the way of it, when they are obstructed by the accumulated ordure of years. Sometimes the barn with its cow-byre is built over a brook. If you ask the farmer why, he replies with a shrug of astonishment at your simplicity, "Why, de brook take de manure away!" Some few of these French *habitants* are anxious to improve, but are unable to do so, because their holdings are so small they cannot afford improved implements, and must go on in the old system their ancestors pursued a hundred years ago. You not infrequently see wooden ploughs chained behind the axletree of a pair of cart-wheels, one man driving the oxen, another holding the plough behind the wheels. After the sowing follows a harrow with wooden teeth. Peas and buckwheat form the staple food of these French farmers. They sell light oats, coarse wool from their ill-bred sheep, and hardy horses, which are perhaps their best produce, though more than half are spavined because worked too young, and badly starved. The latter they sell chiefly to Americans, as also milk cows, which being descended from the Normandy stock command, under favourable circumstances, a fair price. They have no bullocks to speak of, because their male stock are so badly starved that they would die if steered before three or four years old. They are then sold for 20s. or 25s. a-head, to be fed on coarse marsh hay in the States, a great contrast to the cattle bred in the English districts, which will average £5 at two years old for steers or heifers. This year good milk cows, and horses too, are selling in the French districts at from 25s. to 35s. a-head, because they have no hay to give them.

Of course things are very different in the English sections of Canada, and, apart from the satisfaction of living under the British flag, I should consider those sections preferable, whether for labourer or settler, to any part of Virginia, of the advantages of which, as a field for emigration, such highly coloured pictures have lately been drawn by interested land-agents. Rich and varied as the natural scenery of Virginia is, especially in its western division, with its wooded hills—the mountain ranges and spurs of the Blue Ridge and Alleghany—its winding valleys, its waterfalls, its caverns, and magnificent forest trees—and vast as its mineral wealth will doubtless be when capital and labour shall have developed it, it is certainly, in its present condition, from an agricultural stand-point, an undesirable territory for the settler, if his object be to make money by farming. The thin, light soil of Eastern Virginia is for the most part utterly worn out, and the cleared lands of the western and south-western portions of the State, though generally of deeper and heavier soil, are nearly all more or less exhausted by the culture of tobacco and corn. Or, where they have been improved by judicious rotation and tillage they are put at a price which would make them dearer than land in the more prosperous State of Kentucky at double the cost per acre. The only crop from which a really good profit can be made—tobacco—requires experienced management, high manuring, unremitting tendance, and the most cautious, skillful drying; and it is even then a precarious product. During three months spent in exploring Virginia in 1872, I visited the James and North River Valleys, the glowing accounts of which have attracted so many deluded Englishmen. I travelled pretty much as Horace did on his journey to Brundisium, in a canal-boat drawn by horses, under as broiling a sun as I ever experienced in Southern Italy, and I suffered the same discomforts as he did by night, too, or worse, for in addition to the cursed mosquitoes and croaking marsh frogs which drove away his slumbers, I had the household

brigade of the insect legion to encounter—both light infantry and heavy dragoons. I was ridden and driven over, trampled and curveted over till cockerow, when they trooped to their holes like ghosts, and with the regularity of disciplined soldiers. Nor are these the only objectionable creeping things in Virginia. Ticks from the trees drop down your neck, ants crawl up your legs, and you find wood-spiders in your pockets. I did not make any acquaintance with the "chiggers," but I am told you see one walking over your hand; in an instant it buries its head in the skin, in another instant the rest of its body follows its head. Thereupon ensues frightful irritation and frantic scratching. When I was in the country in 1872 myriads of huge grasshoppers or locusts were making havoc even of the grass crops. House-flies swarm over everything. At meal-times the table-cloth is black with them, and if you try to take an after-dinner nap they walk up your nostrils as if they were as much a thoroughfare as the Thames Tunnel. But this Egyptian plague of flies is the curse of America from Louisiana to Labrador. Another objection to Virginia is the snakes. Besides the black snake, which sometimes grows six or seven feet long, and is harmless except as a constrictor, there is the rattlesnake, and the equally dangerous copper head or moccasin, which gives no warning before striking. The latter are very abundant, as I can testify, which is more than I can do for the truth of the following story, though related to me as fact. In one part of Virginia snakes are so abundant that when a man has a field to mow he thus sets about it: Advancing cautiously on to the foot-path he cuts a swathe, then, gingerly gathering it up, he twists it into ropes, which he wraps round his legs up to the knees, then, cutting another, he similarly protects his arms up to the elbows; then, boldly grasping his scythe, he mows away—snakes and grass—snakes and grass—snakes and grass!

I have seen some good blue grass lands in Fanquier country, and on the line of the Virginia and Tennessee Railroad, but the Kanawha country, which has been so vaunted, and through which I was cruelly jolted for eighty miles in a stage-coach, apparently of the time of Queen Elizabeth, at the rate of three miles an hour, over so-called roads, which are a succession of lumps of rock and deep ruts, with interludes of corduroy, is three-fourths of it a dense forest of almost tropical luxuriance, infested in many parts by wolves, and even an occasional panther; so that unless the settler could feel with Wordsworth, that

The tall rock,
The mountain, and the deep and gloomy wood,
Were unto him an appetite,

he would find it difficult to satisfy his more material cravings in a land where neither sheep, pigs, nor poultry are safe from the maws of wolves, bears, and foxes. But the fact is, that except at the spas, you rarely fare well in any part of Virginia. The butter is soft and oily; there is not a bit of good cheese to be got; and, as to meat, they don't know what good beef and mutton is. If fruit and vegetables grow, so do the weeds; and a man may be at them from morning till night with his shirt sticking to his back (as it always does in Virginia), and not keep them down. Most of the farms are half smothered in ragweed and ox-eye daisy (*Chrysanthemum leucanthemum*), a certain indication of gravelly poverty.

The inns in Virginia, except in the mineral springs' region, are miserably bad. I recall an amusing circumstance in connection with this, which, as conveying a naïve compliment to my countrymen, I relate. In Strasburg, a little, dead-alive, Irish-looking, one-horse place in Virginia, I asked one of the inn-waiters if there was a good hotel at Harrisonburg. "Yes, sir!" was the reply, "first-rate: two Englishmen stopped there last year on

their way to Baltimore." At this place, Strasburg, no beverage more stimulating than "Adam's ale" could be procured, the ladies having successfully petitioned the Mayor against allowing the sale of any intoxicating fluids to their liege lords. That the ladies have more confidence in their own moderation would appear from the following advertisement in a chemist's window: "A full supply of fine cognac in pints and half-pints, put up expressly for medicinal purposes." As these *cave-de-rie* are usually labelled *cave-de-Cologne*, it is to be presumed that the customers are of the softer sex.

It will be long before Virginia recovers from the effects of the war. The land-owners were then nearly all "bust up." The emancipation of their slaves, and the confiscation of pretty nearly everything but their land, has left them in a very impoverished condition. The roads are so atrociously bad that the expense of getting farm-produce to market leaves but little profit to the farmer. The white "helps" are odiously independent, and will frequently take themselves off if they are not allowed to sit at table with you. The black servants, owing to the division of labour to which they had been accustomed in a planter's household before the war, can be turned only to limited account. Apropos of this, I was told the following story as fact: Shortly after the war an emancipated damsel took her way to Maryland, thinking to better herself by hiring herself out as a servant. She presented herself before a lady, who said, "Well, can you cook?" "No, missus," was the reply; "Susy did that." "Can you wait at table?" "No, missus; Dinah did that." "Can you take care of the children?" "No, missus; Aunt Sally did that." "Can you make beds?" "No, missus; Juno did that." "Can you sweep a floor?" "No, missus; Cleopatra did that." "Can you wash the verandah, and put the chairs in order?" "No, missus; ole Joe did that." Hereupon the husband of the lady exclaimed, "Then what the d—l did you do!" "I fan delics off missus, sah." The black farm-servants study to do as little work as possible. In ploughing, they cruelly brace up their horses' heads to keep them at a snail's pace, and the ploughman frequently lies down and sleeps for hours in the furrow. You cannot trust them even to feed the work horses, and they often brutally illuse them. There is not one trustworthy or intelligent hand in fifty. There are four millions of these "coloured gentlemen," as they style themselves, turned loose in the Southern States. Instead of jocund song and jubilant guffaw, you now hear cursing and swearing from the knots of dusky loafers gathered at the corners of streets in the towns and villages, where they live from hand to mouth. It may be doubted whether the state of the negro is not worse than before the war. Being little better than big babies, they now suffer, in many respects, as neglected little babies would; for, instead of the careful supervision they used to receive from their owners, especially the ladies of the plantation, they are now expected to take care of, and provide for themselves, which they seem, except in very rare cases, almost incapable of doing. The mortality amongst their infants is so great, that there is little doubt in the minds of those best acquainted with the subject, that they must, unless some radical improvement take place, rapidly diminish off the face of this continent. The negroes in Virginia nearly all keep dogs, unhappy descendants of English fox-hounds. A nigger earning 10s. a-week will often keep half-a-dozen of these poor, lank starvelings, which, being never fed, are constantly worrying sheep for themselves or their masters, so that few farmers venture to keep more than such a small flock as can be conveniently folded at night. In some counties an attempt has been made to check the evil by imposing a tax on dogs, but usually without effect, for the negro is made, politically

and municipally, the equal of the white man, and he outvotes him—this, by the way, being one of the very few instances in which he knows what he is voting about. In Lexington, whose College and Military Institute and beautiful surroundings have won for it the title of "The Athens of Virginia," a dog-loving Englishman can scarcely sleep at night for the piteous howling of the famished hounds. At this place, by the way, I was honoured by a call from General Custis Lee, President of the Washington College (and still under the ban of outlawry!), by whom I was afterwards presented to his mother, the widow of the famous Southern General—a charming old lady, full of anecdotes and incidents of the war in which her family had sustained such irreparable losses. General Lee's tomb is in the crypt or basement floor of a chapel adjoining an apartment which had been used by him as his study, and which is still shown just as he left it. He lies under a plain slab, unornamented, except by constantly renewed wreaths of flowers. Thousands of Northerners—to their honour be it said—come to pay their tribute of respect to the noble Southern General. Stonewall Jackson's tomb is in the beautiful Presbyterian cemetery at the other end of the town. A simple marble slab at head and foot, with the inscription "Genl. J. T. Jackson," is all that marks the hero's resting-place. The soldier's graves are indicated by wooden javelins with name, date, and number of regiment attached. Some graves with head-stones marked "unknown" are as liberally strewn with floral tributes as the best known names there. In one place a sabre wreathed with immortelles is stuck in the ground with the words (on a parchment label) "To the memory of our dead who fell in battle and lie in unknown graves." In some places exquisite bouquets of flowers in vases of water are suspended over the graves, and daily renewed. We saw two fair and fragile girls decking their mothers' graves with roses. They told us she had been buried three days before. On one side of her lay a son of 19 who had fallen in the war, and on the other, her husband who had survived the loss of his son but two months. The mother had gradually wasted away from sorrow. This is but one of numerous painful instances we witnessed of the desolation brought on families by that terrible internecine war. I may here remark that 12 miles from this town of Lexington there is now (or there recently was) on sale a property which can boast the possession of one of the greatest wonders of creation—the natural bridge of Virginia. The land is of little value except for its surpassing beauty, consisting mainly of wooded hills, and ravines, and forests of pine and cedar, but it is a place which must attract multitudes of pilgrims, if the projected railway be made, and where a good hotel would probably be a successful investment. That wondrous arch of Nature's workmanship is the grandest spectacle I have seen on the American continent, Niagara not excepted. Descending by a winding path the wooded glen, it bursts abruptly upon the view, the charm being heightened by the surprise which largely blends with the awe and admiration it excites. No paintings or photographs convey the faintest idea of the stupendous magnitude of this sublime work of the Almighty's hand. A hundred feet above the loftiest trees of the forest, the giant arch is thrown grandly athwart the ravine in a diagonal direction, sweeping upwards from the base of its mighty piers to its centre without a break—bridge and buttresses forming one solid, seamless, unjointed rock throughout. We had contemplated staying an hour or two to see it, and we lingered four days beneath its mighty shadow, as if charmed to the spot, luxuriating in the beauty and majesty of the scene. But I began with Joseph Arch in Canada—who may be called the unnatural arch, for trying to rob his mother

England of her bone and sinew, and have ended with the natural arch of Virginia, which silently appeals to the patriotism of Americans by displaying on the grey and russet weather-stains of its span, two hundred feet above the gazer's head, curious, but unmistakable presentiments of the national eagle, and the heroic visage of Washington.

You will think, from what I have told you, that I am no advocate for emigration to America; nor am I for any Englishmen who can make out to live in any nook of the British Islands. The summer climate of the States so prostrates all vital energy that for half the day one lies upon the bed and feels dead, and to feel dead, and have everything expected of you as if you were alive, is a miserably bad joke. Besides, there is no part of America which I have yet seen where Englishmen do not physically deteriorate. The climatic influences which are slowly but surely turning Jonathan into the similitude of the aboriginal Indian, tell less markedly upon the Canadian, because living more as we do at home than the denizens of the United States,

who, except in their first-class hotels, only eat to sustain life. An American gentleman's table, except in abundance of vegetables and corn diet, is far less liberally furnished than that of a well-to-do English artisan. In the houses of the wealthy, the second course after, perhaps, an impracticable steak, assisted down by milk or water, is tea, Johnny-cake, and dough-nuts. What wonder if they get as fleshless and beaky as their eagle! But even in Canada, except amongst the richer classes, who retain the English *physique* by adhering to English regimen, field sports, and athletic exercises, humanity is being gradually, though more slowly, modified into the same type.

To conclude this rambling letter, I may remark that after much going to and fro on this continent, I feel disposed to indorse the opinion expressed to me by a Scotch gardener in Kentucky—"Doubtless America's 'varra weel for the other nations o' the 'arth, but it's no for the Scotch and English—they canna better theirsels at hame."

SHORTHORN SALE AND SHOW

IN BINGLEY HALL, BIRMINGHAM.

BY MR. J. B. LYTHALL.

Darlington in days of yore used to be the great centre for Shorthorn bulls on the first Monday in March, and even now a few are shown; but Penrith April fair has gradually become the great place where North country farmers go for a good Shorthorn calf. It is a fine sight to see these young bulls, generally of good colours and well grown, ranged side by side; the pick will fetch a hundred guineas or more, and few, if any, will go away unsold. Cheshire and the Midland districts have had no particular centre until Mr. Lythall took it up, proposed a show at Bingley Hall, and made a business to sell the entries by auction.

The entries increased, and the sixth exhibition on Thursday last contained 218 young and old bulls, and 27 cows and heifers. Mr. Charles Howard and Mr. Jacob Wilson were set to adjudicate the odd classes, and Mr. Drewry from Holker and Mr. George Sanday, Junior, the even. Commencing soon after eight Mr. Wilson and Mr. Howard soon picked out of the 15 animals for the £100 prize Mr. George Garne's Aachen, a handsome looking light roan, hairy bull of fifteen months. There were no two opinions about it, although for the second place, had there been one, Mr. R. Stratton's Gipsy King (76 gs., Mr. Gooding) who was highly commended, Mr. De Vitre's Oxford Rosette (74 gs., Colonel Tryon) commended, and Rev. R. B. Kennard's Lord Marnhull, also commended, but unsold, would have run a close race; the class was probably the best. Mr. Pavin Davies' fashionably bred entries were not admired, still their blue blood sold them, as the Duke of Sutherland took one at 68 gs., and Mr. J. Kirkham two others at 67 and 51 gs. Mr. Garne's bull went to Mr. George Hewer for 140 gs., and Mr. Viveash's commended Red Gauntlet to Mr. Blantern for 68 gs.

In Class 2 there were only six absent from the sixty-six entered; and here Messrs. Drewry and Sanday had much drafting and selecting. The public were with them in their selection of Col. Lindsay's Autumnus for the first place (157 gs. Mr. Bagnall), an even thin calf, of fine hair, colour, and quality; indeed, he is a bull quite of the Holker stamp; but we should question, notwithstanding his nice handling, that he will ever be a very heavy-fleshed bull, and he slants off too much in his quarters ever to be

a very first-class bull. Mr. Woodward at last seemed in good luck; for his Duke of Windsor got in for second place, very much to the surprise of the exhibitors and eye-witnesses; and 56 gs. was the utmost he could bring, whereas Mr. Geo. Garne's highly-commended bull, a better animal, and general favourite of the company, went to a Cumberland breeder (Mr. Heskett) at 101 gs. Mr. Mumford's third-place bull Northfleet (81 gs., Mr. Holborow) was small and weakish in his middle, although of nice form and colour. He had won before at some local meetings. Mr. Clear's Earl Duncie 2nd (41 gs.), and Mr. Briscoe's Juniper (57 gs.) were both highly commended, the latter being bred by the Rev. E. T. Williams at Chopstow. Five in the class received commendation, viz., Rev. R. B. Kennard's Marnhull Grand Duke (70 gs., Mr. C. Sturgeon), Mr. Whitehouse's Jolly Boy (58 gs.), Mr. R. Hemming's Guy Fawkes (73 gs.), Mr. Barnes' Favourite (63 gs., Captain Conwy), and Mr. Viveash's Lord Bassett (43 gs. Mr. Bredon). Mr. Pulley had a niceish bull (Lord Byron) in this class (53 gs., Mr. Rigby), and Mr. Cope sent one all the way from County Armagh for 43 gs., his other entry, a little calf, being too lame to offer. Mr. Thomas Mace's entries were also good, particularly Snowball (74 gs., Mr. Fry); also Mr. J. B. Jenkin's Prince George (70 gs.), a roan of Knightley blood.

The bull-calves, from six to twelve months old, actually numbered one hundred, and only four were left at home, though fully a score passed the 20gs. reserve without a bid. It is said no year-old bull can be well done from birth under £40; others remark £30 is a fair price for a yearling. Judging, however, from appearances, it would be difficult to say that any had cost much over £20 to keep, even if they had cost half that, for several looked poor and hungered. Mr. Joseph Stratton had a good fat calf, ten months old, by the Irish prize bull, Jack Frost, which was placed first, and bought for Sir Robert Peel at 96gs. Major Webb's Count Blanche, a light roan promising bull, was second, and Colonel Lindsay's bailiff purchased him at 90gs. One of Mr. Mace's calves, Red Prince, a deep, dark red young bull, came in third, and brought 95 gs. from Mr. Robotham. These prize calves were, oddly enough,

all purchased by exhibitors at this show. Mr. Sharp's Duke of Cambridge, red, with white legs, was highly commended (75 gs., Mr. Brackenridge). Mr. Mumford had a good calf also in this class, Carbineer, a nice roan, commended, and which went for 75 gs. to Mr. Strait; and Mr. Robotham's Champion was commended (41 gs.). Sheet Anchor, a red calf of Mr. Thomas Harris', disfigured by a plain head, but of good form and quality, was sold for 56 gs. Mr. E. Lythall had also two good calves, Champion (50 gs.) and Lord Hawksworth 4th, of Pawlett and Isabella blood, which went for 72 gs. to Mr. Paxton. Marquis of Sockburn (Mr. Salt's), of fashionable descent, combining old Seventh Duke of York and the Blanche tribe, was quite a nice animal (56 gs., Mr. Jenkins). Lord Sudley's Mandarin 8th, a red hairy calf, a little flat and on the leg, seems worthy of at least a commendation. The public evidently fancied him, for Mr. Simpson had to give 82 gs. for him. Another over-looked calf was Mr. Curtler's Oxford Boy, which Mr. Savage bought for Lord Howe at 50 gs.

¶ The female portion of the show found little favour among the company, for indeed, with two or three exceptions, they were a shocking lot, moreover they came between the calves and two-year-old and aged bulls, fairly trying the patience of those who wished to bid at some of the older bulls. Eight cows were entered, among them Moss Rose, bred by Mr. Wakefield; a cow well known to the public, and no animal has rung the changes better. She has won as a breeding heifer and cow, and was third as a fat cow at Bingley Hall last Christmas. On the 10th of February she was Mr. Bradburn's property, and sold at his sale at the Manor Farm, East Wall, in-calf since May last, for 260 gs., and her heifer-calf First Bud, for 50 gs. Moss Rose is now entered by Mr. Joseph Bickford as exhibitor for the £5 prize, and gets it, whilst First Bud also appears with Mr. Bradburn as exhibitor and breeder. The cow, of course, sustained her value, and became Mr. Bennion's property at 250 gs.; in consequence of which Mr. Bickford had some guineas to spare and gave 65 gs. for Mr. Bradburn's First Bud. So the changes are rung from the show to the sale ring. Mr. Robotham's Miss Bloomer was considered the best two-year-old heifer (77 gs., Mr. Cartwright); and Mr. Bennion's Snowdrop 3rd, bred by Mr. Bradburn, and sold last month at East Wall for 45 gs., is deemed worthy of a commendation, and realised after it 41 gs. Among the four yearlings Mr. Beckford's Eva is first, and sells for 30 gs. In the heifer-calf class, Mr. Bradburn's First Bud is first among four, and sold for 65 gs. as aforesaid to Mr. Bickford.

The two-year-old bulls were evidently a lot that had been used and done with. Mr. Horton's Roderick, bred by Colonel Lindsay, and own brother to Autumnus, received the £5 prize, and went to Mr. Hawkes for 52 gs. Among the old bulls, Mr. Ladd's Earl of Barrington 2nd (28494) ran Miss Strickland's Lord Darlington 3rd close, but received the first prize, the other being highly commended. Most of these animals, however, found a trade among butchers and feeders.

Mr. Lythall, occasionally and happily, but briefly, relieved by Mr. Clarke, managed to get through the lots at about thirty an hour. If however, the show is likely to increase at its present rate, a different arrangement would be doubtless as agreeable to the public as the exhibitors. Everyone admitted that there were a large number of good, useful animals exhibited, but that there were also a number so indifferent that they should never have been sent, was equally the voice of the people. Indeed, the exhibitors might not unjustly be likened unto the ten virgins. There were wise and foolish: the wise had their lamps trimmed, their bulls were fat and sleek; but the foolish had their bulls without fat, and had evi-

dently sent them empty and hungry away; some even showed the poverty of their bedding, for their legs and thighs were still clothed with dung, whilst others had lost their hair in the brushing and curry-combing they had apparently undergone before leaving home. One exhibitor sent eight young bulls and one old one which of course went at five years old for beef at 41 gs. Out of the other eight four were sold at an average of not quite 23 gs., and the other four passed. Another sent three; one passed, and the other two made 21 gs. Yet these three had a bull for their sire who was noted as "descended from the Oxford tribe, eight animals of which sold at the Holker Sale at an average of £588." What Mr. Drewry must have thought after judging them few can say, but he would soon, doubtless, come to the conclusion that the relationship of Warrior was as remote to the Oxford blood as the prices of the two bulls sold were to the Oxford average at the Duke's sale. Mr. George Garne was one of the most fortunate exhibitors: he sent two bulls and took home £341, no bad advertisement for his sale. Col. Lindsay's two averaged 102gs.; Mr. Mace's seven £65 12s.; while both the Stratton's calves sold well, and Mr. Viveash's five £50 each, within a trifle, and Mr. Mumford's three nearly £70. Pedigree was unregarded; some fashionable ones, of course thin and genteel, could only just scramble over the 50gs., whilst in another class one young swell got up to 28 gs., and two or three others could not even elicit a bid. It showed on the other hand, however, what may be done with good useful animals, with a little blood, well brought out. Mr. Pilgrim exhibited eight, receiving no notice, yet the eight averaged nearly £40 a-piece. As a market for young breeders who generously rear their own stock Birmingham tempts in the shape of a prize or ready sale at a remunerative figure, but those who cannot bring animals out in decent condition had better keep them away. Colour, hair and a little substance were promptly bid for and met a ready sale. If the buyer lacked judgment, there was the prizes and commendations to help him. The merits of the parents—the real true pedigree—he must take for granted, the printed pedigree would give him the line of blood. It is, however, to the Midland counties farmer and dairyman that the Birmingham mart is one of especial convenience.

PRIZE LIST.

JUDGES.—C. Howard, Biddenham, Bedford; Jacob Wilson, Woodhorn Manor, Morpeth, Northumberland; G. Drewry, Holker Hall, Lancashire; G. H. Sauday, Holmepierrepont, Notts.

Bulls exceeding ten and not exceeding twenty months old.—Champion prize, £100, G. Garne, Churchill Heath (Aachen). Highly commended: R. Stratton, Newport, Monmouthshire (Gipsy King). Commended: H. Denis de Vitre, Wantage (Oxford Rosette); Rev. R. B. Kennard, Marnhull Rectory (Lord Marnhull); O. Viveash, Strenshaw (Red Gantlett).

Bulls exceeding twelve and not exceeding twenty months old.—First prize, £20, Colonel Loyd-Lindsay, M.P., Lockinge Park (Autumnus); second, £10, W. Woodward, Hardwick Bank (Duke of Windsor); third, £5, J. A. Mumford, Brill House, Oxon (Northfeet). Highly commended: A. P. Clear, Maldon (Earl Duce); J. Briscoe, Hill Croome (Juniper); G. Garne (Prince Leopold). Commended: Rev. R. B. Kennard (Marnhull Grand Duke); E. Whitehouse, Kigsbury (Jolly Boy); R. Hemming, Bentley Manor, Bromsgrove (Guy Fawkes); C. Barnes, Charleywood (Favourite); O. Viveash (Lord Bissett).

Bull-calves exceeding six and not exceeding twelve months old.—First prize, £20, J. Stratton, Alton Priors (The Druid); second, £10, Major Webb Elford, Tamworth (Count Blanche); third, £5, T. Mace (Red Prince). Highly commended: J. J. Sharp, Broughton, Kettering (Duke of Cambridge). Commended: J. A. Mumford (Carbineer); A. Robotham, Drayton Bassett (Champion); J. J. Sharp (bull-calf).

Cows or heifers exceeding three and not exceeding six years

old.—Prize, £5, J. Bickford, Bushbury (Moss Rose). Reserve number: T. Whiteside, Chipping-Preston (Crimoline).

Heifers exceeding two and not exceeding three years old.—Prize, £5, A. Robotham (Miss Bloomer). Commended: W. Bradburn, Wednesfield (Snowdrop).

Heifers exceeding one and not exceeding two years old.—Prize, £5, J. Bickford (Eva). Reserve number: T. Comber, Newton-le-Willows (Statira).

Heifer-calves exceeding six and not exceeding twelve months old.—Prize, £5, W. Bradburn (First Bud).

Bulls exceeding twenty and not exceeding thirty-six months old.—Prize, £5, S. L. Horton, Shifnal (Roderick). Reserve number and commended: J. A. Mumford (Duke John).

Bulls exceeding thirty-six months old.—Prize, £5, W. Ladds, Ellington, Kimbolton (Earl of Harrington). Highly commended: Miss Strickland, Appesley Court, Tewkesbury (Lord Darlington).

[This list does not include any lot sold at under 50 gs.]

Mr. R. Pavin Davies' Earl of Horton, by 2nd Duke of Glo'ster (28392), dam Kirklevington Duchess 2nd.—Duke of Sutherland, 68 gs.

Mr. R. Pavin Davies' Second Earl of Darlington, by 2nd Duke of Glo'ster (28392), dam Darlington 17th.—Mr. Kirkham, Caistor, 67 gs.

Mr. H. Denis De Vitre's Oxford Rosette, by 13th Duke of Oxford (21604), dam Rosette 6th.—Colonel Tryon, 74 gs.

Mr. R. Pavin Davies' Second Earl of Horton, by 2nd Duke of Glo'ster (28392), dam Duchess of Kent.—Mr. Kirkham, 51 gs.

Mr. R. Stratton's Gipsy King, by James 1st (24202), dam Miss Brunette.—Mr. Boden, Snelstone, Derbyshire, 76 gs.

Mr. G. Garne's Aachen, by St. Withiu (28383), dam Night-watch.—Mr. Ilwerc, Northleach, 140 gs.

Mr. J. J. Sharp's Prizeman, by Satam (27438), dam Plum Blossom.—Mr. Horsell, Rabson, Swindon, 55 gs.

Mr. O. Viveash's Red Gauntlet, by Marathon (29274), dam Lily.—Mr. Blanton, Shrewsbury, 68 gs.

Mr. C. Bayes' Collegian, by 5th Lord Oxford (31738), dam Chaff 9th.—Mr. Serjeant, Chippenham, 62 gs.

Rev. R. B. Kennard's Marlhill Grand Duke, by Grand Duke of Oxford (28763), dam Ada.—Mr. Sturgeon, Grays, Essex, 70 gs.

Mr. W. Woodward's Duke of Windsor, by Duke of Wellington (26026), dam Duchess.—Mr. Horsell, 56 gs.

Mr. J. Briscoe's Juniper, by 8th Duke of York (23808), dam Judy.—Mr. C. Whitehouse, Kingsbury, 57 gs.

Mr. E. Whitehouse's Jolly Boy, by King Victor (28986), dam Luxury.—Mr. Hadlad, Clattercock, Leamington, 58 gs.

Mr. J. Pulley's Lord Byron, by Cherry Butterfly (23550), dam Gulnare.—Mr. T. Rigby, Rokeby-le-Fyde, 53 gs.

Mr. G. Garne's Prince Leopold, by Lord Lovel (29145), dam Patolina.—Mr. Heskett, Penrith, 101 gs.

Mr. R. Hemming's Guy Fawkes, by Saturnus (29932), dam Grand Crocus 4th.—Mr. Tremaine, Grampond, 73 gs.

Mr. R. Hemming's Gamester, by Saturnus (29932), dam Fairy 3rd.—Mr. Whittle, Chesnut, 56 gs.

Mr. J. Aubrey Mumford's Northfleet, by Caballar (28114), dam Narcissus.—Mr. Holbrow, Willealey, 81 gs.

Col. Loyd-Lindsay's Autumnus, by Rob Roy (29806), dam Aurora.—Mr. G. Bagnall, Draycott, Stoke-upon-Trent, 157 gs.

Mr. C. A. Barnes' favourite, by Lord Eglington (31652), dam Duchess of Darlington.—Mr. Bell, Bodelyyddan, 63 gs.

Mr. S. P. Savage's Lord Waterloo, by Lord Red Eyes 4th (26730), dam Wild Wave.—Mr. German, Mensham, 70 gs.

Mr. T. Mace's Sultan, by Young Benedict (30525), dam Martha.—Mr. Norman, Ashholme, 55 gs.

Mr. J. B. Jenkins' Orestes, by Duke of Flamborough (25960), dam Ostend.—Mr. Sutton, Wrexham, 57 gs.

Mr. B. Haigh Allen's Bruce, by Horsa (81392), dam Blithesome.—Mr. Forest, Chester, 60 gs.

Mr. T. Mace's Snowball, by Duke Geneva (30911), dam Young Louisa.—Mr. Fry, Laycock, Wilts, 74 gs.

Mr. J. B. Jenkins' Prince George, by Duke of Flamborough (25960), dam Princess Christian.—Mr. Wardly, Hoddint, Market Drayton, 70 gs.

Mr. A. Robotham's Sir Roger, by Baron Butterfly (27920), dam Annie.—Sir R. Bulkeley, Bart., 61 gs.

Mr. A. Robotham's Young Baron, by Barou Butterfly (27920), dam Countess 2nd.—Mr. D. Rowley, Thirkleby, York, 51 gs.

Mr. J. W. Wilson's Sylvaus, by Severn Lad (29959), dam Sympathy 3rd.—Mr. Southam, Water Eaton, 51 gs.

Mr. O. Viveash's Aristides, by Marathon (29274), dam Mary.—Mrs. Kirby, Crewe, 50 gs.

Mr. Guy T. Phillips' Young Idsall, by Idsall (31404), dam Young Buttercup.—Mr. Bradburn, Wednesfield, 60 gs.

Mr. J. A. Mumford's Carbineer, by Duke John (30913), dam Criterion.—Mr. Straight, 75 gs.

Mr. Thomas Harris' Sheet Anchor, by Saturnus (29932), dam Belle of Braithwaite.—Mr. Topham, Twemlow, Whitechurch, 56 gs.

Mr. S. C. Pilgrim's Garibaldi, by 5th Lord of the Lilacs (26712), dam Glossy.—Mr. Foster, Wendesbury, Bicester, 50 gs.

Mr. J. J. Sharp's Duke of Cambridge, by Cambridge Duke 5th (30645), dam Prize Bud.—Mr. Brakenridge, Chew Magna, 75 gs.

Mr. T. Mace's Duke of Airdrie, by Duke Geneva (30911), dam Cherry.—Mr. Speakman, Knutsford, 51 gs.

Mr. E. Lythall's Champion, by The Cardinal (27612), dam Watercress.—Mr. W. J. Wyley, Wellington, Salop, 50 gs.

Mr. E. Lythall's Lord Hawksworth 4th, by Fitz Killerby (26166), dam Lady Hawksworth 3rd.—Mr. Brigstock, Oswestry, 72 gs.

Mr. T. Mace's Monarch, by Duke Geneva (30911), dam Laura.—Mr. Burt, Leadham, 70 gs.

Mr. J. Owen's Lord of the Manor, by Prince Charlie (27129), dam Christmas Rose.—Mr. Harbage, Coventry, 61 gs.

Mr. T. Mace's Sherborne Duke, by Duke Geneva (30911), dam Moss Rose.—Mr. J. Dicken, Llangollen, 65 gs.

Mr. J. Pulley's Last of the Cherries, by Cherry Butterfly (23550), dam Venus.—Mr. Henson, Barton Fields, Hinckley, 51 gs.

Mr. T. Mace's Red Prince 3rd, by Duke Geneva (30911), dam Lady Butterfly.—Mr. Robotham, Drayton Bassett, 95 gs.

Mr. W. H. Salt's Marquis of Sockburn, by Marquis of York, dam Blanche Kate.—Mr. J. B. Jenkins, Abingdon, 56 gs.

Lord Sudeley's Mandarin 8th, by Baron Butterfly (25557), dam Celeste 2nd.—Mr. Simpson, Mayfield, Derby, 82 gs.

Mr. E. Lythall's Knight of Killerby, by Fitz Killerby (26166), dam Magnolia 3rd.—Mr. Chirmside, Rugby, 52 gs.

Mr. J. Stratton's The Druid 1st, by Jack Frost (31425), dam Pearl.—Sir R. Peel, Bart., 96 gs.

Major Webb's Count Blanche, by Grand Gwynne (31306), dam Countess Blanche.—Colonel Loyd-Lindsay, 90 gs.

Mr. T. Gale Curtler's Oxford Boy, by Grand Duke of Clarence (28750), dam Maid of Oxford 2nd.—Earl Howe, 50 gs.

Mr. G. Graham's Earl of Roden, by Lord Thorndale (29210), dam Lady Jocelyn 4th.—Mr. Chillingworth, Wheatley, Oxon, 50 gs.

Mr. G. Graham's Lord Jocelyn, by Lord Thorndale (29210), dam Lady Jocelyn 3rd.—Mr. G. Greenway, 50 gs.

Mr. J. Bickford's Moss Rose, by Geneva's Duke (24030), dam Maguris 3rd.—Mr. Owen Bennion, Cresswell, 250 gs.

Mr. T. Harris' Rose, by Festival (26147), dam Lady Mary.—Mr. Whitehouse, 51 gs.

Mr. J. Upson's Lady Ducie 3rd, by Sorcerer (25199), dam Lady Ducie 2nd.—Mr. Cartwright, Drakelow, 50 gs.

Mr. Robotham's Miss Bloomer, by Polar Bear (32696), dam Achievement.—Mr. Cartwright, 77 gs.

Mr. B. Wainman's Oxford Wild Eyes, by Lord Bright Eyes (29070), dam Commemoration 2nd.—Mr. Crouden, Uriswick, Uiverstone, 50 gs.

Mr. T. Comber's Statira 16th, by 13th Duke of Oxford (21604), dam Statira 5th.—Mr. Cartwright, 51 gs.

Mr. W. Bradburn's First Bud, by Surly (32635), dam Moss Rose.—Mr. Bickford, 68 gs.

Mr. J. B. Jenkins' Oxford Gwynne (32033), by Oxford Baronet (29499), dam Gipsy Queen.—Mr. Johnson, Alford, Lincoln, 65 gs.

Mr. S. L. Horton's Roderick (32324), by Rob Roy (29806), dam Aurora.—Mr. Hawkes, Wootton Waven, 52 gs.

Mr. W. Ladds' Earl of Barrington 2nd (28494), by Duke of Brailes (23724), dam Countess of Barrington 2nd.—Mr. Caswell, Lincolnshire, 60 gs.

The 194 animals sold, realised £8,799, at an average 43 gs. each.

STALLION SHOWS IN SCOTLAND.

GLASGOW.—95 horses were exhibited 39 of which were three-year-olds. The judges awarded the first prize to Mr. Riddell's Time o' Day, a four-year-old bay by the celebrated Prince of Wales. Thereafter deputations from 22 different districts made their selection. The Girvan District Society, which offered a premium of £50, selected Doncaster, a five-year-old, owned by Mr. Jas. Meikle, Lugtonridge, Beith. The Ballantrae and Colmonell Society, which offered a premium of £60, selected Mr. P. Fergusson's Young Clansman, a bay rising three years, bred by Mr. James Motion, Haplunds, West Kilbride. The Carrick Farmers' Society, which offered a premium of £70, selected the four-year-old black Marquis, belonging to Mr. Brewster, Barubeth, Bridge of Weir; a colt which took first honours as a one-year-old at Dalbeattie, and at Linnithgow last year carried off a premium of £50. The Eastern District of Kirkcubright selected Mr. M'Indoe's four-year-old bay Young Lofty. The Western District of Kirkcubrightshire selected Mr. M'Kean's Prince Charlie, which held the Salcoats premium last year. The Northumberland district, which offered £100, selected Mr. Peter Crawford's (Strathblane) Young Scotchman, bred by Mr. Muir, Lochforgie, New Galloway. The Dunblane, Doune, and Callander district selected Young Lord Lyon, a brown three-year-old belonging to Mr. Robert Pollock, Green, Mearns. The following is the prize list: Glasgow Agricultural Society, premium £80, D. Riddell, Kilbowie (Time of Day); silver medal, H. Andrew, Allan, Paisley (Defiance). Western District of Mid-Lothian, premium £50, W. Park, Gallowhill, Paisley (Duke of Edinburgh). Western District of Kirkcubright, premium £60, R. M'Kean, Lumloch (bay horse, four years). Biell Farmers' Club, Northumberland, premium £100, P. Crawford, Dumgoyack (Young Scotchman). Lower Ward of Renfrewshire Society, premium £70, H. Andrews (Defiance). Carrick Farmers' Society, premium R. Brewster, Barubeth, Bridge of Weir (Marquis). Dalkeith Farmers' Society, premium £50, D. Riddell, Kilhowie (Statesman). East of Fife Society, premium £50, L. Stock, Clachanry, Balfron (Champion). The Pottaloch Farming Society, premium £50, A. Aluuro, Ord, Invergordon (Young Sir Walter). The Strathearn Central Agricultural Society, premium £60, J. Mackdonald, Porterfield, Renfrew (Glencairn). The Stormont Union Agricultural Association, terms, £160 for 80 mares, A. K. Leitch, Inchtelly, Forres (Johnnie Cope). The Girvan District, premium £50, J. Meikle, Longtonridge, Beith (Doncaster). The Easter Ross Farmers' Club, premium £65, Peter Crawford (Crown Prince). The Annandale Farmers' Club, premium £65, R. Macfarlane, Bucklyvie (Rob Roy). The Dunblane, Doune, and Callander Farmers' Club, premium £50 and silver medal, Robert Pollock, Green Mearns (Young Lord Lyon). The Selkirk and Galashiels District Society, premium £50, A. Galbraith, Croy, Cunningham, Killearn (Thumper). The Strathendrick Society, premium £60, J. Gourlie, West Farm, Tolleross (Young Surprise). The Eastern District of Kirkcubrightshire, premium £50, R. M'Indoe, Easter Walkingshaw, Paisley (Young Lofty). The Bute Farmers' Club, premium £60, A. Smith, Stevenson Mains, Haddington (Honest Sandy). The Ballantrae and Colmonell Society, premium £60, Peter Fergusson's, Renfrew (Young Clansman). The Lauderdale Agricultural Society awarded their premium to No. 25, Medwyn's Pride, belonging to Mr. David Alston, Llyndford, West Linton. Pretender was purchased for a long figure to come south by Mr. Poynder, of Hartham, Wilts.

FALKIRK.—A premium of £60 was offered for the best horse, to travel in the district during the season. The competition centred between Mr. Riddle's Never Mind Him, rising four years old, and Mr. McKobbie's five-year-old General Moltke. Mr. Riddle's horse was bred by J. and W. M'Jannet, Enoch, Maybole, by Prince of Wales; Mr. McKobbie's horse was after Honest Tom. The judges finally selected Mr. Riddle's horse.

STIRLING.—There were eleven entries, and the competing horses were all forward. The judges awarded the first prize, £60 and medal, to Prince Charlie, a bay horse belonging to Mr. John Steel, Lochwood. The Prince is a fine bay horse,

four years old, by Scottish Chief, by Sir W. Wallace, a horse which gained second honours at the Highland Society's Show in Edinburgh. The Satesman, by Campsie, was second, but he took the first prize at the Highland Society's Show at Kelso. The third horse was Squire, by the Prince of Wales, rising three years old, and also the property, as well as the second, of Mr. Riddel.

BIGGAR.—15 came forward to compete for the prize of 100 sovs. offered by the Biggar Farmers' Society, and the premium of £70 offered by the Crawfordjohn district. The £100 prize was won by Young Clyde, the property of Mr. Samuel Clark, Manswrae, Kilbarchan. The £70 premium was awarded to the three-year-old bay horse Craigielea, the property of Mr. Wyllie, Milncroft, by Airdrie, and bred by Mr. Picken, Laigh Langside, Craigie. Amongst those who were eft out were Mr. M'Kean's four-year-old Lamloch, which had the Androssan district prize last year, and was said to have been bought at £500; Mr. Riddel's horse, The Banker, which held the Doune prize last year; Mr. Drew's three-year-old horse, bred by Mr. Fleming; also Mr. Peter Crawford's three-year-old, which gained first-class honours as a two-year-old at the Highland Society's Show at Stirling last year. The Peebles district offered a premium of £60, which was gained by Mr. Brewster, Barubeth, Bridge of Weir. Mr. Weir's (East Kilbride) Ranting Johnny, bred by Mrs. Snodgrass, Clochkiel, Cambeltown, was selected for the Livery district.

MILK-AND-WATER MEETINGS.—At the annual meeting of the Surrey Chamber of Agriculture, on Tuesday, at Guildford, Mr. G. Cubitt, M.P., in the chair, Lord Middleton, who had been in the chair at the last meeting, said that on that occasion Mr. Salter proposed that the Council should call a general meeting of the Chamber, in order to decide who was the proper person to represent the tenant-farmers of West Surrey. I then ruled, and I should do it again if I were in a similar position, that that was not a proper motion to be submitted to the meeting. I don't think it was seconded, and it fell to the ground.—Mr. Salter: I beg your pardon. My motion was nothing of the sort.—Mr. J. Ellis said what was really intended to be done was that the Council should meet and express an opinion in consequence of the dissolution of Parliament that the members for the county should give their support to certain measures. He felt that a great deal of misapprehension existed on this matter, and, concluded Mr. Ellis, "I think the noble lord opened that meeting with a very mistaken view, and his conduct might have been a little more courteous and dignified."—Mr. Salter then handed a piece of paper to Lord Middleton with the remark that it contained the words of his motion.—Lord Middleton said that even if they were he should rule that they were out of order. The Chamber had nothing to do with representation in the House of Commons. As long as they had members of the Upper House belonging to the Chamber, they could not be justified in taking any part affecting the representation of the county in the House of Commons. He believed that even if it were possible it would be a most impolitic course for them to adopt. It would place them in a position which would break up the Chamber or seriously impede the progress of that which they had in view—viz., the advancement of the interests of agriculture. If Mr. Salter had at the meeting of the Council submitted his motion in writing as he had that day, he (the speaker) should still have called him to order, and he should do the same on any future occasion, and rule that such a motion could not be put.

THE AUSTRALIAN TRADE.—Our exports to the Australian group of colonies appear to be decidedly increasing. Thus our exports to Western Australia in 1873 were valued at £170,193, against £153,457 in 1872; those to South Australia, at £2,022,270, against £1,413,543 in 1872; those to Victoria, at £6,651,002, against £5,941,379 in 1872; those to New South Wales, at £1,340,912, against £3,569,559 in 1872; those to Queensland, at £815,979, against £575,388 in 1872; those to Tasmania, at £271,024, against £188,205 in 1872; and those to New Zealand, at £3,366,196, against £2,300,143 in 1872.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the March meeting of the directors, in their chambers. No. 3, George IV. Bridge, Edinburgh, Captain Todd in the chair,

Mr. F. N. MENZIES reported apologies for the absence of Sir Willam Forbes of Craigievar, Bart.; Sir Henry J. Seton Stewart of Touch, Bart.; Mr. Glennie of Fernyllat; Mr. Hunter of Thurston; Mr. Graham Speirs of Culcreuch; Mr. Stevenson, C.E.

Report on the resolutions adopted by meeting of members, held at Aberdeen, on the 24th October, 1873.

1. That this meeting heartily acknowledge the benefits conferred in the past by the Highland and Agricultural Society of Scotland upon agriculture in Scotland.

The directors acknowledge and highly appreciate the good feeling displayed in this resolution.

2. That, looking to the amount of capital and of annual revenue which the Highland and Agricultural Society of Scotland now has at its command, the time has come when it ought to make new and more energetic efforts for the development of agriculture.

The notes on the following resolutions will show that to a great extent the wishes of the deputation on this head have been anticipated, and that the increased expenditure proposed for 1874 will fully exhaust the income of the Society.

3. That greater liberality should be shown to exhibitors at the annual show, and more provision made for the accommodation of attendants on stock.

From the report of the meeting this resolution appears to have embraced four points, viz. (1) reduction of stall rents; (2) supplying forage free of charge; (3) increasing the number of money premiums; and (4) more provision for the accommodation of attendants on stock.

(1) Under the first head, it may be remarked that the sum charged for stall rent from members is much below what the Society pays the contractor who erects the show yard. For instance, the charge for cattle stalls is 10s. per stall, while on last occasion the Society paid 16s. 6d. For mares and fillies the charge is 15s., and the contractor's rates are 18s. 6d. and 16s. 6d. respectively. For sheep and swine the stall rent is 8s. per pen, but the Society paid from 9s. 6d. to 15s. 6d. Implement shedding is charged 2s. per foot, or 6s. per yard, while the Society paid 8s. 3d. per yard. The result was that

The Society paid the contractor for stalls for stock	£879	8	3
And received from exhibitors of stock, including non-members	690	19	0
	£188	9	3
For implement shedding the contractor was paid	£200	1	3
And the Society received from exhibitors, including non-members	136	14	0
	63	7	3

The difference between the sum paid and received being

In addition, the Society paid for rent of the field and drainage £100, and for water laid on £119, besides the erection of the boundary fence. The committee cannot, therefore, recommend any reduction on the charge for stall rent.

(2) The second is the supplying of a forage free of charge. This has already been done by the Society on the occasion of the last two shows. The daily allowance to each animal during the four days of the Stirling Show last year was as follows: For Horses and Cattle—14lbs. of hay, or 6 bunches green food; 2 stones straw first day, 7lbs. the following days. Sheep—Single sheep, 2lbs. hay, or 1 bunch green food; 7lbs. straw first day, 3½lbs. the following days. Puns of five sheep, 10lbs. hay, or 5 bunches green food; 14lbs. straw first day, 7lbs. the following days. Pen of five sheep and lambs, 15lbs. hay, or 7 bunches green food; 21lbs. straw first day, 10lbs. the following days. Swine—Single pigs, 2 bunches green food; 14lbs. straw first day, 7lbs. the following days. Puns of pigs, 4 bunches green food per pen; 14lbs. straw first day, 7lbs. the following days. These quantities have been stated by several of the exhibitors to be ample, and it was believed that the forage arrangements were quite satisfactory. The

sum paid at Stirling for fodder and bedding for stock was £230 17s. 2d.

(3) Under the third point, it may be noticed that the Marquis of Huntly was informed by the Secretary on the 22nd of October, that before any movement took place in Aberdeenshire the matter "was considered, and that likely, when the General and District Show Committees meet next month, a large addition will be made to both the number and value of the premiums." The list for the Inverness Show has now been adjusted and approved of both by the directors and by the members in the district connected with the show; and on reference to it it will be found that while the medals have been withdrawn, the number of money premiums have been increased from 335 at Stirling to 437 at Inverness, amounting in all to £2,030 16s., or £170 11s. above what was offered at Stirling last year, and to £730 more than the sum offered at Inverness in 1865. The directors are always ready from time to time to consider proposals on this head, and to receive suggestions for the advancement of the objects of the Society.

(4) With reference to the fourth point, it may be mentioned that the Society provided sleeping accommodation for servants at Inverness in 1865, and at Glasgow in 1867, for which a small charge was made; but the servants generally did not avail themselves of it. In future it is proposed that a small booth at the end of each row might with advantage be set aside for attendants on stock. They would be in close proximity to the animals under their charge, and ready to attend to them if required.

4. That greater encouragement should be given to local shows.

The system of aiding and directing the efforts of local societies has long been a leading feature in the Society's operations. The first attempt at local shows was in 1789, when premiums were offered for bulls of the Highland breed in Argyllshire. Other classes of stock were from time to time added, and the number of districts gradually increased. For many years prior to 1870, the rule was to have twelve districts for cattle, two for horses, and twelve for sheep; one-half of the number for cattle and sheep being in competition for the Society's premiums and the other half for local premiums. In 1870 the numbers were increased to sixteen for cattle, three for horses, and sixteen for sheep, the cattle and sheep premiums being still given in alternate years. For 1874 the directors, anxious to carry out the suggestions made at the general meeting in January, 1873, have sanctioned a still further increase, and the following scheme has been suggested for the approval of the general meeting on 21st January, 1874, viz., twenty districts for cattle, six for horses, and twenty for sheep (the cattle and sheep in intermediate years as formerly), adding a medium silver medal to the first prize, and giving a money premium of £1 in place of a minor silver medal as a third prize in cattle, mares, and two-year-old colts and fillies; and a premium of 10s. in place of a minor silver medal, in the class of one-year-old-colts and fillies, sheep, swine, and dairy produce. This, with some additional districts for medals, will make the sum to be offered in 1874 amount to £1,338 12s., viz.,

District shows	£1,187	7	0
Cottages and gardens	151	5	0
	£1,338	12	0

Amount offered in 1873:

District shows	£840	11	6
Cottages and gardens	137	12	0
	978	3	6

Increase of sum to be offered..... £360 8 6

5. That the Society's present mode of conducting investigations in practical agricultural science might be improved so as to yield greater results, and that experimental stations should be established in various districts of the country, under the care of a highly-qualified person, whose attention should be devoted to agricultural science.

The chemical department has now been in existence for about twenty-five years, and until March last has been under the entire charge of Dr. Anderson, to whose services very distinguished testimony has on various occasions been borne.

At first the objects were: (1) The prosecution of researches in various subjects connected with agricultural chemistry, the results of which have been published in the transactions. (2) The performance of analyses of manures, soils, vegetable products, &c., for members of the Society at reduced fees. In 1863, it was resolved to extend the usefulness of the chemical department by instituting field experiments on a systematic plan, conducted in different districts under the superintendence of a committee. The results of these experiments have been published in the *Transactions*. In March last, Mr. James Dewar was appointed assistant chemist, under whose personal superintendence and inspection field experiments were to be conducted in a limited number of districts, where a local committee of members make application for them, and contribute two-thirds of the expenses incurred. It was at the same time resolved that Mr. Dewar should deliver lectures in a limited number of districts, on application from a local committee of members, and on payment of a fixed charge in addition to travelling expenses.

Since the Aberdeen resolutions were received, the resignation of Dr. Anderson, owing to ill-health, has been tendered; and as the directors have the whole chemical department now under consideration, it will be their duty to give due weight to the suggestions contained in this resolution, when re-adjusting this department.

6. That a general meeting of the Society should be held at the time, and at the place, of the annual show.

By the charter the Society holds two general meetings in each year—one in January, the other in June or July. And it is in the power of the directors to call occasional general meetings, previous intimation of such general meetings, and the purpose thereof, being made by advertisement at least ten days before such meeting. The committee are of opinion that any change in this matter would be very inexpedient. Any local general meeting must necessarily be a very partial one, not representing the general body—the time of the deputation of the directors and the officials of the Society is completely engrossed by the details of the show. General meetings are restricted, as they should be, and are by the charter, to general subjects, and could not enter into details without previous preparation from the directors. The two ordinary meetings afford sufficient opportunities for bringing forward points to be remitted for that consideration which is necessary by careful investigation.

7. That, in order to secure a wider and more general representation in the management of the Society, provision should be made for electing directors by signed lists forwarded to the secretary.

The power of choosing a president, vice-presidents, directors (ordinary and extraordinary), is by the fourth regulation of the charter vested in the Society at the general meeting in January. These office-bearers are empowered "to manage and direct the ordinary business of the Society in all matters, in compliance with the constitution, bye-laws, and regulations of the institution." Bye-law No. 5 states that "the list of office-bearers to be proposed by the directors for election at the general meeting shall be published in any two or more of the Edinburgh newspapers fourteen days preceding." The committee are of opinion these rules should be adhered to. The charter ordains that the ordinary directors shall be chosen out of those who are usually resident in Edinburgh or its immediate vicinity; but the directors, owing to the change produced by railways, have for some time been widening the range, their endeavour having been to secure the services of gentlemen resident in various parts of the country, keeping, at the same time, a portion within reach of Edinburgh, to secure a due attendance. The committee, however, remind the directors that the Society can by a bye-law modify this part of the rules, and accept suggestions from any member desirous to make them. The directors propose to carry through a new bye-law giving the members a power to suggest to the directors names from whom may be selected those to be recommended to the general meeting.

8. That it would increase confidence in the decisions at the general show if some rules were adopted giving exhibitors a voice in the selection of the judges.

This suggestion is directly opposite to what has long been considered a fundamental rule in the selection of judges. With the view of preventing the existence of anything like jobbing, or an imputation of partiality, all interference on the part of exhibitors has been strictly discouraged, and a nomi-

nation by an exhibitor in the class in which he shows is considered a disqualification, however pure the motives of the proposer, or high the qualifications of the nominee. It is the practice for the secretary to submit to the directors a list comprising the names of a number of persons known to be qualified for each breed. This list is reduced by the directors, and the requisite number of judges, with a spare nomination to meet the case of a refusal, is selected. Under this head, the special committee on general shows reported in 1859 that the principle of excluding exhibitors from all say in the nomination of judges should be adhered to and rigidly enforced. The finding of the said special committee was submitted and approved of by the directors in January, 1859; was before the adjourned general meeting in February, 1859; was published in the *Transactions* for March, 1859, and has been acted upon ever since.

9. That a deputation, consisting of the chairman, the proposers and seconders of the resolutions, Lord Saltoun and Sir J. D. H. Elphinstone, Bart., M.P., should be appointed to lay these resolutions before the directors of the Society at the next general meeting, and to support the views of this meeting.

According to appointment the deputation waited on the directors at eleven o'clock on the morning of the 21st January, immediately before the general meeting. The deputation consisted of—The Marquis of Huntly; the Earl of Aberdeen; Mr. Barclay, M.P.; Mr. Cochrane, Little Haddo; Mr. Copland, Mill of Ardlethen; Mr. Ferguson, of Kinmuddy; Mr. Harris, Earnhill; Mr. Scott, of Brotherton; and Mr. Walker, Portlethen.

The Directors approved of the report of the committee on the resolutions adopted at Aberdeen on 24th October, 1873, and agreed to adopt the same; at the same time the directors are desirous to convey to the noblemen and gentlemen who formed the deputation, and to all the gentlemen of the districts which they represent, their anxious desire to meet their wishes and to extend the benefits of the Society to the utmost of their power.

The following letter was read:

Whitehall, 17th Feb., 1874.

My Lord,—I have had the honour to lay before the Queen the loyal and dutiful address of the Highland and Agricultural Society of Scotland on the occasion of the marriage of his Royal Highness the Duke of Edinburgh, and I have to inform your Lordship that her Majesty was pleased to receive the address very graciously.—I have the honour to be, my Lord, your Lordship's obedient servant,

(Signed)

R. LOWE.

The Marquis of Lothian.

THE HUMANE TREATMENT OF ANIMALS.—The reports by the committees named to consider the suggestions made by the Baroness Burdett Coutts were submitted, from which it appeared—

1st. That to the medals in aid of premiums given by local societies, there should be added a class for men in charge of stock, and one for women having charge of dairies and poultry, viz., Male farm-servant who has been longest in the same service, and who has proved himself most efficient in his duties, and to have invariably treated the animals under his charge with kindness. Female servant in charge of dairy and poultry, who has been longest in the same service, and who has proved herself most efficient in her duties, and to have invariably treated the animals under her charge with kindness.

2nd. That as the arrangements for the Inverness show are far advanced, consideration of the subject of offering premiums for asses and milk goats should be delayed till next year.

3rd. That the following additions should be made to the syllabus of examinations, viz.:

(1.) Under science and practice of agriculture and also under veterinary examination—The breeding, rearing, feeding, and humane treatment of the live stock of the farm, the different breeds, their characteristics, the district where they are principally met with, and also the best and most humane system of horsebreaking.

(2.) Under natural history—The orders, hymenoptera, diptera, and coleoptera, with examples of insects injurious to farm crops belonging to each of the orders; the preservation of birds which prey upon these insects, drawing a distinction between those which are beneficial and those which are destructive to crops.

(3.) Under science of forestry—Insects injurious to trees; the preservation of birds which prey upon them, drawing a

distinction between birds which are beneficial and those which are destructive to trees.

The reports also bear that the matter of aiding the cause of humane education was also under consideration; when, after some conversation, it was remitted to a sub-committee to draw up a circular on the subject to be sent to each School Board in Scotland.

The Board approved of the report.

The following communication from the Board of Trade, addressed to the secretary, was read:

"Office of Committee of Privy Council for Trade, 19th Feb., 1874.—Sir, I am directed by the Lords of the Committee of Privy Council for Trade to transmit to you for the information of the Council of the Highland and Agricultural Society of Scotland, the enclosed copy of a notice which appeared in the *London Gazette* of the 17th inst., relative to a congress on the subject of the fabrication of cheese, &c., and an exhibition of dairy produce and utensils, to be held at Milan on the 30th and 31st days of March and the 1st April next.—I am, sir, your obedient (signed) R. VALPY."

NOTICE.—"Board of Trade, Whitehall Garden, 17th Feb., 1874.—The Board of Trade have received from the Secretary of State for Foreign Affairs a copy of the programme of a congress to be held at Milan on the 30th and 31st days of March, and the 1st of April next, relative to the fabrication of cheese and other products of milk. At the same time and place an exhibition will be held of such products and of dairy utensils, &c. Intending exhibitors should make application for regulations and other information to the Royal Superior School of Agriculture at Milan."

The following reply to the memorial adopted at the general meeting of the Society on the 21st of January was read:

H. M. Office of Works,

12, Whitehall-place, S.W., 27th Feb., 1874.

Sir,—I am directed by the First Commissioner of her Majesty's Works, &c., to acknowledge the receipt of your letter of the 22nd ult., forwarding a memorial signed by the Marquis of Lothian, as chairman of a meeting of the Highland and Agricultural Society of Scotland, in reference to the progress of the Ordnance Survey of Scotland. In reply thereto, I am to inform you, on behalf of the Society, that the memorialists are under an erroneous impression in supposing that the survey of Scotland has been conducted as a separate branch of the survey of the United Kingdom, it having been made under precisely the same orders and regulations as that of the other parts of Great Britain. The whole mainland of Scotland has already been surveyed, and it is hoped that the survey of the islands will shortly be finished, there being no intention on the part of this department to postpone the completion of the survey of Scotland. Inasmuch, however, as the plans of Haddington, Fife, Kinross, Edinburgh, Kirkcudbright, Wigtown, and the Isle of Lewis have already been engraved and published on the 6-inch and 1-inch scales, whilst no plans exist of the central counties of England, excepting those of the old 1-inch scale map, it is not proposed to replot the plans of the above-mentioned counties in Scotland on the 1-2500 scale before England is supplied with any maps of that scale, even for the mineral districts in which they are urgently required. In these circumstances it seems to the First Commissioner that the only mode of expediting the survey of Scotland is by increasing the annual Parliamentary grant for the service, which is a question to be determined by the Lords Commissioners of her Majesty's Treasury rather than by this department.

I am, sir, your obedient servant,

(Signed) GEORGE RUSSELL, Secretary.

F. N. Menzies, Esq.

The Board resolved to send a deputation to Government on the subject.

STOW MARKET FARMERS' CLUB.

THE MANAGEMENT OF STOCK.

At the last monthly meeting the subject for discussion was "The Feeding and Management of Neat Stock," which was introduced by Mr. E. Lingwood, of Occold; Mr. Walter Chapman, of Bayham, in the chair.

Mr. LINGWOOD read the following paper: The feeding and management of neat stock is a subject that must needs be interesting to every farmer present, and on which, when discussion is invited, there is little doubt that a wide difference of opinion will prevail. In the good old times, as it is the fashion to call them, our ancestors were under the necessity of killing all the beef they were likely to require during the ensuing winter, as soon as the grass was finished in the autumn, having no means at hand to prevent the animals losing the flesh they had accumulated since the previous spring. Now, though a joint of good salt beef is by no means to be despised, the same food, varied perhaps with salt pork, must have been both undesirable and unwholesome. Living, as we do, in a more advanced age, the finest and fattest oxen of the year are to be found at our annual Christmas shows, a state of things which is traceable to two sources—the introduction and cultivation of roots in their almost endless varieties, and the employment for feeding purposes, in conjunction with them, of ground corn, meal, oilcakes, and condiments of various kinds. One of the greatest difficulties the grazier of the present day has to contend with, is the scarcity and high price of store cattle, sufficiently well-bred to grow and lay on flesh rapidly at the same time. In almost any market or fair you may get poor and badly-bred animals at a comparatively low figure; but, as is commonly said, they will neither die, grow, nor fat. Cannot this difficulty be to a certain extent met by using a good Shorthorn bull to our Suffolk cows, and weaning instead of fattening the calves on the cows? A second cross, however, often results in the production of a very nondescript-looking bullock indeed. I have in my eye now a very nice herd of half Shorthorn and Suffolk polled cows; but most of whose progeny when reared have been a caution for shins and horns. A good many so-called Shorthorn calves are now

brought every season into the county when but a few days old. These, if off a very long railway journey, as is frequently the case, are difficult to rear. On first arriving home, small quantities of food should be given at short intervals. Some farmers recommend, and think highly of, raw eggs; but with every care a very high percentage die every year. Surely, feeding in the trucks would pay, to say nothing of the humanity of the act. In weaning, the calf or "milk" flesh, as it sometimes called, should be kept on, let the cost of doing so be what it may. A yearling steer that has never known want will often be worth more money in the market than a two-year-old that has been badly weaned first, and allowed to shift for himself afterwards. You will not require to be told that some breeds of cattle are better suited to certain situations and circumstances than others. For choice we have the improved Shorthorn, the Hereford, the Devon, the Norfolk and Suffolk polls, the Highland Scot, the polled Scot, the Welsh, and the Sussex, together with an almost endless number of crosses. For summer grazing the Welsh breed are said to disregard flies more than any other, but their long and sharp horns are materially against yarding. They are also considered to lay on flesh slowly when shut up to cake and corn. For wintering on rough grass in exposed situations the Highland Scot stands pre-eminent, but it is far too high-spirited to be tamely confined to a yard—at any rate keep him from clay walls and faggots, or constant repairs will be needed. Perhaps this restlessness accounts for the fine quality of his beef, as a coused hare is said to be better-eating than a shot one. Certainly the London and Birmingham shows are not without their Scotch representatives, but these individuals have doubtless been selected for their exceptional docility. Our own breed of cattle, now commonly described as Norfolk and Suffolk polls, has, by the exertions of a few gentlemen, been materially improved of late years, both in appearance and aptitude to fatten. That they die well when well made up, is evident in the readiness the butchers exhibit to buy them. Their worst fault is a tendency to run

light in their hind quarters. The improved Shorthorn possesses of all other kinds the widest reputation, not only in this kingdom, but in many foreign countries as well. Not so very many years since, to term a bullock Irish was tantamount to calling him everything that was bad. Now, the continual crossing of the Irish with some of our best Shorthorn bulls has completely changed his character. Still, many farmers purchase the imported cattle unwillingly from their supposed liability to lung disease, which has been attributed to various causes—want of good food, and shelter where they are reared, over-crowding in the holds of vessels during their journey over, and exposure in low-lying and bleak cattle lairs after, for it must be remembered that Shorthorns are both well housed and well-fed, consequently it is not wonderful their progeny should lack hardiness and capability for roughing it which the old Irish ox possessed. Turn a Welsh pony and a thoroughbred colt out together all winter on a rough pasture without a wind-break of any kind, it will need no prophet to name the result before hand. Happening to remark once in the hearing of a surgeon that I never allowed my neat stock to remain out at night after October 1st, he expressed an opinion that were the practice more general, pleuro-pneumonia would be much less prevalent than at present. To the question, "Is it contagious?" I should most decidedly answer "Yes, it is." On the whole I would submit to you whether it would not be the best plan—unless the graziers rear his own stock—to purchase in the spring and put to feeding in the following autumn, with a sufficiency of grass, water, and some kind of refuge from the sun and flies. The cattle are then likely to be in a much fitter state for yarding than if bought at some fair or market, say in November, and shut up to cake and corn forthwith, with the far greater risk of disease appearing in the summer stock. Not but that lung disease, I am aware, shows itself in a most unaccountable manner. Having by some one of the before-named means secured a herd, how shall we dispose of them? By tying up by the neck side by side in a covered shed, by placing singly in loose boxes, or by turning the whole lot together into a suitably sized yard? Tying up involves the expense not only of constant littering, but daily removal of the wet straw which must be trodden into manure elsewhere, and after all the stock are little or no quieter than in loose boxes, whilst in the latter case a cleansing at intervals only is necessary. The original cost of putting up boxes no doubt operates against the plan. Ventilation should be carefully attended to, for though warmth to a certain extent means less food, gases injurious to animal life are evolved both by the quadruped and the fermentation of his litter and droppings as well. The veterinarians tell us our cavalry horses have been much freer from diseases since the strict prohibition of hot barrack stables. Open yard grazing—at least in this district—is perhaps after all the most usual as well as the least troublesome practice. Here hornless cattle are greatly to be preferred to the horned varieties, especially where clay walls or thorn faggots form the boundaries; a pair of sharp horns with a frolicsome disposition on the part of their owner for using them, soon sets a whole yard on the move. The straw gets down faster it is true, but whether beef is laid on at the same pace seems somewhat doubtful. Every yard should possess a good shed with sufficient manger room under it, and the troughs should be so constructed as to shift upwards as the manure accumulates, of whatever materials a yard is enclosed with. Draughts should be guarded against as much as possible; closely boarded doors at the entrance are also preferable to a common railed gate, keeping out cold winds, and the disturbing influence of other neat stock that may happen to pass. This near a highroad is of some importance. A stout rail fixed a few inches from the edge of the drinking trough will save the feeder some trouble, as fouling the water by the droppings, as is otherwise often the case, will be rendered almost impossible. My opinion is, fattening bullocks should be fed at least three times a day; not later than seven o'clock in the morning for the first feed, at eleven o'clock, and at four o'clock in the afternoon, and no more food should be given at once than will be eaten up by the next feeding hour; regularity on the part of the stockman should be strictly adhered to. Domestic animals are more aware of meal hours than is commonly supposed. I have known butchers object to purchase fat stock on draft off some farms, solely on account of irregularity in feeding times. Few boys are to be trusted as cattle feeders, when put to it they oftener than not cost

men's wages. My earliest recollections of bullock tending are watching the stockman break the linseed cakes by hand on the edge of the shed trough into pieces about two inches square, and scattering them regularly therein as he moved along. Turnips were then thrown whole into short mangers placed round the yard, and cut with a two-edged hand chopper. Of course, by this process, the trough bottoms soon required renewing, and an ox was occasionally choked. A serious objection to this arrangement was, the strong possessed themselves of the cake, whilst the weak had to content themselves with the turnips, supplemented with a little fresh barley straw, with which a bin was generally filled, at one corner of the yard. The butchers at that time usually bought their beef at the farms, to draw so many head per week, until all were cleared off. Repository fat-stock auctions are an innovation of later date. The introduction of Gardner's turnip cutters and a cake crusher led to a material alteration in the method of feeding; henceforward crushed linseed or cottonseed cake, bean or pea-meal, and turnips reduced to strips, together with a portion of straw chaff, were well mixed before being given to the cattle. Consequently, a choice of food was out of the question. Some persons maintain the application of a hard brush or curry-comb to the skins of fat bullocks is advantageous: if it proves serviceable in no other way, it makes them the quieter to handle. An Essex worthy tried clipping—perhaps the beard did not pay for the shaving; at all events, I am not aware the practice has extended. It is hard to convince the consumers of meat, who, living in large towns, are necessarily but little acquainted with rural affairs, that the grazier gets little direct profit from his fat beef: they point to their butchers' bills as an unanswerable argument to the contrary, without the least idea that farm expenses have increased quite as much as the price of meat. Rinderpest, happily extinct in this country, let us hope never to be re-introduced, and foot-and-mouth disease now far more prevalent than formerly, must also be credited with their share of the bill. The indirect profit lies in the manure left behind by corn-fed stock, which is absolutely necessary to maintain the fertility of arable land. You may get along for a time on some soils with artificial substitutes, but the day of reckoning will assuredly come at last. Let us now see what Mr. J. B. Lawes has to say on the relative values of different feeding stuffs, &c. It seems, from experiments he has made, that an ox, to gain 100lbs. in live weight, will consume 250lbs. of linseed cake, 600lbs. of clover chaff, and 3,500lbs. of Swedish turnips. Now, I would submit to you whether this statement can be of any real value unless we have all the conditions before us. What was the size, age, and breed of the animal experimented on? Was he thin, or moderately fat, to begin with? or was the above result obtained by repeated trials, and under varied circumstances? Don't you think, like their owners, some with the same opportunities make better use of their time than others? Mr. Lawes goes on to inform us that, as cattle-food, linseed, cotton, and rapecakes after digestion, possess about the same manurial value. Linseed, beans, peas, tares, and lentils are quoted about one-fourth lower; whilst wheat, barley, malt, maize, and oats fall two-thirds below cakes. Still, if every farmer decides on selling all his corn, and using nothing but cake, the result will be obvious; on the other hand, a portion of linseed, either crushed or in the form of cake, is undoubtedly conducive to the health of grazing cattle, it is false economy to give too many roots, yet imperative that your animals should be daily supplied with a sufficiency of food for filling their stomachs; the steam chaff cutter here comes most opportunely to our aid, and it has been recommended to cut the straw, with an admixture of clover, sainfoin, tares, or other green stuff during the summer season, in readiness for the following winter. Should this plan be adopted, the risk of mould or over-heating should be carefully guarded against. It is a matter of regret to me that Mr. Lawes should have placed wheaten meal so low in the above list, as when the price admitted, I have had my bullocks thrive remarkably well on a mixture of seven-eighths wheat and one-eighth linseed, ground into meal together. We occasionally find that cattle are fattened entirely on dry food; nevertheless, roots of some kind, in most instances, form part of the bill of fare—white turnips in the autumn and early winter, followed by Swedish turnips and the mangold wurtzel, the latter a most valuable addition to our green crops, producing as it does heavy weight per acre and keeping all through the summer as well. I have heard a good grazier go so far as to say one bushel of swedes will make as much meat as double the quan-

tivity of mangold. Time of using would surely have its influence; soil, where grown, and method of cultivation, might also affect to a greater or less extent. To keep store cattle healthy at a small cost, there is nothing better than pulped roots and good sweet chaff mixed; for the strength of the manure made in this way not much can be said. I hope, in conclusion, some member may be induced to favour the Club with a paper on the treatment of dairy stock at some future meeting.

The CHAIRMAN, in opening the discussion, said that he had not been disappointed in his expectation that Mr. Lingwood would give them an opportunity for a good discussion. He fully agreed with every word that Mr. Lingwood had said about introducing a better breed of cattle. There was no doubt that if a good thoroughbred Shorthorn were introduced in that neighbourhood, they would see a better description of cattle for grazing. But there was a great difficulty, to his mind, in introducing such a breed to cross with the Suffolk. In the first place, a pure Shorthorn was an animal with an aptitude for grazing, while those animals which has been used in this county had a greater aptitude for milking. He, therefore, hardly hoped to see these two qualities combined in one breed. As to the Irish cattle, he had observed of late years a great improvement in those brought into this county. He was very credibly informed that they had greatly improved in Ireland. They ought to be, for there was every facility for improving them in the admirable pastures of Ireland. With reference to feeding there was a variety of opinions. The old-fashioned plan was to put the stock into a warm, well-sheltered yard well littered, and to give them a plenty of food and a great quantity of turnips, as much, in fact, as they could eat, with some oil-cake. It was a question whether this was a right method. His idea was that they wanted to ascertain the proper amount of food that the animal could assimilate in the 24 hours. If they gave too much it made the bullock uneasy and uncomfortable, and he could not fat so fast as he would with a smaller quantity. There was no reason why, with the same quantity of food, they should not be grazing a larger number of animals with the same quantity of food. He had taken some trouble to ascertain the merits of stall-feeding and box-feeding. In stall-feeding the bullocks were kept in close places littered down every day, kept very clean, and fed as they might think proper. In the box-system a hole was dug in the ground for the manure, which was allowed to keep under the animals, and they were tied up or not as might be thought proper. His plan had always been to keep them in pairs, in places large enough to keep two in each. After some trials he had ascertained that they got the animals up sooner by the boxes than by the stalls where they had been kept clean. With regard to feeding, there were many different opinions as to the best feeding stuffs, and he thought the farmers were to blame to be constantly asking for cheaper feeding stuffs. The manufacturers could always accommodate them. But they knew that if they wanted a good article they must pay a good price for it. For his own part, he felt that on this point he was like the commercial traveller, who said if he must have milk and flies, he should prefer to have them on separate dishes. If he had linseed cake and other things, he should rather have them separate. Mr. Chapman then produced Mr. Lawes's diagram, showing the value of different kinds of feeding materials, and said the results there shown were well worthy of the consideration of any one who attempted feeding cattle. He also pointed out that there was an increasing demand for meat, and that it was to their interest to produce it as cheaply as they possibly could, and the object of their meeting to discuss such a question was to find out how that was to be done. He should be glad to hear the opinions of those present on the best method of feeding cattle, and the best kinds of feeding stuffs.

Mr. W. NOBLE was quite sure that he had a great deal more to learn before he could make the feeding of bullocks pay. He hoped that Mr. Lingwood would tell them something about that. He quite agreed with what Mr. Chapman had said about over-feeding. No doubt they frequently gave bullocks more than they could assimilate, and no doubt in forcing them, they forced money out of their own pockets. He had been in the habit of grazing young beasts, and he should have liked to have had the experience of gentlemen as to grazing three or four year-old bullocks. In weaning his own beasts, he had found them to be subject to what was termed "black garget." He had never heard of but one other case, but should be glad to know whether the disease was caused by the locality, or

feeding and forcing. In feeding beasts, he regarded warmth and comfort as of the greatest importance. He believed that, as Mr. Chapman had said, pairs of beasts would do better than in an open yard, where the drainage might not be good, and there might be many other evils to contend with.

A MEMBER: At what age did you experience the attacks of black garget?

Mr. NOBLE: At the change of food; for instance, in the autumn when they were fresh out of turnips. I have taken every precaution, but I have two or three times been obliged to sell my whole yard out on account of the black garget.

Mr. T. LINGWOOD said he used to be in the same position as Mr. Noble, for he had lost several young calves by black garget. He attributed it to keeping them too close in yards, and the suddenness of the change after the summer feeding. Now he gradually brought them on to the yards, and had not been troubled with the attacks of black garget since he adopted that plan.

The CHAIRMAN: Do you think it is the extreme changes of the food?

Mr. T. LINGWOOD: I think also that the food has something to do with it; but it is the depriving of young things of the exercise all at once that mainly causes it.

Mr. J. HEWITT said he had been a sufferer from black garget this year. In January he had lost some good calves from a Suffolk cow and a Shorthorn bull—some of them came from Mr. Webb's. He had given them cake through the summer, and on taking them up in the autumn they were living on linseed and swedes, cut hay and offal, and all at once they fell off in their feeding and felt poor in their shoulders. He lost four out of twelve of things that he had since been bid £12 a-piece for.

Mr. C. W. SUTTON said that the speakers had already touched the right cause of the disease when they lay it to the food. It was a species of blood-poisoning, and was almost entirely produced by high feeding. Mr. Lingwood was, he believed, right, that a certain amount of exercise would enable the animals properly to assimilate the food. The only way in which they could keep the animals in health, if they fed them high, was to give them something to counteract it. If they forced them with highly stimulating food, they should give the animals an aperient, such as a good dose of Epsom salts and ginger, or something of that sort. That would enable the animals to throw off that condition of the blood which arose from high feeding.

Mr. C. TURNER said that the calves which he and his father reared did not some of them go out at all, but were kept under cover all the time. His brother had lost some calves by black garget last year as soon as they came upon green tares.

Mr. HENRY CROSSE said that it seemed to be assumed that black garget was caused by high feeding, but he had known Mr. Baker to have some beasts which were running about, attacked with it. Thirty-five years ago he had 14 calves that had the disease, and in another case he had lost four steers and four heifers that had never been into a yard, and some of them took the disease and others he had to kill on account of the danger they were in. The disease was not then called black garget, but Professor Simonds, to whom he applied, said it was called "quarter ill."

Mr. SUTTON: It is called "quarter ill" now in some places.

Mr. H. CROSSE: Mr. Simonds recommended that they should be plugged with hellebore in the dewlap. He had adopted that recommendation and had never since had any trouble.

Mr. SPENCER FREEMAN said that his experience was that old beasts could not be fed too high, but young ones ought to be gradually brought to the high feeding. He always gave young beasts a little cake, and felt that as soon as their coats were a little bright they were doing some good.

Mr. STEARN SCOTT asked what was the best treatment for running calves. Of course they wanted a quantity of food on leaving the cow, and he should be glad to hear what was the best food.

Mr. J. O. FRASER, on being called upon by the Chairman, said he could not say that he knew much about hullocks, as Mr. Webb was more for keeping cows. However, he happened to know that ten were bought last May. They had been put on grass, and were exercised when they were afterwards shut up in yards. They had been fed on cut hay, cake, and beet, with all the hay they could eat, when shut up.

Seven out of ten had been sold, but it was his business to make figures, and not to expose them. If Mr. Webb was there, he should have been very happy to have given the figures under his orders. But, if the Chairman liked, he could calculate what was the profit on ten bullocks bought in May at £16, and kept all the while on hay, cake, and corn, and recently sold for £24.

Mr. J. J. HATTEN said he agreed with Mr. Sutton that it was the feeding, and not the turning out, that produced black garget.

Mr. MANNING CHAPMAN said now that they were on the subject of feeding, he might call their attention to the fact that molasses and sugar were valuable feeding stuffs. They had very important and valuable qualities. They were 40 per cent. cheaper than they had been.

Mr. FARROW said he had not been able to gather from the paper what was the best method of feeding neat stock. He was just now a buyer of feeding stuff, and hardly knew what to go into. He happened to have the misfortune to have a small yard of Irish beasts; he could not of course tell how long his life might be spared, but he sometimes thought that he should never live long enough to see them fatted. His friend, Mr. Clowes, of Needham, strongly recommended him to go into malt combs, but he had been using them for the last month with very poor results indeed.

Mr. JOHN TURNER said he always mixed the food for his bullocks as it was used. He used corn meal, cake, and sometimes linseed meal. He sometimes had bullocks that would not eat cake. He did not know the reason, but he could always get them to eat linseed meal. It was, he thought, very important to suit food to the animal.

Mr. J. O. FRASER said he thought the bill of fare for bullock feeding in that discussion was rather meagre. There was locust-bean meal and also cake made from other seed than linseed. Might it not be advisable to introduce some of these materials?

Mr. J. J. HATTEN said that he had found one-twelfth part of barley straw to green grass, cut and salted down and allowed

to lie for some time, was a very good means of using the straw.

Mr. NOBLE said he found Gardner's turnip-cutter was the best. The bullocks ate the turnips better from it, and thrived better upon them, than from other machines.

Mr. FRASER said Mr. Noble was quite right, as to doing too much to the roots. The beasts needed something to do in the way of chewing, to create saliva and assist digestion.

Mr. STIRTON described the method of feeding of Lady Pigot's herd, and

Mr. LINGWOOD, in reply, said the first question he was asked, if he remembered rightly, was as to black garget. Although he had weaned his calves for several years, he had had no experience of the disease; but a neighbour of his, while he lived at Ashfield, had, and the cure that seemed to be effectual in that case was pegging with hellebore. As soon as the animals were big enough they were done, and the disease, had not shown itself since. He (Mr. Lingwood) had done the same thing to his pigs and found the result very satisfactory. With regard to weaning calves, the best way was to get them straight off the cow; if they went twenty-four hours without food, he did not think that with any treatment they would get them to go on. He always gave his calves as much food as he could get, and he always tried to get them to eat as soon as possible. He was always very fortunate with them, and he did not know that he had ever lost one. Mr. Lingwood then replied to Mr. Farrow's remarks that he was disappointed with the paper he (Mr. Lingwood) had read. He (Mr. Lingwood) had merely opened a discussion on the subject; and he did not pretend to give an exhaustive lecture upon it, and he came there himself more with the view of learning than of imparting information. With regard to the value of different feeding stuffs and their ultimate value as manures, he referred Mr. Farrow to the diagram which the chairman had laid upon the table. For himself, he (Mr. Lingwood) liked young bullocks, and he mixed for fattening bullocks roots, cut with Gardner's turnip-cutter, in preference to the pulp, but for store stock he considered pulp the best.

WINFRITH FARMERS' CLUB.

THE MANAGEMENT OF SHEEP.

At a recent meeting, Mr. J. J. Bates in the chair, Mr. CHAPMAN SAUNDERS read the following paper:

The subject for our discussion this evening is somewhat interesting and practical. I only regret some one better qualified had not been selected to introduce it to your notice, but as members of a farmers' club, and as long as these bodies exist, it is the duty of all to further as much as possible those objects for which these societies were established, viz., the improvements to be effected in practical agriculture; and therefore you will, I think, agree with me, that in these times of dear meat the topic, "Sheep and their Management," is not unfitted for our debate. There is, I believe, no county in England, taking into consideration the general quality of much of the land and its surrounding circumstances, where so proportionately great a number of sheep are to be found as in Dorset; and also where, from circumstances alluded to, those animals are sent to various and more favoured counties of England, as Surrey, Sussex, &c., and answer so well. As to the various breeds of sheep most suited to our county, we have several; the first of which I will notice is the Dorset horn. Although the original type and the native breed has now passed away, considerable improvement has taken place by judicious crossing with the Somerset horn, and which has given the present and improved breed of Dorset greater weight of mutton and wool; and it must be a gratifying fact to our local breeders of horn sheep to find that during the last few years nearly all the prizes for horn sheep offered by the Royal, Bath and West of England, and other large shows, have fallen to several well-known breeders of this county. There is no doubt the original Dorset horn sheep was somewhat of the type of the present Portland breed of this county, similar to the old-fashioned Hampshire, with its Roman head and immense bone and coarse flesh, its name indicating its native origin. This class of animal, too, has passed away, giving place to one of better quality, with heavy weight both in wool and mutton, and,

proportionately to its size, a less amount of bone. Of the Down sheep in this county we have several different degrees, produced by an original cross of the Sussex and the Hampshire, now reduced by careful selection to a type suited to the locality, embracing more or less strength, constitution, and quality, forming in this county a class which has not been inaptly termed the Dorset Down, although not yet so recognised as a class at any of the leading agricultural shows. Of the Sussex Down—the pure Sussex—it may be said to be almost extinct in this county, as the system of artificial crossing and improved management has led to the introduction of a class of animal which has proved itself more productive of profit to the tenant-farmer. The horn ewe is perhaps a better mother than the Down, and, lambing earlier, requires a more favoured spot than the latter, both as regards food and situation—that is, climate—and where there are plenty of good water-meadows and early ewelace land the Dorset will answer possibly the best. But that is not the general character of this part of the county at least, where I am convinced that as a rule the Down answers better, being more adapted to folding on the colder soils, and lambing down later, does not require the provision of food and shelter which the advance of spring provides them. As I have already said, great improvements in the breeding of sheep have been effected within the last few years; but still more remains for breeders to sustain and improve on what has been already so well effected. With regard to mutton and wool, to the production of which in a very great extent we have to look for a still greater return annually to meet our increasing expenses, rather than to the production of corn, remembering also, as many of you must, on looking back to the time when wheat was about the same as now in market value, and mutton at only rather over half its present value, and with the prosperity of trade in this county, which I trust may long continue, together with the increased earnings of those engaged, and a still increasing population, may we hope to see the price of meat

well sustained! Does it not, therefore, offer us every encouragement on looking forward to the future to select the best kind of animals of their respective classes which we can secure? I need not remind you of this, as the prices now paid annually for animals of good and well-known pedigree would have been something alarming to our forefathers, to say nothing of the occasionally-heard-of fancy prices paid—for a bull 1,000 guineas, and 100 guineas for a ram! The proper management of sheep deserves every consideration, as well as the selection of the right sort of animal on which to bestow that attention; and in this respect very much remains yet to be effected. I would say, therefore, as a rule keep them well, with regularity both as to the quantity of food given and also as to the times of attendance as far as possible. I fear that too much food at one time and not sufficient at another is rather the rule with many than the exception. So again with dry food, I mean more especially hay, which should be given early in the autumn, and pays the consumer in the benefit to his stock then as well as at any later season of the year. Whether all breeding or grazing, or both combined to a greater or less extent, is or is not the most profitable is a question which cannot be solved in a moment. Many tell us that in this country we ought only to breed and send our stock into other districts of England to be grazed out. I do not think that winter-grazing pays as a rule—that is, in the open fields on our cold and exposed hills; but during the summer and autumn months sheep thrive and do equally well compared with those of the warmer and more genial districts, and, therefore, occasionally with plenty of food and to spare during the more favourable season of the year, grazing with breeding may sometimes be combined with advantage. This year, I fear, with the high price of breeding stock, and also the high price of all feeding stuffs, there is little margin for profit to the grazier. Grazing sheep during the winter months can only be profitably carried on in connection with good shelter in some shape or another. The advocacy of temporary yards of an inexpensive character in different situations on the farm where they are likely to come into use annually—sheep being drawn thither during bad weather, say from this field one year and the adjoining one another—cannot be too highly recommended to your consideration, for, if not required for grazing purposes, they would often be the means of saving many young lambs which might be sheltered there during occasionally very rough and inclement weather. Discretion must direct when to shelter and when not, as during fine weather sheep do equally well in the open field as under cover; being also covered with a good coat it is more in accordance with their true nature, and, therefore, too great confinement is not desirable. Besides, the great advantage derived from the treading of many of our light soils and the distribution of manure over the land is not to be lost sight of—one of the objects to be aimed at in keeping sheep. For all kinds of sheep, whether breeding or grazing, fed on plenty of roots, the more the water which constitutes nine-tenths of the whole plant can be reduced the better. It is from this cause—that is, the consumption of too great an amount of water contained in the roots—that we hear so much occasionally of bad luck with lambing ewes, more especially when, perhaps, little dry food has been given in conjunction therewith. As a rule I find that ewes living on grass and hay until they lamb, although not so high in condition, produce a healthier and better crop of lambs than when they have been living on roots and hay entirely. I would, however, prefer some grass and roots, together with hay, to any other course of diet; but in any case the roots should be drawn from the land several days before they are consumed, so as to reduce the amount of natural water contained in them. This rule will apply also to the other sheep fed on roots, and more especially towards the spring season, when the roots make a second growth. For ewes in rather high condition before lambing, a moderate amount of exercise is, as a rule, beneficial, when they are in the hands of a careful shepherd, by the way, to take them from food in one field to that of another. Bad luck with ewes arises from various causes—accidental sometimes, and sometimes otherwise. Shepherds' dogs, in my opinion, do more mischief than is often thought of, especially when in the hands of a bad master. It is quite a rarity to see a good old-fashioned sheep-dog, most of them being mongrels. In the North of England it is not so; and at some of their agricultural shows prizes are offered for the best shepherds' dogs, both in money and silver cups. Although I have advocated tempo-

rally sheltered yards for sheep I do not altogether approve of what many term "lambing yards"—that is, where the ewes are drawn every night just before they lamb. I do not mean that bad luck always happens there, but it sometimes occurs that fever springs up, and one animal perhaps dies and leaves the infection, which is rapidly taken by others, and many great losses have occurred in this way before it can possibly be remedied; therefore, I prefer, where a dry pasture or old ley ground with porous subsoil is to be found, to lamb down in a fold, moved daily and sheltered round, if necessary, to drawing the ewes to a straw yard laid out for the same purpose. At lambing time when ewes die—and in most flocks of any fair number there are some deaths—the shepherds should not be allowed to skin those which die, as there is no doubt that the shepherd also has not unfrequently been the means of inadvertently conveying disease from one animal to another. After the ewes have lambed, those with lamb should be kept separate in pens or other places for a few days until the ewe knows her own lambs well and the lambs their own mother; afterwards they may be placed with others and do well without danger. I do not think that lambs can be kept too well after they are a month or six weeks old, and should be encouraged as quickly as possible to go forward in the turnip field through creep hurdles, of which plenty should be provided on every farm. Lambs also require plenty of change to thrive and do well. It is here somewhat that our neighbours in Hants and Wilts teach us a good lesson in the growth of sainfoin, early rape, &c., to which very much is to be attributed the size and weight of their lambs which are brought to Britford, Wilton, Weyhill, and other fairs. I do not say it is entirely owing to the practice of feeding their lambs that all success is due, as I believe there is something in the climate or soil more suited than is so here for sheep generally. I am speaking now from the knowledge which I have of my rams sent into the various counties and of their respective conditions when they return home at the end of the season. As a general rule small lots of sheep together thrive and do better than very large numbers, as in the latter case the wether animals too often do badly under these circumstances; and plenty of room should be given, necessitating plenty of hurdles, of which every farmer should have enough for his use at all seasons. I prefer shearing lambs to leaving them in their wool; but it should be done early, believing that they do better during the summer and autumn—that is, where the country is somewhat enclosed. Being shorn early, they have time to provide a good coat against the coming winter. The use of salt might, in my opinion, be resorted to, more than is the case generally, with advantage to the health and condition of animals in general. It is a source of congratulation to ourselves as farmers and to the community as consumers to find, not only our own county, but the country, once more free from the foot-and-mouth disease. I earnestly trust that the Government will take every means in their power to prevent the spread of that terrible disease over the country such as was so generally experienced in the year 1872. No disease can be more contagious than the foot-and-mouth disease. My own opinion is formed from too much experience, I am sorry to say, as I believe all my sheep which had the disease were on the average 10s. each less in value one with another afterwards. The disease is conveyed from place to place by contagion in some way or another, and as far as my judgment goes, it is less epidemic in its character than it is generally considered to be; but on this point I am aware great diversity of opinion exists, and long will. Animals suffering, the less they are moved from one place the better for a time, and paring the feet does harm rather than good until they get nearly well, when vigilant attention is required to remove all contractions of the old hoof which may arise, and more especially also when foot-rot follows after the disease has left, as is not unfrequently the case. To treat many of the bodily complaints to which sheep are liable is somewhat difficult, as it is frequently too late to save life before the cause is discovered; the best remedy in which case is often the knife. Still, there are some cases where the veterinary art may be made available, although, perhaps, the sheep has not been made a study of so much as the horse or bullock. In concluding my imperfect remarks on so wide a subject, I would only repeat that to make sheep profitable you must keep them well, whether as regards food or shelter, and also be regular in attention, selecting that kind of stock which is best suited to the locality.

Mr. C. BESENT felt very much pleased he had come to hear

Mr. Chapman Saunders' practical remarks on the breeding and management of sheep. There was no point on which he could contradict him. Mr. Saunders had laid down good plans to observe—particularly with regard to the management of sheep. He agreed with what he said as to the way to make them pay—viz., to keep them well; he also concurred in the remark that sometimes they were not fed with sufficient regularity—that was the case very often, and it was pernicious. No doubt that was a very essential point in respect of their health. Over-feeding, especially in the lambing season, caused a deal of mischief. Respecting the breeds of sheep, no doubt considerable improvement had been effected within the last 10 or 15 years. Mr. Saunders had said Sussex Down were almost extinct (Mr. CHAPMAN SAUNDERS: Pure Sussex Downs are extinct); but he (Mr. Besent) rather thought this remark would rouse the dignity of some of his neighbours, who—and a few living not far from Dorchester—professed to have sheep of the pure Sussex breed. Only that day he had passed a lamb-yard where he saw sheep of that breed, some of which were not particularly large, although no doubt very valuable in their place, and appreciated on account of the quality of the mutton, which was considered more delicate than that of the large Hampshire Downs. He thought the agriculturists of Dorset had every reason to congratulate themselves on having amongst them such men as Mr. Chapman Saunders—to introduce such excellent breeds as there were in the county: They had not only the Improved Hampshires, but also first-class horn sheep, and he was pleased and proud to see the owners took prizes wherever they chose to send them. [Mr. CHAPMAN SAUNDERS: Yes, against all comers.] Mr. Saunders had spoken very much to the point, and, if they attended to what he had said, they would doubtless do much better with their flocks than they had hitherto done. Personally he (Mr. Besent) had experienced very bad luck in the lambing season, the losses being about 10 per cent. He could not account for this; the sheep went on well until the lambing, but then they began badly and the season ended badly. There were a lot of dead lambs. He assigned the cause to a chill. The speaker again expressed thanks to Mr. Saunders.

Mr. LONGMAN (Belhuish) thanked Mr. Saunders for his paper, remarking few persons in the county were as capable of giving them sound advice on the subject. Few men paid more attentive than Mr. Saunders to the breeding and feeding of sheep, and none could tell them more as to the advantages of breeding a good class of that animal. He was sure they must have listened with great attention to what the proprietor of the Watercombe flock had told them, and to his advice. Mr. Saunders had said he frequently kept his sheep on grass and hay; but some present had not the same advantages as he possessed in that respect. Personally he (Mr. Longman) could not do much with respect to feeding on grass. Some of them were generally obliged to feed their sheep on roots. The speaker asked Mr. Saunders for his opinion as to whether he had a preference between common turnips and swedes for the feeding of ewes; he himself (Mr. Longman) did not like the use of swedes before the lambing season—he thought by using them there was more danger of inflammation than otherwise. He generally fed with turnips; would Mr. Saunders recommend turnips in preference to swedes?

Mr. ELLIS concurred generally in the remarks of Mr. Saunders. He had kept his sheep from the beginning of November wholly upon roots. At first they had common turnips, and about the middle of November he went in for swedes, which they had night and day, that food being continued up to the present time. The sheep were in pretty good condition, although a few were lost in drawing; there were no dead lambs, and, taken as a whole, a healthier lot of sheep he never had. His sheep had plenty of hay. He really should prefer swedes to common turnips.

Mr. SCUTT, although not a flockmaster, was very fond of sheep, and liked to deep them well. It was difficult, he said, to contradict Mr. Chapman Saunders, who at Watercombe had been preceded by such a good flockmaster as his father. Mr. Saunders had spoke of not fattening stock on hill land. He (Mr. Scutt) had fattened some sheep, and was quite aware they got on the best in the yard; but at the same time they were so liable to the foot-rot that it was dangerous to keep them there. Then again—sheep were required on the land for manuring purposes. There was one point Mr. Saunders had not touched upon—cutting roots for sheep. He (Mr.

Scutt) had cut roots for sheep for many years past; he fattened a lot of tegs last year, and he was sorry he was obliged to kill something like 15 per cent. of them. He had since adopted a different plan; he had allowed them plenty of room, and they now got on pretty well; he did not lose them. The turnips were previously drawn and carted to another piece of land. He gave each sheep half-a-pound of cake, with beans and a little pollard. Last year when he had such bad luck he gave his sheep the best linseed cake and swedes; this year he was not using linseed cake, but raw linseed drawn through the mill, with bran, mixed with cotton-cake, whole beans, and pollard. He attributed his loss last year to over feeding and the want of exercise. Sheep required exercise with their mouths and legs; they were apt to lay down at their troughs, and thus they engendered disease. He thoroughly believed in exercising ewes in lamb; he had heard Henry Richards say, "Give them plenty of exercise; drive them a mile and back again till you see them steam again." There was a deal of truth in that. He did not think persons were particular enough with regard to the feeding of lambs; as soon as they were large enough they should be encouraged to eat suitable food—by that means the lambs were improved and saved; they often died from the lack of something to pick up in the shape of cake or corn. Mr. Scutt pointed out that horn stock could not be kept well unless there was plenty of grass; and regarding his own experience observed the better quality of sheep he kept the better he could make his mutton. His fat sheep went to Wimborne market, and the high prices he obtained showed he had a good name. No one was more liberal than himself with regard to artificial feeding. He considered 20lbs. or 21lbs. to the quarter was quite heavy enough—that was what butchers liked; as a rule they did not care about heavier sheep. Mr. Saunders had a very good sort of sheep, but they were, in his opinion, a trifle too heavy; if they were not so heavy they would, he thought, command 1d. per pound more money. He was finding no fault with Mr. Saunders, whose rams he had used this year; he went in for the finest quality rather than the coarsest. He was not much concerned about the foot rot; he recommended that careful attention be paid to sheep thus affected—the use of ointment and cutting were necessary.

Mr. BESENT said his shepherds were very fond of using rock salt.

Mr. RANDALL, the secretary, considered it to be of the utmost importance to exercise the best judgment in the management of a flock. He generally kept his own ewes on turnips before their lambing. It was a great mistake, he thought, to be continually effecting changes in food; sheep should be kept as regularly as possible until after lambing. That, in his opinion, was the best way to manage a flock.

The PRESIDENT, on behalf of the Club, thanked Mr. Saunders for bringing forward the subject. He felt sure every member in the room had confidence in Mr. Saunders' judgment—so great had been his experience while associated with his father at Watercombe. There was no question about the subject being one of large ramifications, and of immense difficulties with reference to climate, the selection of farms, and the different kinds of sheep suitable to particular climates and soils. The mode of management in one season might be very successful, but just the reverse in others; it was a matter regarding which it was impossible to lay down any fixed rule for observance. Therefore the results of practical experience were all the more valuable. It was almost impossible for any man to say he had nothing to learn on this subject; every season brought with it its difficulties. For instance, the crops for feeding purposes were not the same every season, and the health of the flock, which had to be considered, must to a certain extent be influenced by the seasons. The great secret of success was, he thought, the selection or a sort of sheep most suitable to the farm and making the most out of the crops produced by the land. It was from such discussions as the present they were able to get at practical results, and he considered they were greatly indebted to Mr. Saunders for having given them the benefit of his experience. As far as his own (Mr. Bates') experience was concerned he would observe, without wishing to set his judgment against that of others of more experience, that according to his idea the fewer roots sheep had in ordinary seasons, before lambing, the better. He had heard from experienced men that the large amount of water contained in the roots had an injurious effect upon the ewe and offspring. But let them test the various accounts

on that master by their own experience, and thus they might be able to come to a satisfactory conclusion. The president again expressed his thanks to Mr. Saunders, who was well applauded.

Mr. CHAPMAN SAUNDERS briefly returned thanks for the compliment paid him, answering *seriatim* the various questions put to him. He was not, he said, an advocate for using so many roots before lambing; there should be a certain quantity used, but care ought to be taken not to give too many; personally he liked to give plenty of hay. Regarding the foot-rot, the best thing was to keep it down as much as possible when only a few sheep were affected; when the malady was very bad they should be dressed every second or third day, and the system of separating the diseased from those unaffected should be carefully carried out. There was often a great art in using the knife on such occasions. In bad cases it took a long time for the renewal of the hoof. Regarding the best mixture he said on his own farm he used two parts of blue stone, one part of gunpowder, and one part of verdigris, mixed with a little salve and linseed oil. Answering Mr. Longman he said he considered the use of com-

mon turnips as food much safer than swedes. Replying to Mr. Ellis he observed the same course of treatment as that which had been so successful in his case might in another season have just the reverse effect. They had just been benefited by a most favourable winter. Mr. Scutt had rather puzzled him as to the cutting of roots causing him to lose such a large per centage of sheep; he could not well understand it. He (Mr. Saunders) was in the habit of cutting swedes for his sheep, and he recommended the system, more particularly for hogs. He could not explain Mr. Scutt's case. Perhaps the swedes were heated in the heaps. He should attribute the loss more to some other cause than the cutting. No truer remark had been made than that by Mr. Robert Randall as to the importance of regularity in feeding and the evil of constant changes. As soon as the lambs could feed he (Mr. Saunders) would give them a little of the best cake; he did not like peas—he preferred beans. As soon as the lambs were able to eat they should have what they could eat—that was the plan observed by the Hampshire people. He would not split the beans; there was more danger from feeding with peas than with beans.

AGRICULTURAL SOCIETY OF NEW SOUTH WALES.

CATTLE BREEDING.

At a monthly meeting of the Society, held at Sydney, His Excellency the Governor in the chair,

Dr. R. L. JENKINS read the following papers as appendices to the one which he had read on cattle at a former meeting: I desire to supplement my paper with a few additional observations on the very important question brought so prominently and properly before us at our last meeting by his Excellency. I mean as to whether we shall be able to raise meat in sufficient quantities to supply a larger demand, and that without increasing to any considerable extent the price in this colony. I have shown in my paper that we had 2,104,888 cattle and 16,278,697 sheep to commence the year 1872. It is true that the cattle are over 6,000 less than in 1862, but we had then only six millions instead of sixteen millions of sheep as at present. The chief cause of the decrease in the cattle is attributable to the great havoc made by pleuro-pneumonia in our herds in 1864, and four subsequent years. Cattle owners became frightened; large numbers of the breeding cows were speyed and fattened off; no fewer than 704,000 cattle were boiled down for their tallow only in the years 1864 and 1865. The raising of cattle, speaking generally, has not been so profitable as of sheep; but now that we have a European market, cattle are in demand, and it is not likely prices will be so low again. They will not be boiled down for their tallow only; nor do I expect will many of the females be prevented from breeding; but, on the contrary, there will be a danger that in the anxiety to get numbers the quality of our cattle will not improve, but this drawback, even with inferior cows, can be much obviated by the use of good bulls. It is, however, by substituting for bullocks which take four and five years to gain a weight of 600 and 700 lbs. others that mature to 1,000 lbs. in three years that I would rather rely on largely increasing our supply of animal food. I believe from this change alone, taking into consideration the grass saved, which of course would be feeding other cattle, that we may estimate our gain at over 40 per cent., and that of the best quality. Improving our feeding grounds will also much assist in giving increased production. During a very pleasant visit I made last August on the Hunter River I rode over lands now covered with rich pasturage, but on which some twenty-five years since I remember the grass was only growing in tufts many inches apart. This change has been brought about by the sapping of the worthless trees. I noticed that the land had been enclosed and plentifully supplied with water by water holes and dams. It was pleasant to see well-bred bullocks fattening on the land forming these paddocks which in an unenclosed and unimproved state were regarded but of little value. In these remarks I chiefly refer to the properties of the Messrs. White of Edenglassie. In addition to the improvement of our natural pastures a good demand will lead to the laying down of lands favourably placed with grass-

seeds, and especially with lucerne. I believe, therefore, with the good stimulus of a certain payable market we need not fear but that the supply will be equal to the demand. What this will amount to may be gathered by a paper sent me on Home Meat Supply, which I give as appendix A. It is the report of the Veterinary Department of England for 1872; and I beg to direct attention to the very valuable information it gives on the subject. This consumption of meat in Great Britain, during the year 1872, was 18,022,973 cwt., giving on an average only 78 lb. to each person less than is consumed by an Australian in eight weeks, of this 67 per cent. was home produce, 20 per cent. Irish, and 13 per cent. foreign. It will be seen that the total importations of preserved meats from Australia and other places amounted to about 1-60 of the total supply of live and dead meat—without greatly increased importation into England. The present miserable average of 78 lbs. to each person must yearly decrease. Home Meat Supply.—Some interesting information on this subject is given in the report of the veterinary department for the past year. It seems that 18,022,973 cwt. of meat were consumed during 1870, of which 67 per cent. was home produce, 20 per cent. Irish, and 13 per cent. of foreign, or calculated on the population the average consumption by each person was 78 lbs., of which 52 lbs. were British, 16 lbs. Irish, and 10 lbs. foreign. The mean price of live beef during the past year has increased from 7½d. in 1871 to 7¾d. in 1872, the rise in the first quality and in the inferior quality being about the same, due to increased cost of production caused by increased rent and increased cost of labour. An increase has occurred year by year, not only in Great Britain, but also in Continental countries, as shown by tables in the appendix to the report giving the prices of meat in Germany and Australia. There have been no new sources of supply of live meat discovered during the past year; nor have there been any new processes discovered for preserving dead meat which appear to have succeeded. Nevertheless, our foreign imports of meat during the past year have increased from 1,088,890 cwt. in 1871 to 2,851,485 cwt. in 1872. In addition to the salted meat imported in this country, we have a considerable importation of meats preserved by other means. The importation of these preserved meats from Australia and other places has greatly increased during the last few years, but it has not yet reached one-eighth of our total importation of dead meat, and is only a little over one-sixth of our imports of bacon and hams, the greater part of which are brought from the United States. Our imports of preserved meats, although large in amount, only represent about a sixtieth part (1.638 per cent.) of our total supply of live and dead meat. As my statement that the same principles of close-breeding is applicable to horses appears to have taken some of my friends with surprise, I will add to my paper some extracts taken from "Stonehenge's British Rural Sports," as they bear on this subject. It will be seen, as in the case of

Shorthorns, that all our best cattle are traceable to the blood of Phoenix and her renowned sons, Comet, Favourite; so in blood-horses the goodness of a pedigree is dependent upon the amount of Eclipse or Herod blood it contains. The genealogical tables published by this writer show the strains from which our more successful horses are derived. The mares are limited to about two dozen, "generally closely related to one mother." As to the sires he says, "by comparing the above tables it will be found that some names meet the eye continually, as for instance—Eclipse, and his sons Alexander, PotSos, Joe Andrews, Salham, Dungameon, Mercury, and King Fergus; and Herod and his son Hightlyer; Matchem also is constantly met with, but not so frequently as Herod, Hightlyer, and Eclipse; and it is remarkable that, though the Godolphin blood on the whole preponderates over that of either the Byerley Turk or Darley Arabian, yet it is spread over a greater number of channels in its descent." The value of these names is such, that I believe the goodness of a particular strain may generally be estimated by the amount of Herod or Eclipse blood in the pedigree, especially that of the former. Hightlyer, combining the blood of Herod with that of the Godolphin Arabian, is also particularly valuable as a progenitor, and perhaps even more so than Herod when derived through other sources; but taken as a whole, whether coming to us through him or through Maria, the dam of Waxy, or through other sources, I believe that it may generally be assumed as a rule that in proportion to the amount of Herod blood found in the sixty-four progenitors of any horse in the sixth remove will be his value as a racer, and when the amount is large, with the addition of a liberal allowance of Godolphin blood, and that of Darley Arabian through Bartlett's Childers and Eclipse, the combination is of that quality that it cannot be excelled. Let the investigator into the arena of the breeding stud calculate and compare for himself those elements, as contained in the annexed tables, and I think he cannot fail to come to the same conclusion. But, independently of the value of these tables in giving an idea of the various combinations of strains composing each pedigree, they are also of great use in leading to an estimate of the propriety or otherwise of in-breeding. Without such a guide as is here afforded it is impossible to guess even an the curious relationships which exist between the ancestors of our present horses of note. Wherever the full table is given, if the eye is cast down the several columns, the chances are that the same name occurs again and again; and in this way the conclusion is forced upon us that in-breeding, to some extent, has been always adopted, and almost of necessity; because every horse of note is now derived from the same sources, though often variously mixed, and sometimes kept in a distinct strain for several generations. I could not give a more striking demonstration of the truthfulness of these remarks than by referring to the highest priced bull ever imported to this colony. This animal, costing 1,000 guineas, was evidently purchased for the goodness of his pedigree, which is one of the most fashionable, and in the mind of the selector must have completely outweighed his very defective chest. A writer in *The Mark Lane Express*, of July 7, 1873, signing himself "Vigil," describes the Holker Herd, of which this bull was a member. He says that his sire, "Baron Oxford 4th," is a magnificent bull but flat in his ribs, concluding thus: "We now profess our disinclination to the infirmity, and having said so much on one side we now gladly record that the Baron's offspring, without exception, struck out the round rib as we could wish to see." "Vigil" could not have seen the son now in Quarantine, for his (the son's) is a clear case of transmission of defects from his sire, and of those a very important kind for a small chest and narrow frame either in man or beast, is indicative of a weak constitution.

Mr. LIVING could not go the length of Dr. Jenkins with regard to the superiority of Shorthorn cattle, as that breed of cattle was not fitted for all places. On the coast country there were many things in favour of Shorthorn cattle—plenty of grain, &c., but he found they suffered more than any other class from pleuro-pneumonia. In the intermediate country the Shorthorn stock thrives well, and also in the saltbush country. But he doubted whether it would thrive so well as other breeds of cattle would if the country was fully stocked. He thought Dr. Jenkins had overlooked the improvement which had taken place in other breeds of cattle. He had been on the Richmond, and he found that the breeders in that part of the colony were going in for Devons and Herefords, as they found

that damp localities were not favourable for breeding Short horns. In other places it was the same.

Mr. WOODHOUSE feared that in the scope of that paper which they had just heard ably commented upon by Mr. Living, the writer (Dr. Jenkins) had attempted to prove too much. He (Mr. Woodhouse) dissented from the view which Dr. Jenkins had expressed in regard to the Devons—that they did not fatten readily, and that they were not such good milkers as the Herefords. In regard to the assumption that they did not fatten easily, there was an opinion to be found in Mr. Youatt's work (a well-recognised authority on stock-breeding) which went directly to contradict that. In that, and in some other respects, when a comparison was instituted between these Devon cattle and the Herefords, the Devons had greatly the advantage. The Devons produced more meat by 100 per cent. than the Herefords, when carefully experimented upon. At page 19, Mr. Youatt said: "They do not indeed attain the great weight of some breeds, but, in a given time, they acquire more flesh, and with less consumption of food, and their flesh is beautiful in its kind. Mr. Youatt gave direct proofs in support of this opinion. The flesh of the Devons was of a mottled, marbled character, so pleasing to the eye and to the taste. On the Duke of Bedford's Tavistock estate, in the county of Devon, experiments had been made on two Herefords and two Devons, and it was found, when they were sold to the butcher, that the Devons were by far the superior in fatness and in weight. Mr. Conyers, of Copt Hall, near Epping—a district almost exclusively devoted to the purposes of dairy farming—had distinctly recorded his preference for the North Devons as milk-producing cows; and his (Mr. Woodhouse's) experience also led him to be favourable to that opinion, and generally to entertain a very high idea of these Devon cattle. A short time ago he purchased some Devon cattle from Tasmania in low condition, and then put them out to graze. They turned out exceedingly well, and (speaking from thirty years' experience as a cattle breeder) he never found cattle so tractable, or become fat so readily as did these. They were soon able to be fed by hand, and proved excellent milkers from the first, producing much milk even when they were still very poor. He thought that the Devons were a very excellent kind of cattle to introduce into that country. Mr. Woodhouse here cited several data in support of his good opinions of the Devons, and proceeded: He thought that these tests, combined with his own personal experience, went clearly to show that they ought not to consider the case as yet settled, and that they ought to have papers written and read upon the Shorthorns and the Herefords. If such a course were taken, they would be better able to judge in the important question. For himself he had a very high opinion of the smaller cattle, because, amongst other things, they could travel much better in summer.

Mr. LAMB could also speak as to the excellence of the Devon cattle, but thought they were rather prone to become very wild and unmanageable, unless great care was taken of them.

Mr. T. S. MORT was not qualified to say much as to the breed of the beautiful animals spoken of by Dr. Jenkins, Mr. Living, and Mr. Woodhouse, but he was particularly interested in the question of the preservation of meat. During his stay at Bodalla he had, however, naturally paid much attention to the breed of his cattle, and at that time he had written a paper in favour of smaller cattle as preferable to larger, which had not been published because he feared that its object might have been misconstrued. From what he saw, he was strongly impressed with the necessity of two things as desirable for cattle in that country—that they should not be too large, and they should be good-tempered and easily handled. Temper was a very great requisite in cattle, whether in cows as milkers, or in cattle, speaking of them generally, as beasts that had to be driven to the market. At that market would also invariably be found that the smaller cattle were preferred for meat. He confessed he did not like large cattle. In times of drought he had invariably found that it was the large cattle that suffered most. They got bogged first, and were with the greatest difficulty extricated from the miry spots into which they were wont to flounder. On the other hand, the small cattle were found in drought to keep up their frames more easily—to hop, as it were, over those sloughs into which the big cattle fell—and when they did get plenty of feed and water they fattened easily. They also gave, he believed, more milk than the larger breeds. It was a very great advantage, too, that they carried themselves more easily to market than the larger cattle, and

were more liked by the butchers and their customers. There was also economy in the feeding of the smaller class of animals, as had been pointed out by Mr. Woodhouse. It was here a matter of extreme importance that we should have cattle that could travel readily to market. We could, by breeding and feeding, keep more cattle on less grass if we kept the smaller kind. He, for his part, would rather keep a hundred cattle in his artificial pastures at Bodalla than seventy large beasts, because the large cattle always pounded the ground under foot, and so destroyed much food. He trusted that the iniquitous laws here would not be upheld, which effectually checked the production of cattle; and he felt confident that a law might be made which would tend to encourage the growth of stock, and to secure the squatting interest. It would cause meat here to be produced in plenty for export, and that without the price being raised to an exorbitant price, as some seemed to apprehend. Considering the great loss that had taken place here some years ago by pleuropneumonia, it was surprising that our present stock should be even what it was. If we utilised our land and increased our pastures and herds, we should have no want of meat in time to come. Boiling and tinning meat would not long be the means by which our meat would be sent to the English market; it would, he believed, be by the manner which he had approved of, and which he had for years been endeavouring, at a considerable expenditure, to have carried out. There would always be a demand for all the meat they could supply, and at remunerative prices to the producer. If meat could only be introduced into England at a reasonable price, the consumption of it would be enormous. Let them increase their export of meat by breeding, and by every means in their power, and in so doing they would be acting as would best conduce to the general welfare of the community. We should first of all try to increase our exports by improving our land laws as much as possible. What would ensure the success of the meat exportation to a great extent was such an alteration of the land laws as would enable or induce the possessor of the land, whatever you might call him, to make the most of his land, instead of as now, making the least of it—to give him such a tenure of it as would induce him to expend capital in its improvement, by making water-holes, ringbarking the trees, and other things. If such were done our meat exports would increase until our wool and tallow exports would become mere items compared to it. One of our greatest sources of wealth lay in that very question. They could understand it better if they remembered that the foot-and-mouth disease in England had caused a loss of nineteen millions sterling. What ought we not to do, if in England the cattle breeders could sustain a loss like that, and still have countless herds amongst them? He thought the question of providing highways, for the travelling of stock, was one of the most important that the Legislature could possibly deal with. Because if there were no roads to carry our stock, how upon earth were we to get it to market? The bringing of stock was not the only consideration; the bringing of it to market with as little deterioration as possible, was a most important consideration.

Dr. JENKINS said that, with regard to what Mr. Mort had said about small breeds of cattle, he quite agreed with him that we should have small breeds, but not perhaps in the way in which Mr. Mort meant. He thought the cattle which Mr. Mort had been accustomed to see were large ill-bred cattle—cattle growing upon long legs, large-boned, ill-shaped animals. What we wanted was a large animal in a small compass, walking on short fine legs, with great squareness; and such animals, of whatever breed they might be, would, he contended, fatten quicker and better than other animals. He understood Mr. Mort to advocate not any particular breed, but that we should get a good small animal; and that animal we could obtain, and in fact possessed in the improved Shorthorns. They grew to great weight, and yet they were very light as regarded their offal. He did not desire to say, nor had he in his paper said, anything against the aptitude of other breeds of cattle. He had only compared the Shorthorns to the Devons, which did not possess fattening qualities in the same degree. His opinion was that Shorthorns matured earlier and produced greater weight, with less food, taking natural pastures into consideration, than other breeds. And they had this other decided advantage over other breeds—their milking qualities. He would ask Mr. Woodhouse where he would find in the home country dairies the Devons or Herefords used as

milkers? They were nearly all Shorthorns that were used for dairy purposes; and that was at once a reason why in this colony the preference should be given to the Shorthorn breed. At the same time let the different breeds be tried in different localities of the colony, and leave it to further experience to say which was the best. He hoped that in two or three years' time we should have this discussion renewed, and be able to bring much greater experience to bear upon the subject. He was glad to hear Mr. Mort express an opinion that the days of tinning meat would soon be over. But large quantities of tinned meat would still be used on board ship and for many other purposes, for which the carcasses could not be supplied.

Mr. P. N. TREBECK said he felt that the subject under consideration had not received the attention of members that it ought to have received. Many of our breeders were busily engaged on their stations superintending shearing and other operations; and he proposed that the discussion should be postponed, and that the secretary be instructed to write to the principal breeders of Hereford and Devon cattle, asking them to write on the breeding of such cattle.

Mr. H. BERT seconded the motion, which was agreed to.

The council then rose.

THE LATE ROBERT OVERMAN.—Last week was recorded the death of Robert Overman, late of Egmore. In that simple and unostentatious record, so like his own character, how much more is left untold? how much will be recalled by the hosts of friends he has left behind? how much more by his attached relatives? The eldest of a third generation famed for their practical skill in agriculture—the grandson of that Robert Overman who drew the first Holkham lease, and who, when his own first lease was nearly out, rode with his landlord over his farm, and made its valuation greater than that of his landlord—of a race whose attachment to the name and fame of Coke was on all occasions remarkably exemplified—the deceased inherited and carried out in modern agriculture all that modern science and skill, with energy, shrewd judgment, and order, could add to the practice in which he was brought up. Of his characteristics, Egmore was an example. Of an estimable and generous and indomitable spirit, a hospitality which was ever open-hearted, Robert Overman—with a right pride in the character of a Norfolk yeoman, and what was required of a tenant on the Holkham estate—whether it was for the pleasure and sport of a Prince or for his landlord, or for the benefit of his occupation—shone conspicuous in all he undertook. His door was open and his reception kind to all those who desired to see the cultivation of his occupation, or “breeding in all its branches,” in carrying on which he was acknowledged to be one among the foremost of his race and degree. What character he bore in his own district was demonstrated in the attendance at his funeral and in the general expression of sorrow by all who knew him. His late landlord, whose high esteem and friendship he enjoyed through life, a host of personal friends—not gentlemen only, but also ladies, and many of the poorer classes, joined the numerous relatives of the deceased in the mournful procession, which was formed at Burnham Deepdale. There, where the remains of those of his race who have preceded him await a joyful resurrection, the last rite were performed. Robert Overman's was a spirit, though by no means free from mortal frailties, whose immortality will, we trust, receive from the Great Judge and Ruler of all that Justice, Mercy, and Forgiveness which when on earth he was ever ready to show to all with whom he came into contact.—*The Norwich Mercury*.

KINGSCOTE AGRICULTURAL ASSOCIATION.

TWO-YEAR-OLD BEEF.

At the meeting of the Kingscote Agricultural Association, at Hunters' Hall Inn, Kingscote, under the presidency of Col. Kingscote, C.B., M.P., Mr. H. S. Hayward read a paper on the best and most profitable method of producing two-year-old beef.

Mr. HAYWARD said the present high price of butcher's meat makes it an important consideration whether the markets cannot be better supplied by bringing out beef at two years old than at a greater age, if it can be done profitably. One farmer stated as his experience that he could not afford to follow such a losing business as buying lean bullocks, at £15 to £20 each, to begin upon. His plan, which he said paid very well, was as follows: Twelve cows are engaged in rearing calves, which are fattened from birth, and are sold at about twenty-two months old, when they weigh 100 to 120 stone. The calves are, of course, well bred, while those calves which have to be purchased are carefully selected. They are weaned at three months old, having been previously kept short of milk, and fed partly on gruel, and thus induced to feed on oilcake and hay. Supposing them to be weaned in December, their daily ration at six months old would be 1½ lb. or 2 lb. of linseed cake, with the same quantity of bean meal, and a sufficient amount of grains, mangold, and hay. The cake and meal are gradually increased, till at twelve months old the calves get twice the quantities just mentioned. In summer the other articles of diet which have just been named are replaced by trifolium, which is excellent food while it lasts, tares, which are also good, and grass, with second cut clover. The whole of the green food is cut and brought to the animals in their sheds and houses, which they do not quit till the proper period arrives for sending them to the butcher, by which time their daily rations have been increased to 4 lbs. of cake and 6 lbs. of bean meal, with roots and a moderate allowance of hay. The principle of management is to let the animals continually master or outgrow their food, pushing them on rapidly the last three months, so as to land them fat at the desired haven at something under two years old. There is no reason to doubt that from 100 to 120 stone, or ten to twelve score a quarter, can be attained at two years old, by high feeding, but as spending a guinea to obtain a pound is a losing business, it is necessary to ascertain by actual calculation whether such an expensive system can be profitably carried out. From a moderate computation, based upon the quantities of food given in the statement just quoted, and taking into consideration the necessary incidental expenses, it is calculated that each animal fattened on the above system costs £33 16s. 3d. The gentleman who adopted this system states that he sells his fat cattle at 100 weeks old, at from £30 to £40 a head, and so realises a profit. But the question arises, Could not a saving be profitably effected upon many farms, by turning the animals out to grass the second summer, thus saving the feeding upon artificial food six months, even though they might not be ready for the butcher quite so soon? He was quite satisfied that, even if early maturity is not the object aimed at, it is wrong to turn calves out until they are a year old. By being kept in they will escape the "husk," and other complaints young stock are liable to. Another account of a different and much more economical plan of rearing and feeding stock, which has been followed for several years on a farm in the South of Scotland, is worth quoting: "The lot of fourteen calves to which the account refers were partly purchased and partly bred upon the farm. Those purchased averaged 43s. a head, at which price they are all valued. The calves, with one exception, were calved between the 5th March and 18th April, the average date of calving being the 17th March. For the first twelve weeks they were fed with 1½ gallons of milk per day; for the next four weeks they had one gallon per day, and a half-pound of linseed cake, and were turned out to grass; they were then weaned, and the cake was increased to 1½ lbs. They continued on this fare till about the 13th October, when they were housed at night, and got 1 lb. of rape cake added to their allowance of linseed cake; this was their winter's fare, and the cleanings taken out of the feeding cattle's turnip boxes, which was about a wheelbarrow

load among the fourteen calves. They were turned out to grass on the 18th May, and seven of them grazed on grass till near the 13th October, at which date they were shut up in open courts with covered boxes for their food, and covered sheds; they got then an unlimited supply of white turnips and chaffed hay, and also 4 lbs. of cotton cake. Swedes were substituted for the white turnips some time in December, and the extra foods were gradually increased. The average price which they fetched was £34 7s. at the age of 25 months." It is estimated that their total cost in feeding was £25 14s. 6d., leaving a balance of £5 12s. 6d. on each calf. Circumstances, however, must influence practices, and turning out calves to grass in the South of Scotland might answer, when it would not do in other parts. For the future he intended in his own practice to take the calves from their mothers at from a week to a fortnight old, giving them for the first six weeks two-and-a-half quarters of best milk morning and evening, and after that time three quarts of skimmed milk, warmed to the natural heat, for another six weeks. Each calf to have a separate stall and manger, and at three or four weeks old, when they begin to eat, to be fed with chaff, mixed with a little meal and cake. At twelve weeks old they will do without milk, and then a little pulped roots should be added to the chaff, meal, and cake. At this time they will not require to be kept in separate stalls, but may be put two or three together in loose boxes, where they should remain until the following summer. He found from experience that they did much better if not turned out to grass the first summer, and would be safe from "husk," which, particularly in low localities, is such a fatal disease. By this management they will first go to grass at fifteen or sixteen months old, and will then do well until the autumn, when, if intended to be brought out fat at two years old, they must be stall or box-fed with a liberal allowance of meal and cake. No doubt cattle would arrive at greater weight at two years old, if never turned out, but their living in fields upon grass alone for six months, in the second summer of their lives, is a great saving of expense, and probably pays best. The rapid increase in the population of the country, and consequently increased demand upon the supply of meat, made him think that the subject he had briefly introduced for discussion might be productive of some good. He thought they could not do better than try to increase the supply of meat by bringing their stock to maturity as soon as they possibly could; and as the man is said to be a benefactor to his country who can make three blades of grass to grow where only two have grown before, surely they would be still greater benefactors, if they could send three fat beasts to market instead of two.

The CHAIRMAN said the subject Mr. Hayward had brought before them in such an interesting manner was one of great importance to all: the present high price of meat with a daily increase of population rendered it very needful to give attention to future supply. No one doubted that the supplies must be greater before prices got lower, or even if they were to remain as they were. It would very much increase the supply if cattle were brought out at two years old instead of three, and, he believed, if they were kept well, they would be as heavy at two as at three. In one of the instances Mr. Hayward had given there seemed to be £5 per head profit, while in the other there was scarcely any profit at all. There must be a cause for such different results under such very similar treatment, either in the breeding or selection of animals, the attendance, climate, or quality of food. Therefore it is of great importance for them to thoroughly discuss the subject, that they might arrive at a satisfactory conclusion as to whether it could be done with profit, and if not, to discover the reason.

Mr. GARLICK, of Beverstone, thought that to produce two-year-old beef with profit they must start right; they must breed or buy well-bred calves. It was a great mistake to sell the best calves at from £5 to £10 for bulls. The difference in price of a two-year-old from a well-bred healthy sort over a middling-bred one was quite £7 or £8. When they had got the right sort of animal they must have it well looked after,

regularly fed, and not forced with more than it could eat. Some years ago he lost several calves from scour when they were having a small quantity of milk, and a quantity of water with it. Since then he had given no milk after the calf was eight weeks old, and had found them do well on linseed-cake, meal, hay, and chaff, till turned out; then cotton-cake through the summer. They had no artificial food after twelve months old till they were put up in the stalls to fatten, and then they began by having a small quantity, and finished up for the last five weeks with 4lbs. of cotton-cake, 4lbs. linseed-cake, and 4lbs. of meal per day.

Mr. BLACKWELL asked: Do you find any ill effects from using cotton-cake?

Mr. GARLICK: No. He would not think of giving cotton-cake to animals eating straw, but he believed in its use when cattle were fed on grass or turnips.

Mr. BURNETT was of opinion that to make farming more profitable a quicker return of capital was needful, and to bring out beef at two years old would be a means of doing so; they must, however, as Mr. Garlick had said, have the right sort, and see they were well fed; for both as regards food and comfort, he did not believe in turning calves out on poor pasture, when three or four months old, to be teased nearly to death with flies, with the risk of getting the "husk" in the autumn, and being rendered scarcely fit to be seen till nearly turning out time in the succeeding year. Although Mr. Hayward had mentioned some one who condemned the system of

buying bullocks at from £18 to £20 for fattening, he would much rather buy and fatten them than bring them up to that age, and sell at that price. He did so for Colonel Kingscote last year, and the result was such as to induce him to buy a larger number this year. Knowing this subject was to be brought before this meeting, he had written to a friend of his in Hampshire, who had had great experience in bringing out two-year-old beef. His friend replied: "I find, when fatted at two years old, there is little profit left; when kept longer, there is none. Our grass in Hampshire is not good enough to keep them the last summer without cake; for the last seventeen years I have sold at two years old from £28 to £33 each, weighing from 40 to 45 score; one year the cows were served by a cross-bred bull, and the produce I sold at the same age for £25. Our system of feeding has been, and is at this present time: yearlings—straw, chaff, and mangold, with 4lbs. of cotton-cake per day; two-year-olds—chaff and mangold, 4lbs. of meal, 4lbs. of cotton-cake, and 2lbs. of linseed per day."

The following resolution was proposed, and carried: "This meeting is of opinion that a well-bred calf, if kept well from the time it is dropped, and not turned out the first year, can be brought out fit for the butcher at two years old with profit."

The CHAIRMAN proposed a vote of thanks to Mr. Hayward for the way in which he had treated the subject, and the meeting broke up with a vote of thanks to the Chairman.

THE LANDLORD AND TENANT BILL AND THE CENTRAL CHAMBER.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—The discussion at the late meeting of the Central Chamber of Agriculture was, upon the whole, good, but I cannot say as much for the resolution which was adopted, or rather re-affirmed. I conceive that it will not be a little difficult to embody so loose a proposition in a bill, or, at all events, to get any such clause passed by Parliament, and, if the feat were accomplished, I conceive it would be still more difficult to carry so vague a provision into practice. One of the first questions which would inevitably arise in the settlement of compensation under any lease or agreement would be, Does the lease or agreement give security—adequate security—for the unexhausted value of the improvements? Who is to decide this knotty question? Is it to be left open for either party to remit the point to a court of law? If so, one of the objects kept steadily in view in framing the bill—the prevention of the possibility of legal proceedings between landlord and tenant—will be defeated. If provision be made, as proposed by Mr. Carrington Smith, for leaving the point to the decision of the arbitrators, whether "efficient and sufficient compensation" is provided for by the lease or agreement, it would be adding to the already onerous duties imposed upon them, a work which, in many instances, would more befit a lawyer. As far as I can judge, there would be no substantial gain in such a piece of legislation, for it may be assumed, with some certainty, that if there should be any difficulty in deciding the question whether the lease or agreement was or was not as liberal as an Act of Parliament, the majority of arbitrators would simply fall back upon the provisions of the Act.

At nearly all the discussions which have taken place upon the Landlord and Tenant Bill, there has been an attempt on the part of some speakers to get rid of the operation of clause 12. The Central Chamber, by its resolution, has attempted to do so by a side wind, but the framers of this precious resolution have, I think, outwitted themselves, for if the resolution means anything the principle of freedom of contract is just as much infringed as it is under clause 12. For instance, if any particular lease or agreement should fail to give security for the unexhausted value of the tenants' improvements, then the law is to override such lease or agreement. On the other hand, if clause 12 becomes law it would be inoperative under any lease or agreement which gave compensation equal to the Act.

Seeing that landlords and tenants are and always have been free to make their own agreements, I never could see any use whatever in troubling the Legislature about a bill unless it was to be compulsory. Then it should be remembered that there are a host of "Limited Owners" who have not the power to grant leases or to make agreements binding on their successors; but this is too long a question to enter upon in a letter.

The important point after all is not the 12th clause, the main question is: Are the compensation clauses fair and just as between landlord and tenant? So far as I know, not one of the hundreds of critics of the Bill have attempted to show that they are unfair, or even unsuited to any particular locality. 'Tis true that not a few have uttered the stale platitude that rules cannot be laid down suitable for the varying circumstances and customs of different counties. This I may say Mr. Read and I were not foolish enough to attempt: we contented ourselves with laying down certain broad, general principles of universal application—principles I may say of fairness and justice—which could be carried out in practice by arbitrators in any and every part of the country.

The cry raised "interference with freedom of contract" is simply a *bogey* set up to frighten timid and prejudiced people. The Bill so far, and so far only, interfered with freedom of contract as to prevent an unscrupulous landlord from appropriating that which was not his own—viz., the capital invested in the soil by his tenant; in all other respects landlords and tenants would be left perfectly free to make their own bargains, and I may add to agree to the wisest, or the most absurd, covenants.

When Mr. Sharman Crawford first brought forward a Tenant-Right Bill for Ireland, his proposals were most moderate, but they were resisted by the landed proprietors, and the cry raised, "Freedom of contract." There are not wanting signs of the times that if the question of Tenant-Right is not settled quickly in England, the demands of the tenants will grow as they did in Ireland. For instance, the question of "disturbance" of a tenant, without adequate cause, was pressed upon me last year by steady-going responsible tenants who had a good deal to urge in favour of the principle and about its effect in Ireland.

I am, yours faithfully,

JAMES HOWARD.

Clapham Park, Bedfordshire, March 12, 1874.

BOTLEY AND SOUTH HANTS FARMERS' CLUB.

THE SCARCITY OF HORSES.

At the last meeting at Botley, Mr. W. Warner in the chair, the subject for discussion was "The present scarcity of horses, with suggestions for a remedy," introduced by Mr. J. D. Barford, V.S., of Southampton.

Mr. BARFORD said: I venture to think the subject chosen for our consideration to-day is one of importance, for I would venture to ask what would an Englishman do without his horse, whether for agricultural or business purposes, or the purposes of pleasure in a carriage, or in the hunting field? It is a remarkable fact that, although the British Isles are pre-eminently in Europe for horse-breeding, and although our countrymen are probably unrivalled for practical skill in all that concerns the rearing and treatment of horses, our literature is singularly deficient, and our statistics are lamentably wanting in all that relates to the raising of the horse. In treating this very wide and complicated subject—a subject that was considered of sufficient importance last year by Lord Rosebery to ask for a committee of the House of Lords to inquire into its several bearings, and although the Earl of Granville, the then representative of the Government in the Upper House, treated the matter very jauntily when the application was made, still a committee was granted, and anyone that has looked through the evidence will agree that many important facts relating to the subject have been ascertained, and although the recommendation of the committee is extremely meagre, still I have no doubt some good results will follow. In treating this subject I purpose making some general remarks on the breeding of our thoroughbred and half-bred horses, following these up by some remarks especially applicable to agricultural horses, which, of course, is the part of the subject most interesting to the members of a Farmers' Club. In the first place, in tracing back the origin of our thoroughbred horse, I have no doubt we owe a great deal, if not all, of the excellence of our present breed to the Eastern blood, viz., the Arabs, the Barbs, and the Turkish stallions—these crossed with English mares have created a distinct type which no doubt is unrivalled in the world for combined speed and stoniness, and there is no doubt originally racing was started and carried on for the improvement of our best breeds of horses, and although there may be practices on the turf at the present day that many may not quite agree with, still I venture to give it as my opinion that it has been the means of accomplishing in a very marked degree what it was originally intended for, and I think nothing can be a greater proof of this than the extraordinary demand there has been on the Continent for some years past for our best sires and dams; for I think I am right in stating that hardly a single bred stud on the Continent of any note—"and their number is legion"—but contains more English animals than almost all other breeds put together, and even the far-famed American trotters are descended from an English thoroughbred horse; and as I consider this great demand on the Continent for our thoroughbred and half-bred mares is one of the principal causes of the present high price in horses, I will briefly bring before your notice the particulars of a few of the principal continental studs, and see if we can gain any hints therefrom, and quoting from an article on this subject in the last number of the *Edinburgh Review*, I find that Russia is placed first as the most notable instance of horse-breeding on the Continent, and amongst the most successful breeders in that country are the celebrated Orloff family. On the declaration of war against the Turks in 1772 the Empress committed to Count Alexis Orloff the command of the Russian fleet, and with the assistance of our countryman, Admiral Elphinstone, he obtained a signal victory over the Turks. In consequence of his chivalrous conduct to the Pacha, who he had captured, the Pacha, to evince his gratitude, soon after presented him with the celebrated barb Smetanska, progenitor of the two Orloff breeds, and whose skeleton is reverently preserved in the Orloff Museum to this day. Count Alexis commenced his stud in 1770, and Russian horse-breeders give the following list as the first occupants of his stable: Arabs, 12 stallions and 10 mares; Turkish, 1 stallion and 2 mares; English, 20 stallions and 32 mares; Dutch, 1 stallion and 8 mares; Persian, 3

stallions and 2 mares; Danish, 1 stallion and 3 mares; Mecklenburgh, 3 mares. I mention this stable to show in this stud what a large preponderance of English blood existed; and independently of this I find that Count Orloff obtained from England two sons of Eclipse and Highflyer, and the winners of the St. Leger in 1792 and of the Derby in 1794, Tartar and Dædalus, besides many others. These produced a distinct type called the Orloff trotters, a breed of world-wide celebrity as well as a breed of saddle horses—and, I find it stated by a French stud officer who attended the horse exhibition of Russia in 1869 that they were realising prices varying from £120 to £280, which, it must be confessed, are very remunerative prices to a private breeder. Independent of this stud it is stated that there are no fewer than 1,600 private studs in Russia, with nearly 6,000 stallions and upwards of 50,000 mares, besides large studs which are maintained by the Government, as is the case by all the Governments of the Continent. Next to Russia in quantity, superior possibly in quality, comes the Empire kingdom of Austro-Hungary. Hungary alone produces sufficient horses to supply all the cavalry in Europe, and the efforts of the Government to encourage the breed of horses are well backed up by the Esterhazy's and other noblemen who maintain private studs, some of them containing 500 horses. One of the most notable studs is the Kisler stud, devoted entirely to English thoroughbred and half-bred stock, and contains over 600 animals—another instance, gentlemen, of the great demand of the English thoroughbred and half-bred blood. Among the thoroughbred sires may be seen Buccaneer, Daniel O'Rourke, Ostregor, Bois Roussel, as well as between 200 and 300 well selected English and Irish mares. The chief point of interest in this stud is, that in selecting animals to breed from, the three great qualities of substance, speed, and endurance are aimed at, as well as securing none but sound animals, uninjured by early struggles on the turf. The other great State stud in Hungary is at Babolna, where Arabs only are bred. This stud consisted of over 100 horses. When we leave the great horse-producing countries of Eastern Europe and approach farther west, we shall find a very different state of things. Up to the present century, the two great military powers, Prussia and France, depended almost entirely on importation for the supply of their cavalry, even in times of peace. During the ten years of the reign of Louis XIV. upwards of £4,000,000 sterling were expended in France in the purchase of foreign horses. The great demands for horses by these great military powers are so large that the necessity for meeting them, and the danger of depending on neighbours who may cut off the supply when war breaks out, have long engaged the notice of their statesmen; for we find that, in times of peace, France requires an annual remount for the army of 7,000, and Prussia 8,000, and of course, in times of war, these figures must be tripled or quadrupled. For example, during the late Franco-Prussian war, the French estimate their loss at 150,000, but a German writer states that the Prussian loss exceeded a million horses. Figures like these cannot fail to rouse the attention of thoughtful politicians, and accordingly, for many years past, the State, both in France and Prussia, have been unremitting in their efforts in encouraging the breeds of horses; and such has been the care and attention with which breeding has been carried on in France by private individuals that they have succeeded, by the aid of English blood, in breeding such animals as Gladiateur and Reine, the former good enough to come over and win the blue riband of the turf; and, not only has he speed enough to win the Derby, but has strength enough to carry sixteen stone to hounds; and I think you will agree with me that these are the qualities that we should aim at in breeding well-bred horses. In fact, so well are the French-bred horses thought of that I am informed there are at the present time three or four French-bred stallions in Northamptonshire used for breeding purposes, but whether half-bred or thoroughbred, I cannot say. Before leaving this subject of horse-breeding in France, I cannot forbear giving you the result of the experience of a French nobleman, the Marquis de Croix, who

spent his younger years in England, during the emigration, and here probably acquired the love for horses. He established a stud, more than thirty years ago, on his estate at Serquigny, in Normandy. His object has been to breed superior half-bred horses for the saddle and harness, and he has mainly used English blood, and especially Norfolk trotters. His stud consisted, at the beginning of 1873, of 61 horses, with three stallions, one of which, Norval, a roadster, of English blood, but bred in France, would win a prize at any of our agricultural meetings. M. de Croix has an annual sale, but never parts with a good mare, and the following table exhibits the results of sales during the last ten years:

	£	s.	d.
Average per head.....	137	10	0
Do. of thorough-breds.....	120	0	0
Produce of thorough-bred horse and half-bred			
English mare.....	100	0	0
From half-bred horse and thorough-bred mare...	143	0	0
From half-bred horse and mare.....	138	15	0

I have been induced to quote this instance of what I think is successful breeding (although we are not told at what ages they were sold), because it is a corroboration of the opinion I have held for some time past, that in breeding half-bred horses you should always obtain the highest blood in the dam, for you will observe the highest price considerably realised, viz., £143 per head, are those from a half-bred horse (a Norfolk trotter, for instance) and a well-bred mare. I have ventured on this apparent digression in my subject for two reasons—one was to show how much our English blood is appreciated on the Continent, and what a vast number of our good hunting and thorough-bred mares have been purchased for Continental breeding; also, to show how the breeding of horses is fostered and encouraged by the Governments of the different European States. Not so our own; on the contrary, I contend they have been the means (in consequence of lowering the price given for horses required for the cavalry remounts after the Crimean war) of materially checking the breed of horses. Another cause of the present high price of horses undoubtedly is the very great demand for horses used for pleasure, both as carriage horses and in the field; for, let any gentleman go to a meet of the Queen's or Baron Rothschild's Staghounds, or the Pynchley or Quorn Foxhounds, there you will see, I venture to say, four times the number assembled that you would a few years back. Then, again, let any gentleman, a real lover of horses, pay a visit to Hyde Park (and well will he be paid for his visit) on the day our Four-in-Hand Club turn out for the first time in the season, and I am satisfied such a sight will meet his view that cannot be equalled in the world, all of course proving what an amount of wealth and prosperity there is in the country. In discussing a remedy for this state of things, the first and most important question that presents itself for our consideration—is it, or is it not, policy to have recourse to Government breeding studs? and I think, whatever it may be on the Continent, the voice of this country would be against Government clashing with private enterprise in this matter, but I have no hesitation in saying that Government might materially assist and encourage breeders of horses in many ways; for instance, I am convinced that it would be good policy for the Government to purchase horses at three years old for the remounts in the cavalry, and keep a reserve stud for them to be drawn from every year, instead of waiting until an emergency arises, when it is found impossible to get them in this country; for it is a notorious fact that for the Autumn Maneuvres last year there was something like a thousand horses required, and although £47 per head was the sum given, there were not one out of every ten that were English horses, and I say this is not by any means a creditable state of things for a country so peculiarly suitable for breeding horses as England. Then, again, I consider that although the Government do not keep breeding establishments, still they might from time to time secure some of our best sires and prevent them leaving this country, which they are constantly doing, especially our Norfolk trotters, for it is a notorious fact that so much is this breed appreciated on the Continent that immediately there is one old enough for sale in private hands so soon are there purchasers ready for him for the foreign market. Then, again, I am satisfied that immense advantage would accrue if the Government would purchase a few cob stallions for the use of our forest pony mares; for of all breeds of horses none are more deteriorated in quality or become scarcer in

quantity than the cobs and ponies of this country. Especially is it noticeable in the New Forest, where some years ago the late lamented Prince Consort sent an excellent Arab stallion for the use of the forest mares, and immense good resulted therefrom, and I am satisfied that the same would accrue again, and I would respectfully suggest that his Royal Highness the Prince of Wales, as his estate at Sandringham is in the heart of the country where the Norfolk trotters are bred, would be conferring an immense boon on this country if he were to establish a small breeding stud of that excellent breed, and send sires to different parts of the country for the use of their respective districts. The large landed proprietors, also, would be conferring a lasting benefit on the country by keeping a good stout thorough-bred or half-bred horse for the use of their tenants at a moderate charge. The greatest benefit that would arise from this would be that it would tend to diminish the number of weedy, leggy, useless animals that are now led about the country, spreading broadcast a race of animals that are really not worth, some of them, the food they eat, or the trouble that is bestowed on them in breaking, and that would not, probably, realise more than £20 to £25 at three years old, instead of double that sum, as it would be if care were bestowed in selection. I think you will agree with me that is a price that would well remunerate any one that is desirous of breeding half-bred horses suitable for carriage work or roadsters, and suitable also for remounts for our cavalry. I will now proceed with the second part of my subject, viz., the breeding of horses suitable for agricultural purposes or for London work, and I think it will require no argument of mine to convince you that this class of horse is more scarce at the present time than during the last twenty years, for I venture to affirm that in the South of England, at any rate during the last two years, it would be almost an impossibility to procure twenty good English agricultural horses at any one time almost regardless of price, and nearly the whole of the supply has been from France. I ask is this a state of things that ought to exist? I think not, and if it is a fact that our thorough-bred and half-bred horses are appreciated on the Continent, I think there cannot be a doubt that our agricultural horses are also; for, referring to a report made by General Lamoriciere, he states: "Notwithstanding the broad differences that naturally exist between the cart-horse breeds and horses used for the purposes of luxury, the English, who know how to mould nature according to their natural wants, have solved the problem, and we lately witnessed at the Agricultural Institute, at Versailles, working in the same field, with ploughs exactly similar, and under identical conditions, four teams, comprised as follows: 1, two Clydesdale mares; 2, three Suffolk mares; 3, three Percheron mares; 4, three Boulognese mares. The two Clydesdale mares performed the same task as the other three teams, and did it much quicker. In point of time the teams finished their work in the order indicated above. The Suffolk mares finished much before the Percherons, and between the latter and the Boulognese there was scarcely any difference." Taking the objections generally urged by agriculturists against breeding horses, of course the leading one is that it does not pay, and that it answers their purpose better to breed a bullock or a sheep than it does a horse; but at the present price of agricultural horses this argument will not hold good, however much it might a few years back; for, taking the cost of a colt up to the time he is two years old, when he is usually broken in and made to partially earn his keep, at the following sum—viz., from the time he is weaned (up to which time, of course, you cannot charge anything) at six months old to twelve months, say £1 per month (£6); thence to eighteen months (£5); from eighteen months to two years old, £3 per month (£12); making altogether £23; and I venture to assert any ordinary colt by the time he is two years old, provided care is used in selection of sire and dam, will fetch at the present time £40 to £50, and I think this will leave a margin quite as remunerative to the farmer as rearing a bullock or sheep; but of course this will not be the case if old worn-out mares are used, or mares with an hereditary disease about them that is certain to be transmitted to the progeny, or if in the selection of a stallion, as is too often, I am sorry to say, the case in this district, you use the first one that presents itself, regardless whether he is suitable in shape to the mare, or whether he is free from hereditary defects. And I would put it to you in all honesty why should not the same care and discrimination be used in breeding horses as in

sheep or other animals, for I venture to say that any farmer keeping a breeding flock of Hampshire Down ewes would not object to go to Mr. Rawlence, or some other eminent breeder, and give a handsome price for the hire or purchase of a ram of known good qualities. Then why, I ask, should such carelessness and indifference be shown in breeding farm colts as to use the stallion that can be got at the lowest price, as is too often the case? And then the argument is used it does not pay, for let me remind you that it does not cost one fraction more to keep a colt that will be worth at two years old £45 than it would a wretched animal that would not be worth half the price; and there is another very powerful incentive for you to breed a good animal, and that is, if you should get over-stocked, and have one to sell, if you have bred a good-sized, sound colt, when he is four years old there is not the slightest difficulty in finding a purchaser for him, for railway or London dray work, at something like £60. Then you will naturally ask me where is such a stallion as you mention to be met with in this neighbourhood? I would answer that question by respectfully laying before you a scheme which I am very anxious that you, as members of the principal Farmers' Club in this district, should seriously take into your consideration. When visiting the Bath and West of England show at Plymouth last year, I was particularly struck to find that in the small county of Cornwall the farmers of that county, seeing the importance of improving their breed of cart horses, have banded themselves together and formed two companies for the improvement of the breed in their respective districts, and for that purpose they each deputed two of their members to proceed to Scotland, about twelve months back, to purchase a first-class Clydesdale stallion for each company, each costing £300; and the secretary of one of the companies has kindly forwarded me their rules. Then, again, another objection generally urged against breeding farm horses is that at the time the mares are expected to foal they are generally wanted on the farm, it being usually a busy time; but, gentlemen, I can assure you from experience that it is a mistaken notion to suppose that mares require so much rest at the time of foaling as is generally imagined, for I have seen more casualties occur to mares at the time of parturition that have been laid by than those that have been kept to work nearly up to the time, and ten days to a fortnight, if all goes well, is ample time for a mare to lay by after foaling, the foal being shut up when the mare goes to work, and not allowed to roam about the field with the mare, as is too often the case. One more objection I will notice, and that is that colts are subject to so many casualties, up to two years old, the time they usually are broken in; but, gentlemen, I would put it to you whether during the last few years you have not been subject to innumerable casualties with beast and sheep, for what with cattle plague, pleuro-pneumonia, and foot-and-mouth disease, have you not been surrounded with difficulties in rearing beast and sheep? In summing up this paper I think you will see I have pointed out the cause of the decrease in well-bred horses and their high price, and that it has arisen chiefly from the great demand there has been for them on the Continent. I have some statistics here, which show the importations and exportations during the years from 1861 to 1871. I find that in ten years there were something like 16,600 imported, and 43,250 exported, giving a balance in favour of the exportations of 23,600. And then look, again, at the great demand there has been in this country for horses of all descriptions, not only for military purposes, but also for other uses and pleasure. In one year I have quoted it is true there was the French war, and then almost everything that a man could clap his hand on was bought up. I have no doubt that London was cleared out of all the old cab horses and everything that could be sold. Then another thing is the extraordinary progress of the country, and horses are much more sought after now than they were years ago. I think the Government should really give more countenance to breeding. I think a depot should be kept, so that a breeder might be sure of a certain market for his horses when they are three years old, and that would be a very great encouragement to him. With reference to agricultural horses, that is a subject which concerns you as agriculturists very much indeed. There is no doubt that probably there will be more horses bred this year than in years before, but at the same time I do think it is a matter which requires your serious attention, and more especially as for the last twelve months you have drawn supplies from France. I have heard there is to be a stop put

to the supply of French horses, and if that is the case I will ask you what you will do then? I commend this matter to your attention, and if it should be intended by this Club to purchase a stallion I shall always be ready to give my assistance in carrying it out.

Mr. SMITH quite agreed with what Mr. Barford had said with reference to the horses for agricultural purposes. He wished to breed in his own neighbourhood, but he could not see a horse he liked, and he had a great objection to a grey horse or a black one, preferring to have a bay or a brown. There were horses in that neighbourhood which he did not like, and he should be glad to join such a committee as was suggested by Mr. Barford, for he considered it would materially improve the breed of horses, and would have the effect of doing away with those which were of no use at all. At present farmers did not care what the animals were, and that was the reason why so many weedy horses were about the neighbourhood. If they went into it they would find that it was just the same with horses as with cattle—they must have the best to breed from.

Mr. W. B. GATER said the suggestion as to a company was good, for, individually, it was now difficult to pursue breeding to any extent, and any sort of society which would make more widespread the rearing of first-class animals would be one means of doing a great deal to accomplish what they required. He quite agreed that Government should give more encouragement to breeders, for if they did not see that that was a good object, he for one did not know what, in the work necessary to pursue agriculture, could be a better one. They had now got a change of Government. There was one thing now, they had a great party on the opposite side in power, and they were all looking to the Government to see what they were going to do for everybody, and that things would run smooth in the future. However that might be, he did not believe much in the one or the other. Mr. Chase had bred good agricultural stock successfully, and if he could do so others should be encouraged in doing it; but the one great thing wanted was the means of getting good horses. A prize was formerly given at their show for good cart stallions, but it had been discontinued, for which he was sorry, and he hoped it would be renewed, but under conditions restricting it to any but a thoroughly well-qualified animal, and not merely the best animal in a small competition. He hoped much practical benefit would result from the paper. There was no likelihood that the present demand for good horses would cease, and they should try and find out the best means of getting them and making them pay their way.

Mr. CHASE has found it very difficult indeed as a breeder to get rid of his horses unless they were in the hands of a dealer. He had no doubt all of them would realise the money they were worth, but the difficulty was to get a market for them. He had for the last five years been trying to get good horses, and he was now about to sell them, but whether they would pay or not he could not tell until he had done with them.

Mr. J. BLUNDELL would rather give his attention for a few moments to the question of agricultural horses chiefly, as he considered they mostly concerned them as a club. It had gone abroad, and there seemed to be a pretty general opinion on it, that horses would not pay so well for breeding as cattle. There might be some truth in that under certain circumstances, but he had no doubt if they had the patience and spent as much time and attention in the breeding of horses as they did cattle it would be quite as successful. But then there was another answer given when they inquired why a man did not breed more agricultural horses, and the answer was because it required so much pasture land, but that, he could assure them, was a fallacy. He knew how to raise a good cart colt without it, and he would breed one and it should never go out of the straw. He could make a profit out of horses at £40 each in years gone by, when they were much cheaper than now, and what price could they make of horses at the present under similar circumstances? He maintained that it was not necessary for a colt that they should have pasture—for agricultural colts at all events. He meant to say that a colt might be profitably kept in a yard, where they had a shed 12 feet by 12 feet, and 12 feet by 20 feet outside, or something like that. The colts had thus plenty of room for exercise, and they would do exceedingly well—that was supposing they were properly fed. The proper feeding of them was a matter of immense importance. And then another matter of importance was that while they ran wild they were not manure making ma-

chines, but he considered they should be treated as such. He thought it only reasonable and right that a system should be arranged which would make horses as valuable for their manure-giving properties as bullocks. And when they came to the cost it was only a very trifling difference. Take the ordinary Shorthorn steer fed up to two years, and take the cart colt, fed up to the same age, and he thought the latter would be worth £15 more than the former, fed at the same cost. He said that they could make it pay by rearing colts instead of cattle, and why did they not do so? Many hill farmers said "How can I raise a colt on my hill farm, where I have no grass land?" In answer to that he would tell them that they had their barns which they did not use, and where they often had an outlet, the barns opening into the yard, and he told them it was in their power to breed horses, although they might be situated different to other people. And then he considered that one of the first points to be held in mind in this matter was that they should not breed from diseased animals. It was a very common thing indeed for a farmer to breed from one, and he did not even take the trouble to inquire whether the disease was hereditary, or whether it arose from accidental circumstances. This, he contended, was an all important question. It might be said that horses required a great deal of accommodation, but this would not be so under the plan he proposed. He maintained that if the colt was kept in a shed there would be no fear of his breaking his leg in a cart wheel in the cart house, or of staking himself by trying to jump a hedge, or amusing himself in racing the dairy cows in the meadow. He would take credit for freedom from accident under the plan he advocated. And then they must also consider that some men actually killed horses before their time, and it was liked burning the candle at both ends. He maintained that by the system under which he kept his horses they would live three years longer than four out of every six in the county of Ilants. He could assert this positively, for he had seen a great many stables, and he had scarcely noticed one in ten where the horses could be healthy. And why? Because they did not give them a pure atmosphere. They were actually making a horse live in an atmosphere where he would become broken winded and his eyes would be affected. Therefore he advocated earth floors instead of the round pitchers for horses to lie upon. Did they suppose that the Almighty ever intended that horses should lie upon those round pitcher stones? No they were sent for another purpose, and another earth was what the horses were intended to lie upon. He might tell them it would be well if they studied these things, and they must recollect that in the feeding of cattle so with horses—they must be fed in an artificial way. It was perfectly true that they gave roots to their sheep and cattle, but none to their horses, and he held it to be of great importance that they should be in a position to give them some fresh vegetable food throughout the whole of the winter months with their corn. Horses suffered more from thirst than any other animal, especially in the months of March and April. In the hill farms they went to work all day, and when the rest-time came they stopped under a hedge, where they had some hay as dry as cooper's chips, but no water, while a little swede or turnips mixed with their food would be of benefit to them, whereas they were called upon to work the greater half of the day on food which damaged them immensely. Let them next take the cab and the omnibus horses. Before the Parliamentary Committee a vast amount of evidence was given, and more particularly by Mr. Church, the manager of the General Omnibus Company. His evidence was exceedingly interesting and valuable. He thought, he said, horses did not last over four years. He attributed that in a great measure to the pitched roads, which made them very difficult for the horses' feet. But it was not only in the roads the horses had to contend with this, but they also had to stand on them in the stables, and was there any wonder why horses only lasted four years instead of five or six? Certainly not. And then came the question, what do your horses stand upon? He was now addressing the members of that club. If horses stood upon earth the feet would be more elastic, they would be much easier to shoe, they would not then see any of the sand-cracks and contracted hoofs which appeared in horses now, and therefore he said that this was a subject which required their careful attention. But he was told that this earth system would fail, for how could they keep up the supply of earth? He answered, "Many people would be glad to bring you plenty of it for the manure." For the purpose he had

mentioned they must have the earth screened and dry, neither sand nor clay, but approaching both, and if it was properly rammed down in the stable it would remain for a long time, soaking up that which was now so injurious and offensive, and when the old earth was worn out they could take it up and replace it with new. He would guarantee that would make a change, and those gentlemen who were in the habit of keeping hunters or racehorses, whether in the stable or the loose box, would find that their horses would have much better feet in standing upon earth instead of stones. He had seen some of the best constructed stables in the kingdom, and he might say that they were very bad when compared with the earth ones he had alluded to.

Mr. CAREY said Mr. Blundell had alluded to the earth stables, and he wished to know whether he would have them littered down with straw, or whether the horses should lie on the bare earth.

Mr. BLUNDELL replied that he would put straw on the earth, and to cab and omnibus proprietors this would be of immense importance, as he would guarantee that they saved one-third of their straw. Mr. Barford had alluded to the fact that the Government should have some control in this matter, and especially in furnishing a stallion for breeding purposes, particularly for cavalry horses. What he (Mr. Blundell) wanted was to impress upon them that the large landed proprietors should furnish one, so that their tenants might use him, which would result in benefit to both, while he maintained that horses should always be bred for weight and good size, so that two might be fit for the plough.

Mr. W. C. SPOONER said if the same principle adopted in the breeding of sheep—which had kept them up equal to the demand at the present time, the increase in the population being considered—had been followed with regard to horses, they would not have had to regret the great scarcity there was at the present time. There were various causes to which they might ascribe this scarcity of horses, with the exception of one class, and that was in steeplechase horses. They knew that in that class they were mostly thoroughbreds, while there were scarcely any for agricultural purposes. The people who got up these steeplechases were those who had horses not good enough to win on the flat, and, though useless for most purposes, they were faster than ordinary hunters, and thus the supply was kept up, although they might manage to break the back or leg of one at each steeplechase that came off. Those persons were so exceedingly skilful that they had arrogated to themselves a knowledge of the principles which ought to regulate all breeding of horses, and the very causes which had tended to diminish the supply of other classes of horses had tended in a great measure to keep up the supply of steeplechase horses. He was conversing with an agricultural friend last week, and he was complaining of the price of horses. He said he had just given £70 for a cart colt which he considered was a heavy price, but this would tend to show how dear and scarce they were. The cause of this scarcity was to be ascribed to various causes. The railways displaced a great number of harness and other horses, but they had actually increased the demand for those suited for agricultural purposes. The number of horses employed at the different railway stations was something very considerable indeed, and they took the best animals, giving a high price for them, which tended to enhance the price of horses very much indeed. That had led to a scarcity, as the demand had been more than the supply. And then another thing was they made no efforts to meet the probability of a scarcity, but waited until it came before they commenced to move in the matter. They did not do this in India with reference to the famine, but took steps so as to be ready when it came. They had not looked ahead in the matter of breeding horses, and the steps now taken would increase the supply in four or five years, and unless the demand was decreased from what it was at the present the increase would not be in the same ratio. Every agriculturist who had a farm should experimentalise in the matter of breeding cart horses, and he could do so with a profit, while he maintained they could do so quite as cheaply where there were no pastures. To the plan adopted in Cornwall he could bear his testimony, because it was only last year that he officiated as judge there, and when they had the prize horses brought out the two to which Mr. Barford had called their attention was placed before them. Of course they knew nothing about his history until afterwards, but they decided unanimously that they were in duty bound to pronounce him to be the best animal. They found out afterwards that two clubs

had made a little bet among themselves as to which should produce the best horse. They went to Scotland in February, to the show held there, and each bought a prize animal which fetched £300, and they could not get them for less because there were plenty of people who were ready to purchase him at that sum. This horse had action, and was young and sound. He was as active as they could wish for, with good limbs, strong back, and good shoulders, and about sixteen hands, but when the horse competed at Plymouth he was beaten by one shown by Lord Ashburton. If a company such as Mr. Barford had suggested were got up he should be pleased to take some shares in it, as there need be no loss. They could insure the life of the animal, and he should be content to leave the matter in the hands of one or two farmers who were experienced in it. He thought this should be done, otherwise they would have to avail themselves of horses of an inferior kind. They might get animals very useful in their teams, and worth perhaps £70 or £80, but they could not expect these horses to be so good as those worth £300, and this could not be done unless they got a superior kind of horse in the district. Everyone of them farmed a certain number of acres of land, and should avail themselves of such a horse, as they would benefit by it. And for this reason—they would not be cheated out of their money by trusting men who could not be trusted, and who got a great deal out of the horse with which they travelled. That kind of horse more scarce than any other was what he might call the useful kind for various purposes—the saddle horse, the carriage horse, the cavalry horse, and the omnibus horse—all these might be produced with the same result as in other counties. It appeared, according to the evidence of the Secretary to the General Omnibus Company in London, that 90 per cent. of their horses in 1872 were foreign ones. These were mostly bred in France, and of the worst breed. They trotted away very well for the first two miles, and after they had done six they had enough of it. It was only a fortnight since that a half-dozen French horses were put up for sale at a place because the owner was disgusted with them. He was sorry to say he found many people were breeding from these mares, and they could not do a more retrograde thing, for they were not only faint-hearted but defective in their hind-quarters. He liked to see them active. He had two of these French horses, and they were useful on a farm, but this was all he could say of them. They were very inferior to English horses. When he was at school he read of the fable of the mountain and the labours of the mouse which crept out. It reminded him of that fable when he saw the ponderous mass of evidence as to the scarcity of horses which had been given before the committee of the House of Lords. The evidence was interesting in some instances, but there were many facts they knew before. He did not find fault with the evidence given, but there was nothing more than a mouse creeping out of it, for after having heard all the evidence and studied the same it resulted in nothing at all. Perhaps they might be able to show the number of cab-horses required if a war took place. No doubt it would be difficult to get them, but at present the committee recommended them to do nothing at all. They might have made a suggestion that the Government should lend their assistance, which might be very true and very right, but they recommended nothing at all. They left it to private enterprise when it had been shown clearly that it had failed, and that it must inevitably fail; still their advice was to do nothing at all. When the subject was first brought forward, Lord Granville spoke very jauntily, and everything should be as it was—there was a scarcity, but everything would be right. The system adopted was perfectly right. He appeared to recommend nothing but thoroughbred horses in the plough, but he did not say how they should get them to work in it. He did not say that their skin was tender, that they could not bear the pressure of the collar, and yet these were the sort of horses his lordship recommended they should have. And he was not alone. He (Mr. Spooner) had a long argument in a railway train with a breeder of thoroughbred horses, and he maintained they were the best horses for all purposes. He could not say these were his (Mr. Spooner's) views. If they wanted a load pulled about they would not get a thoroughbred horse to do it. All he could infer was that he was a very sensible and shrewd man, but he was mad on one point. He found there were many men like this. He remembered that once a gentleman went to a lunatic asylum, and he was showed round by a man who paid particular

attention to him, and seemed a perfectly sensible man while he was with him. When he had finished the gentleman said to the principal, "I don't understand what capacity that man fills here," and he replied, "He is one of our patients." He added, "He is very good indeed, now, but you step back and ask him what he had for his dinner." The gentleman stepped back, and said, "I forgot to ask you whether you dined to-day. What did you have for dinner?" and the man said, "Horse nails; nothing but horse nails." It was a sensible man on all points but his horse nails. And so it was with some noblemen. They were very sensible men, and looked upon the difficulty as one to be overcome, but yet they were mad upon the subject of thoroughbred horses. But it seemed that no credit could be given to men unless they came out of a racing stable. However, there were some sensible witnesses, and one who resided in that county. Mr. East, he thought, was asked to explain the scarcity of horses, and he ascribed the main reason to the foreigners buying up our mares. No doubt that was true to a great extent, but the Government ought to have prevented it. People who were interested should have outbid the foreigner. And he meant to say there was a greater reason for the scarcity of horses, and it was that the breeds had been crossed out. They had departed. Every generation they became "small by degrees, and beautifully less." He recollected some thirty-five years ago, when he was living in Dorset, being in the Yeomanry Cavalry there. His sergeant had a particularly fine mare; she was not only a good cavalry mount, but also a capital hunter. She carried him thoroughly well, and was quite equal to more than the weight she carried. Two or three years ago he happened to meet the sergeant's friend, and he asked him what had become of the old mare. He was told by him that they had kept on breeding until she could scarcely carry a man's boots. That mare was equal to sixteen, seventeen, or even eighteen stone, and her stock at one time was worth £100 each, and when horses were much cheaper than they were now. And when people asked what had become of the useful-bred horses, he replied, "They have been crossed out and gradually disappeared." At one time there were no improved Hampshire sheep, but when people once got them they did not go on crossing until they had no such sheep left. He had seen horses worth £600 or £700, but they had not been allowed to propagate their species, for the moment they got a good animal they must begin again, and so go on perpetually. That was the system which had been adopted. There were certain men who were successful in hoodwinking different societies. He recollected at an agricultural show a judge was asked to give an account of it. He did so, and found a great fault—that there was a disposition to too light breeding, recommending that they should have half-bred stallions for well-bred mares. Some time after that he happened to be in a train, and overheard a conversation between two persons connected with the Royal Agricultural Society. One said, "We will take good care he shall not be judge any more." That system he deemed exceedingly unwise, for when they got good advice they should take it, and he (Mr. Spooner) was against this light breeding. He had been judge at many agricultural shows, and he always gave the preference to weight-carrying horses. He considered when the breed was good enough then weight-carrying should be considered, but for doing this he was not approved by those who held such views as that no other but a thoroughbred stallion should be used. Instead of improving the breed of useful horses they had gone back of late years, but there was no reason why this should continue. If thought the Government should step in, as they had been successful in many undertakings. In none more so than the Post-office. And then there was the telegraph. He admitted there was a certain amount of monopoly in the Government having these things, but they could make money out of that which in private hands was unprofitable. At present what inducement was there to breed horses? The Government should step in, and should breed stud horses and stud mares, to be distributed throughout the country, which would be beneficial. Some time ago a Government establishment for thoroughbred horses did a deal of good. Then the Hampton Court stud was established, but what good did it do? It was unprofitable, and very expensive, and the horses were nothing like so good as those produced by Mr. Blenkiron and others. The money given in Queen's Plates and the Hampton Court stud should be devoted to a free stud, from which they could supply the cavalry, and also get a good type of harness horse. He had been unfortunately led into this subject at length because on

many occasions he had acted as judge at various shows. He was convinced that one of the fertile causes of the scarcity of useful horses was because they had been crossed out—they had disappeared through the ill-advised doctrine of some people who professed to know all about the matter, and had discarded those who had brought practice and science to bear on it.

The CHAIRMAN said the subject was one which called for their serious consideration, and with regard to the stud for the supply of cavalry horses that was a national question, and one which the Government should take up. From what Mr. Church said in his evidence before the Committee of the House of Lords it appeared that in 1872 90 per cent. of the horses were imported from France, and which showed, supposing they were at war with a foreign power, what a state they would be in. He thought gentlemen should read the speech made by the Minister of Germany, in which he set forth the necessity of keeping up the supply of horses. This showed the state of feeling in foreign countries, and what might come eventually, and therefore when this was the case he contended it was the more incumbent on the part of our Government to take the matter up. With regard to agricultural horses it was a question whether it would pay to breed them. He thought both Mr. Spooner and Mr. Barford were rather under the mark in comparing the rearing of a cart colt with the feeding of a bullock. He assumed from that that they would be able to get rid of the bullocks at two years old, but even if they could sell a cart colt for £45 at two years old it would pay. He recollected not many years ago when a cart colt which was now worth £40 could be bought for £22 or £23, but he did not think this was a thing likely to occur again, at least, not for some time to come, and he therefore thought some of them might go on breeding cart horses, and more particularly if they could purchase a horse which would be considered good enough. He should be happy to join with any other gentlemen in taking shares so that they might have one or two good horses in the neighbourhood, as he considered it would be very beneficial for all of them.

Mr. BARFORD, in reply, said he thought, in the purchase of a stallion, the Clydesdale horse was preferable to all others. It might be thought not quite large enough, but he could tell them it was impossible to judge as to the probable size of the progeny of stallions. He had seen horses 16 and 17 hands high the produce of animals not above 15 hands. But still he attached some importance to size, as would be seen by his paper, but at the same time they must have strength for work. That was the reason why he recommended the Clydesdale horse. The cart horse was called upon to go at one pace—walking—and he thought it was of importance that they should have a good, fast walker. He believed there was no breed in England, Ireland, or Scotland which could come up

to the Clydesdale in this respect. He thought this was clearly shown in the competition which took place at Versailles, where the Clydesdale—two in number—finished their work before the others, where there were three horses. Another important thing in the Clydesdale was that while they had short legs they were exceedingly active, with a good, clean head and neck, and not heavy and encumbered in the head as some horses were. If they got a useful mare, three parts thoroughbred, and crossed with a thoroughbred Clydesdale horse, they would get a good horse for harness and other purposes. He knew the prevalent opinion was that where they had no pastures it was not suitable for the breeding of colts, and he agreed with Mr. Blundell that this was not of paramount importance. He had a very great liking to see the young animals feeding in the meadow, but he did not mean to say that this was a *sine quâ non* for the breeding of horses if they had plenty of straw yard for them. He once went to a farm in the district of Peterborough to look at some horses, and it was occupied by an ordinary tenant-farmer. He saw two which were only about fifteen months old, and they had never been out of the straw yard. The tenant-farmer wanted 200 guineas for them, and not one shilling abatement, and he would get it too. And in this instance the mares had been worked up to the time of foaling, with a little rest after. He merely called their attention to this in order to show what might be done by a tenant-farmer. With regard to steeplechasers he might say that although beaten on the flat, yet when they ran four miles, with 12st. up, and had to go over difficult jumps and fences, as in the Liverpool course, and did it a little under ten minutes, that was a very great feat indeed, and spoke volumes in favour of their thoroughbred horses. He proposed "That it is the opinion of this club that there exists in the country a great scarcity of useful horses, and it is much to be lamented that we are obliged to resort to faulty and inferior foreign animals to supply the deficiency. 2. That seeing the great difficulty in obtaining remounts for our cavalry, it is the duty of the Government to lend its assistance in the supporting stud farms for the purpose of raising such sires and dams as would in the hands of breeders supply the description of horses really required for the cavalry, saddle, and harness purposes. 3. That the money now devoted to the breeding of racehorses at Hampton Court and to the giving of Queen's Plates would be far more usefully employed for the purposes above indicated. 4. That with reference to agricultural horses, the opportunity of improvement lies within the farmers' means by devoting the best mares in his stables, instead of his worst, to breeding purposes, and securing by combination and the assistance of landowners, at an adequate expense, such valuable agricultural stallions as are suitable for the purpose."

The resolution was seconded by Mr. W. C. SPOONER, and carried.

A vote of thanks was given to Mr. Barford for his paper.

THE HEXHAM FARMERS' CLUB.

AGRICULTURAL DEVELOPMENT.

At the last meeting Mr. Wm. RIDDELL, Hundalce, Jedburgh, read the following paper:

It is a common and a true saying that property has its duties as well as its privileges. Landed property, the source of the people's food, entails even more onerous and peculiar duties than any other kind. A manufacturer might, with very little harm to the community at large, store up his goods, or even shut up his factory altogether, but should a landed proprietor allow his estate to be uncultivated or untenanted for any length of time, the evil he would thus do, both directly and indirectly, to his immediate neighbours would be most mischievous. The waste lands would propagate all sorts of weeds, the seeds of which the wind would scatter broadcast over a large breadth of country; the accumulation of decayed vegetable matter would injure the health of the people of the district; a depopulation would be the consequence; the inhabitants would be compelled to seek a home in some town, or perhaps in a foreign country—a result by all means to be avoided at the present moment, and in addition to all these evils there would be loss to the country by the non-production of food. I am, therefore, warranted in maintaining that the evils arising out of such con-

duct as I have supposed would be much greater than the misuse or abuse of any other description of property. Seeing, then, that the duties of landed proprietors are so very onerous, I hold it to be the duty not only of the owners but also of the occupiers of land to respond to the very urgent call for united action in order to bring up and keep up the fertility of the soil. The altered circumstances of the country during the last thirty years call for such united action; the stimulus given to trade by the repeal of the Corn-laws, followed up by the wise and enlightened policy of the Legislature, has led to an increase of wealth in almost every class of society, while the agricultural production has not kept pace with the increased demand for even the common necessities of life, so that with all our extra production we are greatly dependent upon other countries for the supply of our wants. Lord Derby on one occasion said, "The land in this country is not producing half of what it is capable of doing." From my own experience and observation, I would say that the statement is not an extravagant one. Every man, no matter how little he understands about agriculture, must admit that a large acreage of land in this country is not producing what it ought to do. And it

therefore devolves upon owners and occupiers of land to discover the reason why so much of the land is either out of cultivation or improperly cultivated, and if possible to remedy the great evil. In not a few instances the owners of land do not undertake the duties of managing their estates themselves, but commit these together with their other affairs to the charge of factors, managers, or agents, who are too often totally unacquainted with the management of land. We do not find in other trades or professions men appointed to manage and conduct business without having previously undergone training to fit them for these duties; but it is notorious that in agriculture legal knowledge rather than practical training is the qualification looked for in a manager. These gentlemen cannot be expected to know the value of land; to select proper tenants; intelligently to approve or disapprove of the farming of this or that tenant; or in the letting of land to grant such conditions as would enable the tenant to give full value for his farm, and at the same time afford him some sort of security for the investment of his capital. I do not mean to say that there are not many proprietors, and also agents, who are both capable and willing to manage their estates in an enlightened and equitable way; but I have come to the conclusion that among many reasons which might be assigned for the improper cultivation of land in this country a want of knowledge of agriculture on the part of owners and agents is one of the chief. The view I have here taken is certainly not often urged as a bar to the proper cultivation of the soil; but I feel so deeply impressed with its truth that I have ventured to put it forward, even at the risk of offending some. I shall now refer to the terms of lease on which much of the land in this country is let, and the clauses I shall quote with their absurd and unwise restrictions are not confined to one district, but will be found here and there all over the country. Relating to the law of hypothec, I quote the following condition, viz., "In the event of there being made in the law of hypothec any change whereby the security presently held by the proprietor for the payment of rents shall in his opinion be lessened or injuriously affected, it shall be competent to the proprietor to intimate to the tenant that from and after the date of such intimation and during the remainder of the lease the rent shall become due and payable half-yearly by equal proportions six months in advance of the terms originally specified." Does it not appear as if this were inserted with the view to induce the tenant to oppose the repeal of the law of hypothec, seeing that by such repeal he would require to pay a half-year's rent in advance, and that without any compensation? Relating to miscropping and stocking of a farm, I quote the following condition: "The tenant shall not be at liberty to plough up any haugh or meadow ground, or to bring into cultivation any hill or pasture land which is at present not under tillage, and for every contravention of this condition he shall be liable in the penalty for miscropping after mentioned, viz., The tenant shall from and after deviation be bound to pay £10 of additional yearly rent for each imperial acre or portion of an acre so mismanaged or miscropped, or in respect of which there may have been a departure from or contravention of the foresaid regulations or any of them, and shall continue to be paid during the remainder of the lease, and the additional rent shall be held to be purely fractional, exclusive of damages, and not subject to modification or reduction in any court of law whatever. The tenant shall at all times keep the farm fully and properly stocked with stock *bona fide* his own absolute property, and of the value of at least one full year's rent thereof, and in the event of stock not the *bona fide* property of the tenant being placed upon the farm the tenant shall for every such offence be bound to pay to the proprietor £2 sterling yearly for each head of cattle, and £1 for each sheep so placed upon the farm without the written consent of the proprietor." Surely a more absurd clause than the above could not have been conceived. Suppose a farmer to break up and bring under cultivation, at great expense, hill pasture land comparatively worthless, it matters not that he may have been the means of increasing the quantity of food, and at the same time enhancing the value of the land to the proprietor, for by so doing he lays himself under the penalty of £10 per acre additional yearly rent, while the same heavy penalty is incurred by miscropping, or even by a departure from any of the regulations, although such departure may be for the best interests of both tenant and landlord. The condition with regard to stocking, if carried out, must lead to a vast amount of inconvenience. Suppose a farmer has more grass or turnips

than he can consume, and his neighbour has on hand more stock than he has food for, they could not exchange without incurring the heavy penalty of £2 a head for cattle and £1 for sheep. Another condition which I shall quote relates to game, and is as follows, viz., "The proprietor reserves to himself the whole game, as well as the hares, rabbits, and wild-fowl on his estate, the fish in the rivers, lakes, or ponds traversing upon or bounding the same, with right of access thereto, and with free and exclusive power and liberty to himself and others having his permission to hunt, shoot, course, fish, and sport thereon, without being liable in any claim of damages or compensation, or for damage occasioned by game, hares, rabbits, wild-fowl, or others aforesaid, and all claims for such shall be expressly renounced by the tenant, who shall not only be prohibited from hunting, shooting, and coursing on the farm, and from fishing in the streams, rivers, lakes, or ponds traversing or bounding the same, and from killing the game, hares, rabbits, wild fowl, fish, and others, but shall be bound by himself and his servants to do all in their power to protect and preserve the same, and to prevent persons not having the proprietor's authority from hunting, shooting, coursing, or fishing, as aforesaid, and killing the said game, hares, rabbits, fish, and wild fowl, and the gamekeepers and fishermen on the estate, and others employed under or in connection with them, whether as watchers or otherwise, shall at all times have liberty to enter upon and traverse the farm, for protecting or killing game and fish, hares, rabbits, or vermin, or for any other purpose whatever. It will be a condition of the lease, and the tenant shall agree that the whole of the stipulations contained in this article shall continue in full force and effect, notwithstanding any modification or alteration in the existing laws relative to game, hares, rabbits, wild fowl, fish, and others aforesaid." Apparently, in connection with the above, is the following restrictive condition, viz.: "No heather at any period of the year, or under any pretence whatever, shall be allowed to be set on fire or burned, except at the sight and with the written consent of the proprietor. And if any tenant, or person in his employment, or at his suggestion, set on fire or burn heather without such permission, he shall immediately thereafter forfeit his lease, which, in that event, shall return to the proprietor without any compensation, any law or practice to the contrary notwithstanding. If any tenant shall be sequestered for rent, or be made bankrupt, or if a pouncing of his effects on the farm shall be executed, or if he shall be convicted of poaching or shooting game, then in either of these cases his lease shall be forfeited as aforesaid." Other conditions equally injurious and oppressive are found in the leases already quoted, but those referred to are sufficient to show that any tenant agreeing to them places himself in a very humble position indeed. The condition relating to game is so cruelly absurd that one cannot conceive that any sane man would subscribe such conditions unless under the pressure of sheer necessity, and were the proprietor or lawyer who penned it to change places with the tenant, I venture to say they would become speedily converts to the golden rule, "Do unto others as ye would that they should do unto you." It may be asked, What is the primary cause of all these absurd one-sided conditions in leases? Many reasons have been adduced, but I agree with those who hold that our present land-laws countenance and encourage proprietors to follow in the footsteps of former generations, forgetting that the altered circumstances of the country require more liberal and enlightened arrangements between landlord and tenant. If it is asked which of the land laws have led to this state of matters, I say in the first place that the law of entail and primogeniture stands in the way of agricultural progress, and should be abolished, and that free trade in land should take its place. I have heard it frequently stated that we have free trade in land because every man is at liberty to buy what land comes into the market, but I hold free trade in land to mean freedom to sell as well as freedom to buy. At present the laws of our country hinder land from coming into the market. They not only compel a man to deprive himself but also to debar his heirs of the power of selling, so that each generation is compelled to follow the course of its predecessors, and the consequence is that great estates may be enlarged but never lessened. In the event of bankruptcy, creditors can go no further than the life interest of the debtor; not an acre of land can be sold to meet any emergency. By thus preventing property from coming into the market in a natural way, we are precluded from having a more numerous proprietary, which I

think would be a safer and more economical arrangement for the country than the present, while free trade in land would enable every proprietor so to dispose of his estate, or any portion of it, as to effect improvements, provide for his family, or free himself from debt. Let it be understood that I do not mean to advocate the compulsory division of land. Were it allowed to come into the market like any other commodity, the change would be gradual and safe; and there would still be left plenty of estates large enough for all practical purposes. This question of free trade in land is too large a subject for my handling here, but it is one of great importance, and a question which will ere long occupy the attention of the country and the Legislature. That law cannot long be maintained which allows the owner of land, though he may be drowned in debt, to transmit his property intact to his heir, while the merchant is compelled to surrender every item of his effects for the satisfaction of his creditors. Its abolition would allow a large portion of the land to pass into the hands of men with capital and enterprise; and although the price of land might be enhanced, the farmer would have nothing to fear, but rather it might safely be anticipated that, freed from harassing restrictions and encouraged to increased production by reasonable security for the capital he had invested, a new era of prosperity would open up to well-qualified tenants. Another of the land-laws which must give way in order to agricultural progress is the law of hypothec. I understand that this law is nearly analogous to the Law of Distress in England, both having their origin under the old feudal system when crop, stock, and even implements of husbandry belonged to the landlord, the tenant paying the rent literally in kind. Under the circumstances there might have been something like justice when the law said that until the tenant paid the landlord the stipulated produce, he had no right to dispose of a particle of grain or other products of the land. But the tenant-farmer occupies a very different position at the present time. His rent is paid in money realised by disposing of the produce of the land. He has to provide manure, seed, and stock for the farm, tradesmen to pay, &c., and yet in the event of the tenant's bankruptcy there is no provision for the parties who may have helped him until the landlord is paid in full. In numerous instances grievous injury has thus been inflicted. There should be the same law for the proprietor and the public, and the bankrupt's estate in this as in other cases should be equally divided amongst his creditors. When a proprietor lets his land he is under no restriction; he makes the best bargain he can in choosing his tenant. It should rank as an ordinary commercial transaction, and the proprietor should be prepared to submit to the vicissitudes attending such compacts. Numerous reasons have been advanced in support of the law of hypothec. Amongst others it has been said that the abolition of hypothec would put an end to leases, but there is no reason to fear that such would be the case. A lease is an arrangement which is of mutual advantage to landlord and tenant. In the absence of a lease the landlord must lay out the money if his land is to be improved; whereas, under the security which a lease affords, the tenant invests the money, improves the estate, and partially at least reaps his reward in the increased yield. It has been said also in favour of hypothec that it enables men of limited capital to take land, and protects the small farmer. But if a man takes land who has not the means to stock it, or to purchase the necessary seeds, manure, &c., he has no right to buy on credit, knowing at the same time that the merchant and others have no legal claim, in the event of bankruptcy, until the landlord is paid in full. Abolish the law of hypothec and the tenant would have the same right as any other person to purchase on credit, and would no doubt more frankly receive the support and confidence of the public to the full extent which his character and industry warranted. Under the present law the position of a tenant-farmer when sequestrated must be very humiliating. Every creditor he meets reminds him that his landlord is the only person who is likely to get a farthing out of his estate, while it may be he is the only creditor who has done nothing to help him in his difficulties. The tenant having spent all his own money and much of other people's, the landlord roups him out, probably getting an improved farm and an increase of rent. Again, it has been said that the rate of interest upon land is so small that the owner must or ought to have some protection in letting it. At first sight this may appear to be correct, and land bought at the present time may not yield a large percentage, but it is a well-

known fact that land bought fifteen or twenty years ago is paying from 7 to 10 per cent., while land bought half a century ago is paying 15 or 20 per cent. There is at present such a desire for large acreage, that some proprietors, instead of improving what they already possess, would rather purchase more though they may get a small percentage. If landlords would let their land at fair value, advance money for permanent improvements at a reasonable rate of interest, and do away with absurd and injurious conditions, they would stimulate agriculture, be benefactors to their country, and would reap the reward in increased rental and improved estates. But of all the hindrances to agricultural progress, there are none so great or so objectionable as the present Game-laws. The more I see of the working, and the cruelty resulting from their administration, as well as the poverty and pauperism which follow in the wake of game preservation and game prosecution, I am the more confirmed in the opinion which I have long held that the only cure for the evils arising out of these laws is total and unconditional repeal. For my own part I would rather see game annihilated than witness a continuance of the present heart-burnings between landlord and tenant, and the many inconveniences and hardships which the public necessarily experience. These laws have never commended themselves to the popular mind, but have been set aside by rich and poor alike without the slightest compunction. It is not my intention to enter into a history of the Game-laws; enough has been spoken and written on the subject to satisfy any unprejudiced mind that they are altogether unsuited to the altered circumstances of this country, and, as remnants of feudalism, ought to give way to a freer and more enlightened legislation. The criminal statistics of England show that no fewer than between ten and eleven thousand convictions annually take place under the Game-laws. So that the influence of these laws is a demoralising nature on certain classes of the community. While, viewed as between landlord and tenant, they are the cause of jealousy and heartburning, depriving the latter of security for his invested capital, and in numerous instances of a profitable and comfortable occupation. Even where there is little or no game, farmers are not unfrequently watched, suspected, and reported as having been poaching without the power or opportunity of clearing themselves. Gamekeepers and game-preservation have done more to create a feeling of distrust and estrangement than anything else. If game were the most valuable production of the land, I could understand the extreme care and desire of landed proprietors to cultivate it. What would this country be were all the land made a huntingfield, or how long could this vast population subsist on wild animals? Even as it is, how many human beings have been displaced from the millions of acres at present stocked with deer and game? and there is no law to prevent this evil from extending, or the landed proprietor from turning all the land he possesses into a game preserve. The bearings of this question relate, not only therefore to landlord and tenant, but also to the much wider and more important question of the food of the nation. It should be borne in mind that the game preserver expends much capital and no little labour before he can get up a respectable head of game. There is the hatching, watching, feeding, and many other expenses, making the cost of game preservation on some estates something like three per cent. on the whole rental. Abolish the Game-laws and dispense with gamekeepers, and landed proprietors would effect a great saving, while at the same time a number of able-bodied men would be available for the labour market, which at the present is not glutted, but the reverse. It is alleged by some that, as an article of food, game is well worth the care and attention bestowed upon it, but if this be so, why should there be a licence required for game selling and game dealing? Why not allow it to be killed and brought to market in the same way as sheep and cattle, without duty or licence? When a proprietor or farmer improves land so as to make it capable of maintaining two or three times the number of sheep it did previously, or grow a larger quantity of grain, there is less inducement to trespass on the land. So soon as land is fenced, cropped, and stocked, trespassers are seldom seen upon it. Let a piece of worthless ground be improved and made to support sheep and cattle, and we never hear of an increase of sheep stealing or depredations of any kind. While, on the other hand, let a tract of land be laid out as a deer forest or game preserve, and immediately there is put on a staff of gamekeepers and watchers, and even the county police are called in to protect the deer and game from poachers

and depredators, showing clearly that were the Game-laws repealed and game preservation discontinued, there would be no need for a more stringent trespass act. Again, it is said by some that if the Game-laws were abolished it would make no difference to farmers, as landlords would contract with their tenants to keep wild fowls or animals; but those who use this argument forget that at present game preservation is countenanced and encouraged by law. Whereas, if the Game-laws were abolished, proprietors would soon be made to feel that it would be unwise to enter into any such arrangement with their tenants. But were it only a question between landlords and tenants the evil might be met by contract; but the public being sufferers and having no means of protecting themselves, a change must be made in these laws, otherwise circumstances will arise which will compel the upholders to relinquish their position. With a view to avert the evils of game preservation, many bills have appeared which had for their object the modification of these laws. Messrs. Loch and M'Lagan, late Lord Advocate Young, and last of all Mr. Barclay, have each made their contributions to the settlement of this question. But not one of these bills, nor all of them put together, meet the necessities of the case. The bill brought in by Mr. Peter Taylor, which provides for the total and unconditional repeal of the Game-laws, is the only one which, in my mind, appears capable of settling the question in an equitable and satisfactory manner. The burden of what I have said has been in support of Mr. Taylor's bill, and I would only add that if this bill had been passed the effect of it would have been to restore the equilibrium of animal life destroyed by game preserves; to bridge over the gulf between owners and occupiers of land arising from damage done by game, and to dispel all heart-burnings and want of confidence. A reduction in the number of game would make poaching unremunerative and much more difficult to practise, as it would be universally discouraged by farmers; it would not be an interference with the rights of property, as wild fowls and animals uncaptured are not property, and it would by law enable the farmer to reap the fruit of his own labour. Reverting to the aspect of the question which has been already referred to, viz., the practical effect of the repeal of the Game-laws on the production of food, I have come to the conclusion that but for the present Land-laws, of which the Game-laws form a very important part, there would be much land improved which at the present moment is lying in a waste and unproductive state; and I am confirmed in this opinion by my own experience in farming. During the first lease of the farm which I occupy there were between four and five hundred acres of land lying in a state comparatively worthless. It continued in that state until about thirteen years ago, when I got a renewal of my lease on a more enlightened and liberal footing. The proprietor gave both countenance and cash, in order that the moorland might be improved, which was done by being drained four feet deep, fenced, subdivided, and put through a course of cropping, to prepare the soil for being laid down in grass. All these operations are now finished; and, judging from the result, I do not hesitate to say that if all the land in the county (Roxburghshire), similar to that referred to, were put through the same process, I am sanguine enough to believe that it would produce more than it does at present by 2,000,000lbs. of mutton and 200,000lbs. of wool, which at present prices, would amount to £90,000 a year. I put the increase in the shape of mutton and wool, as most of the land referred to is best adapted for grazing purposes. Assuming that the statement I have made is correct, it would follow that if all the land in Great Britain and Ireland were subjected to like treatment there would be no need for such large importations of food, especially butcher meat. I don't mean to say that a tenant would be warranted in incurring the expense of breaking up and improving such land at almost any rent for the short period of nineteen years, which is about the length of the longest Scotch lease, without being paid for unexhausted improvements at the end of the lease; but I have no hesitation in saying that proprietors by so doing would be well remunerated for the investment of their capital, while by neglecting to do it or have it done for them by their tenants they are falling short as benefactors to their country, and losing sight of their own interest. There is such a desire for game that proprietors seem willing to suffer any amount of loss rather than forego what they call "sport" and the glory of a day or two's slaughter. Although I do not suffer much personal inconvenience compared with many from game, I come to the conclusion that if the Game-

laws were abolished landlords and tenants would sympathise more with each other, and the comfort of the occupier of the land would be greatly promoted. I believe that the more intelligent and thoughtful among the working classes look to an alteration of the land-laws as the principal means of solving the very difficult problem as to how their condition may be improved. The *Westminster Review* stated in a late article that 180 years ago there were no fewer than 180,000 families owning freehold estates in England, and now about 160 families own half of England and about three parts of Scotland. With such possessions and power in the hands of comparatively few individuals, and backed by laws the tendency of which is calculated still further to decrease the number of landholders, it becomes an imperative duty that they should develop the resources of the soil to the utmost, and do all in their power to improve the social condition of both agricultural labourers and tenant-farmers. Looking at the counties of Dorset and Wilts, no one need wonder at the movement which has taken place there. It is a shame on the part of our landowners that they allow any such depredation as is talked of taking place there. There is no need for "Arching" over the Atlantic in order to walk over thousands of the population of England until the whole land in this country is thoroughly improved and properly cultivated. I believe that there are in this country many millions of acres of land in an unimproved state, much of which might be properly cultivated, and that many thousands of labourers could be profitably employed in doing so. In a country like ours, where every rood of land should keep its man, I do not hesitate to say that the Legislature might do worse than make it a misdemeanour for any proprietor to have land unimproved or uncultivated. I shall conclude by quoting the language of Sir Robert Peel. When on the 19th of June, 1846, he laid down power, he used the memorable words, which both landowners and land occupiers would do well to ponder:

"I shall leave a name execrated by every monopolist, who, from less honourable motives, clamours for protection because it conduces to his own individual benefit, but it may be that I shall leave a name sometimes remembered with expressions of good-will in the abodes of those whose lot it is to labour, and to earn their daily bread by the sweat of their brow, when they shall recruit their exhausted strength with abundant and untaxed food, the sweeter because it is no longer leavened by a sense of injustice."

A discussion ensued on several of the points raised, and a vote of thanks was passed to Mr. Riddell for his paper.

PERTH BULL SHOW AND SALE.—The show was one of the largest ever held in Perth, the stock comprising 87 pure-bred yearling Shorthorned bulls, 6 two-year-old bulls, 12 heifers and cows, and a large number of other well-bred animals not mentioned in the catalogue. For the show the total entries amounted to 30. The judges were Mr. Bruce, Newton-of-Struthers, Forbes; Mr. Geekie, Baldourie; and Mr. Ferguson, Kinnochtry; and the decisions were as follows: Bull, first prize, silver cup value 10gs., Mr. Maxtone Graham, Cultoquy (Cupbearer); second, silver cup value 5gs., Colonel Williamson, Lawers (Master Mitchell); third, silver medal value 2gs., Mr. Husband, Gellat (The Earl); commended, Mr. Reid, Cruivie (Trusty). The prices realised were very moderate; but Mr. Fisher, of Keithwich, sold a bull for £48; while the best general average was that of Colonel Williamson, of Lawers, as under: Satellite, roan, Mr. Wedderburn, Buckhill, 40gs.; Prince George, roan, Mr. Ballingall, Dunbog, 47gs.; Benefactor, roan, Mr. Lauder, Laucherlour, 37gs.; Master Macdonald, roan, Sir Thomas Moncreiffe, 36gs.; Booth's Highlander, roan, Mr. Richmond, Dron, 37gs.; Prince Columbus, roan, Mr. Brooks, Cairdny House, Dunkeld, 31gs.; Mornish, red and white, Mr. McDonald, Hotel, Blair Athole, 26gs.; Attraction, red and white, Mr. Cuthbert, Freuchie Mill, 36gs.; Prince Ethelred, white, Mr. Richmond, Dron, 39gs.; Master Tip-Top, white, Mr. Richmond, Colleston, 28gs.; Money-Maker, roan, Mr. Hamilton, Denmark, 26gs.; Master Roland, roan, Mr. Robertson, Gorthy, 18gs.

THE DUKE OF MARLBOROUGH'S WINCHENDON ESTATE.—It is understood that this property, of some 4,000 acres, is about to change hands; at any rate the tenants have all just received the due six months' notice to quit at Michaelmas next. It may be remembered that the second prize farm in the Oxford show year was on this property.

THE REPEAL OF THE MALT-TAX.

At a general meeting of the Cambridgeshire and Isle of Ely Chamber of Agriculture the subject discussed was "The advantages or disadvantages to the farmer of the repeal of the Malt-tax."

Mr. H. THURNALL, of Royston, in opening the discussion, said that in the first place he would observe upon the amount of the tax. The tax during the last fifteen years had been over six millions, and it had gradually increased during that time till last year it amounted to £7,544,000, the average on the fifteen years being £6,879,000. To a certain extent, the tax must be coupled with the spirit duties, and they must look at it with reference to Scotland and Ireland, which, being spirit-drinking countries, would not like to see them drink their beer free whilst their drink was taxed. The spirit duties amounted to above £13,000,000; thus the malt-tax involved a revenue of about £20,000,000, and it would be a serious tax for a Chancellor of the Exchequer to forego and it must be replaced by a tax which might press more seriously upon agriculturists. The tax was paid by the beer drinkers—the well paid artisans—and was, perhaps, with the exception of the tobacco duties, the only tax they paid. Therefore he did not think the tax should be taken off them and perhaps placed on an already burdened class of the community. There was another question to be considered, the effect of the tax upon the price upon barley. He thought it was generally admitted that the tax did not in any way diminish the price of the best qualities of barley. Some had gone so far as to say it enhanced it. Therefore they might almost assume that they in the Eastern Counties were not interested in the repeal of the tax. The second-rate qualities of barley did appear to be pressed upon by the tax; but if they repealed the tax they would have a large influx of foreign barley, which would be made into competition with theirs. Therefore he did not think the inferior barleys would be enhanced in price by the abolition of the tax. And the argument against the tax was that it checked home brewing. It struck him that home brewing was out of the question at the present time. The art of brewing had advanced so much that he did not think any person could compete with the brewer. Then there was the question of cattle feeding. There had been a great deal said of the advantages of feeding cattle on malt. Some years ago, Mr. Lawes tried some very accurate experiments in feeding cattle with malt for the purpose of informing Government on the matter. He reported that there was no gain in feeding cattle with malt, but that barley had the advantage. His experience was to the same effect. However, an Act of Parliament had been passed enabling barley to be malted for feeding cattle without being taxed, the only restriction being that it was to be mixed with a tithe of ground linseed; and afterwards another Act was passed providing for germinating barley, which was to be done at a certain distance from a malting. A great argument against the tax was that it interfered with the proper rotation of farming. He quoted from the Agricultural Returns figures which showed that the acreage of barley during the last eight years was 336,000 acres more than in the previous forty years, thus showing that the growth of barley had been gradually increasing. With reference to the effect of the tax upon the price of barley, he quoted from the Tithe Commutation Returns, which showed that forty years ago the price of barley on which the tithe was commuted was 31s. 8d., whilst the average for the past seven years had been 37s. 4d. On the other hand the returns showed that the price of wheat had decreased. He thought these facts disposed of the argument that the Malt-tax interfered with the quantity and price of barley grown. He did not expect to make converts to his views and he did not wish to do so, because he was unbiassed and uninterested in the subject but what he wanted to do was to show that there were two sides to the question. He thought this question was one not to be solved by a stroke of the pen, but one requiring considerable attention.

Mr. S. HOLBEN, the honorary secretary, read the following paper: I think the Malt-tax should be repealed, on the broad ground that it is in contravention of one of the fundamental rules of political economy, inasmuch as it is a restraint upon production and, of necessity, limits consumption. In other

words it means less capital profitably employed both in land and manufactures, and of course a corresponding number of our people unemployed or impoverished. But leaving this view of the question, let us consider the effect of the repeal of the tax upon the consumer of beer, the brewer, the maltster, for with their interests that of the farmer is necessarily and intimately interwoven. It is universally admitted that a tax upon any commodity artificially raises its price and limits the demand for it. We may, therefore, safely conclude that the repeal of the tax will certainly reduce the price of beer, but what is infinitely of greater importance it will undoubtedly improve its quality—that is to say, we shall then obtain the old national beverage called beer brewed from malt and hops, and not the modern beverage mis-called beer made with an admixture of sugar. The latter might with as great propriety be called beer, as wine made from elder berries, port wine. But supposing by the repeal of the Malt-tax we cheapen and improve the quality of beer, what is likely to be the effect upon the morals of the people? Will it lead to greater intemperance? I sincerely believe not. I think it would have a directly contrary effect. With higher wages and cheaper beer we might reasonably hope to see the custom increase (which already exists among many of our labourers during harvest) of having casks of beer in their own houses, of which all their family partake; and their ability to purchase beer in this manner would have a direct tendency to diminish intemperance, inasmuch as it would afford a means of escape from the cruel dilemma in which the law has now placed many poor men of either denying themselves and their family a draught of the national beverage with their homely meal, or of purchasing it where they know they will be subjected to the temptation—probably by the persuasion or taunts and jeers of men less temperate than themselves—to drink more than enough for themselves, and probably sufficient to have supplied the wants of their whole families. But I have another reason for believing that cheap beer will not increase intemperance. I find that both crime and pauperism are on the decrease, and I include in the former convictions for drunkenness, and it must be admitted that the present rate of wages has certainly virtually cheapened beer. I think this evidence proves that cheap beer does not mean increased drunkenness. The returns upon which I form this opinion were made prior to the Licensing Act coming into operation, so that the fewer convictions for drunkenness are not attributable to that Act. But, assuming for the moment that beer equally good can be made from sugar as from malt, is it good policy to economize its use by imposing a high duty upon malt, the produce of our own fields, manufactured in our own maltings, and really putting in the pockets of the sugar planter that which plainly and rightly belongs to our farmer and maltster, and ought to be an addition to the productive wealth of the country?

Mr. TODD (Cottenham) could not agree with the Secretary that the repeal of the Malt-tax would diminish drunkenness. It would not answer to brew at home, and he believed that working men went to the public-house for society, and they would rather pay more for their beer at a public-house than less to have it at home. The working man even now did not have his beer at home except when he had no time to go to the public-house. He thought they should rather make cheap the necessaries of life for the working man, and that there were other measures which should be attended to in preference to the repeal of the Malt-tax; as, for instance, the subject of Tenant-right.

Mr. THURNALL put the discussion in order by moving "That, under present circumstances, it is inexpedient to repeal the Malt-tax."

Mr. TODD seconded the motion.

Mr. C. W. NAYLOR said that what few observations he should make upon the subject would be upon the broad ground of free trade. They knew that when the subject of the Corn Laws was being discussed, the opinions of those who advocated their repeal were that the Malt-tax must follow. The Malt-tax was an anomaly to the principle of free trade, which had been the leading principle of Legislature since the repeal of the Corn Laws. The tax, which was about four and a-half

millions, was now almost double that amount, and all that was a tax upon the industry of the country. He had no doubt that, although it was contended that good barleys fetched higher prices than they did years ago, at the same time the inferior barleys would go into the market and fetch higher prices if the tax were repealed, and make up for any alteration in the prices of the superior barleys. He quoted Mr. Cobden, Earl Russell, and others, advocating the repeal of the Malt-tax. He was not going to say that the abolition of the tax should be done all at once. The same applied to this tax as to the income-tax. If they had a surplus in hand, something should be done towards it. They could not have free trade if they had a tax upon the industry of the country to the amount of seven or eight millions. They could not say that free trade was carried out in its integrity, as intended by those who repealed the Corn Laws. He said they had the opinions of some of the most eminent farmers of the kingdom that malt was of real importance in feeding cattle, and concluded by moving, as an amendment, "That, in any remission of taxation, the Malt-tax should be considered."

Mr. G. LONG submitted that, considering that nothing paid farmers now so well as barley, he did not see why they required the repeal of the Malt-tax.

The PRESIDENT, Mr. T. V. Webb, seconded the amendment, because he thought the Malt-tax should, in any remission of taxation, have the very first preference. He said this because in all remission of taxation that had taken place for many years the Malt-tax had been passed over, and there had been no attempt to diminish or abolish it. For his own part, he was in favour of a total, though gradual, abolition of the tax. He considered that it would be advantageous, not only to the farmer, but also to the labouring classes, and to the public generally. He objected to what Mr. Todd had said, as he did not consider that a reduction in the price of beer would tend to an increase of drunkenness, because he thought the cause of drunkenness was now not so much beer as drugged beer. If the tax were repealed, they would have an article which would be wholesome and nutritious, which would not affect the head so much. He did not say who did it, but he did say there was adulteration of beer. There would be a saving to the public which would be very considerable. If they consumed twelve barrels of beer in a year, the savings would be £5 a-year. He thought that good beer, which now cost 36s. per barrel, could be brewed for 15s. a barrel. There was another reason why he thought the abolition of the Malt-tax would be advantageous and beneficial. The consumers of beer now get no advantage when barley is cheap. The beer was always sold at the same price; therefore, to the poor man it would be of great advantage, and he thought nothing would tend more to diminish drunkenness than to have an article with which the poor man could supply himself with daily, instead of having it, as now, at odd times—perhaps once a week. He would have his barrel in his own house, and his family would join him as regularly as persons in a higher station of life did now. He thought it would be a great advantage to the farmer, because, when they had an article taxed, the consumption of that article must be diminished. He instanced the case of the tea duty as a proof of this; and he asked whether people could deny that beer in itself was as good an article of consumption as tea. If they had a reduction of taxation on the general necessities of life—tea and sugar—he demanded it as right and just that they should abolish the tax upon malt. That had been very strongly expressed by Mr. Disraeli, who had said that no one could deny its justice, and that it was worse than unjust that this impost should be continued. He (the President) thought, therefore, that to continue it would be unjust, and, in the name of the great body of consumers of this country, he abjured them to press upon the Government strongly the necessity for the repeal of the Malt-tax.

The VICE-PRESIDENT, Mr. H. Long, considered that in the repeal of the Malt-tax the advantage would only be for the public, and not for the farmers. As the Malt-tax was the only piece of protection they had left he thought they had better keep it.

Mr. J. F. FETCH contended that it was very unjust to barley-growers that they should be so restricted that they could not let their barley go into a fair market. With regard to Mr. Thurnall's assertions as to malt not being fit for fattening cattle, he stated that some cattle fed on malt were sold in London for £2 per head more than those fed on barley

meal. The public, too, drink a poisonous and adulterated beer, which not only produced pauperism and crime, but increased the rates materially. If the labouring man could get his beer at home for the same price as he has now to pay for it, he would not have the excuse to go to the public-house that he had now. His family would also be benefited. He thought he could get beer for two-thirds its present price if the tax were repealed. Also alluding to Mr. Thurnall's remarks, he said that beer was drunk by agricultural labourers and coprolite diggers as well as by artisans. Now that they had the opportunity they should unite and rally round each other, so that they might get some of their rates reduced and get rid of this tax.

Mr. J. LYON did not think the farmers would be so benefited by the repeal of the Malt-tax as they imagined. If they wanted to have good beer, unadulterated, they must produce malt cheaper than sugar. He thought barley would make less money if the tax were repealed than it did now.

Mr. W. MARSHALL (Ely) said there was one side of the question which did not appear to have received proper consideration. As Englishmen they were reputed to be practical and not theoretical men. What he should like to impress upon the minds of them was that they were going to do away with £7,500,000 of revenue at a blow, or two blows. This was equal to the whole amount of the poor-rates of the kingdom. That sum of money would deliver them from the whole of the poor-rates. It was once and a half the whole of the income-tax. Why should it be done? They should look into the matter, and measure the corresponding advantage that was likely to accrue. Among the reasons given for the repeal of the tax, they had had first a theoretical argument. But they were practical, and not theoretical. Theoretically the income-tax was a war tax, but now practically it was not. He (Mr. M.) frankly admitted to Mr. Holben that the Malt-tax was contrary to the principles of free trade, but that was not a practical argument. Mr. Naylor says it is contrary to the broad principle of free trade. He was glad to find the Editor of *The Cambridge Chronicle* so completely converted to free trade that he would not have a rag of protection left, and it was curious that his Liberal friend Mr. Long would like to retain the Malt-tax—the last rag of it. He asked what tax was so little felt, or borne so easily. He challenged anyone to find any tax which was spread over such a large number of backs, and was so lightly borne. He put in the other scale the loss of £7,500,000 revenue. If that was taken off it must be put on again ("No." "The surplus?"). Well, they might do it when they had a sufficient surplus. The advantages suggested to them were that they were to have a reduction in the price of beer, they were to have a superior quality of beer, they were to have the poor man brewing at home, they were to have a cattle condiment (a dessert after dinner), they were to have an increased price for inferior barley, and an increased demand for malt, and therefore for barley. It was easy to assert this, but would they necessarily follow? Were they quite sure they should get cheaper beer? He then went into a calculation which showed in round figures that a coomb of barley, costing 24s., in passing "from the farmer to the gullet" became increased by three hundred per cent. The duty was the very small fraction of ten per cent., therefore the whole of the malt duty was represented by less than a farthing per pint of beer. Therefore, if they repealed the tax, how were they going to cheapen it? The chairman said that the price of barley made no difference in the price of beer now. Why, then, the abolition of the duty? They were to have a superior quality of beer? If the guilty mind of a publican led him to adulterate his beer now, he would do the same if the Malt-tax were taken off. Were they going to reform the morals of the publicans by the repeal of the Malt-tax? It was perfectly ridiculous. Would the poor man brew his own beer? How could the poor man, with his accommodation, brew at home? The process of brewing was of a very refined character; and to suppose that there was going to be in the poor man's house a grand beer-brewing operation every fortnight was utter folly and nonsense. He did not believe there would be any reduction in the price of beer, any improvement in the quality, or that the poor man would brew at home. It was said there would be a reduction of crime. A man went to the public-house to get away from home, and he was the last to deny a poor man that solace. And then something was said about malt being a relish for cattle. He looked upon barley as something valuable as food. He

looked upon malt as barley with the inside taken out. The process of making malt was only an inferior way of producing sugar. He would rather see the lands of England wheat growing and food producing than growing barley to make men drunk. With regard to the statement that the price of inferior barley would be increased, he had been trying very hard to understand the argument that if they repealed the Malt-tax, they would improve the price of inferior barley. If inferior barley was to become malted, that meant that the quality of malt for which this country was celebrated was to become degraded. It was said they would have an increased demand for malting barley. The price of barley had been going up, whilst the price of wheat had been going down, and the demand for barley had grown so great already that the barley grower was now growing his utmost. He believed that in a few years the brewer would find that he could do without malt altogether, and they would have all sugar beer. He believed that the wholesale brewers of this country did not adulterate their beer. He believed it was one of the most abominable libels to say they did. He would tell them a common worldly man's argument why they did not. It would place the great brewers in the hands of their servants, who could for any reason go to the excise authorities and ruin them. He said this because some gentlemen had not hesitated to fling about libels without the slightest authority for what they had been doing. Mr. Marshall concluded by saying, "If you want to let well alone, for Heaven's sake don't meddle with the Malt-tax."

Mr. CHIVERS strongly objected to the charges of adulteration made by the chairman. He said that if the labouring men were to brew at home, everyone who did so would have to procure a licence.

Mr. C. ELLIS contended that by the repeal of the Malt-tax a great saving would be effected by farmers who brewed at home in the beer they gave to their labourers. They were now taxed to the amount of 7s. 6d. per barrel for the produce of their own soil. He advocated its use in cattle feeding, saying that they could not use barley alone. He should like to see a partial repeal of the Malt-tax, as he did not see why

they should not reduce the war-tax on malt as well as the Income-tax.

Mr. E. HICKS said that they had heard a great deal about the injustice of the Malt-tax, and in all those remarks twenty or thirty years ago he could have concurred. But the tax then stood still at about four millions and a-half, and it was also a great tax on agriculturists. But they were now in very different circumstances. The price of barley was 50 per cent. higher than it was then, and the amount of revenue from the tax had increased. Great alterations had taken place, and they were now saddled with two kinds of taxes—the Malt-tax and local taxation, and the real practical question before them that day was which of those was of the most importance? His opinion was that the question of local taxation was of much more importance than the Malt-tax. Still, he thought there were evils connected with the Malt-tax which rendered it necessary that it should be repealed some time. Therefore he felt he could conscientiously vote for Mr. Thurnall's motion that this was not the time for a repeal. If that were carried he should like to move a rider.

Mr. R. HOLBEN submitted that as it cost a farmer indirectly about £100 per year for beer, if this could be reduced it would be a great saving to the farmer; and he believed the repeal of the Malt-tax would enable the brewers to reduce the price of beer from 2d. to 1½d. per pint, because he would then have a larger margin. In Yorkshire it was the custom for private families to brew at home, and he believed this would become general. He spoke in favour of malt as cattle food.

Mr. THURNALL said that Mr. Marshall had so completely replied that he had entirely taken the wind out of his sails, and he had very little to say indeed. He repeated the argument of Mr. Marshall against adulteration by brewers in the form of an anecdote.

The amendment upon being put was lost by 16 to 15, and the motion was, after a show of hands, declared carried.

Mr. E. HICKS moved the following rider, which Mr. Ellis seconded, to the effect that the Chamber considered that in any reduction of indirect taxation the Malt-tax should first be dealt with, which was lost.

THE SALE OF COWS ON WARRANTY.

At the Nisi Prius Court, Northampton, before Mr. Justice Blackburn, the following case was tried:

LANE v. TOUGH.—Mr. Metcalfe, Q.C., and Mr. Graham, instructed by Mr. C. C. Becke, for plaintiff, and Mr. O'Malley, Q.C., and Mr. Mayd, instructed by Mr. H. C. Fassman, Leamington, for defendant.

This was an action brought to recover £36 15s. for keep of a number of heifers, consequent on an alleged breach of warranty. Plaintiff is a farmer and extensive dairyman, who supplies milk to the London market, residing at Newton Longueville, near Bletchley, and defendant is farm-bailiff to the Earl of Warwick, and occupies the Heathcote Farm, near Leamington. In November, 1872, plaintiff having heard that defendant had a lot of "down-calf" heifers to dispose of, communicated with him that he would become a purchaser. A few days afterwards he went to Leamington, and was met at the station by the defendant, who drove him to the farm to see the heifers. Sixteen were at first shown him, and, as he alleged, they were warranted to calve within two months. He then asked him whether he had any more to dispose of; defendant replied that he had, and drove him about a mile, to where ten other "down-calf" heifers and a cow were grazing. These last ten, he alleged, defendant said were nearer "their time" than the former lot, as they had been picked out from the whole number, and placed by themselves on that account. He agreed to purchase, the bargain being for 20 guineas each for the first sixteen, and £23 each for remaining ten and cow, and immediately drew a cheque for £500, leaving £89 balance. After the deal they had lunch together at defendant's house, and then drove to Warwick market, where plaintiff gave defendant a cheque for the balance. The following day, however, he stopped its payment for the reason, as he now stated, that he thought £500 sufficient to be paid on account, and until he had proved whether the heifers would turn out as warranted. They did not fulfil the warranty, some of them, in fact, did not calve for five months, while three proved barren. It was for the cost of the keep at 5s. per head per week of each heifer that went in calf beyond the time specified that the action was

brought. Defendant had agreed to allow 30s. for each heifer that proved barren, and had paid £6 into court.

Mr. Metcalfe having stated these facts to the jury, called the plaintiff, Joseph Willington Lane, who stated that he is a farmer and dairyman, at Newton Longueville, near Bletchley. Having heard that defendant had a lot of down-calf heifers for sale, he wrote to him on the 13th of November, telling him that if he had he would become a buyer. Two days afterwards, he went to Leamington, where the defendant met him at the station, and drove him to the farm. He told him on the way that he wanted milking cows, as he supplied milk to London by contract. Defendant asked him how many he wanted, to which he replied that he was not particular if they suited him. He drove him to a field in which were sixteen heifers, and, as soon as he saw them, he told him he thought they would "lie a long time," and that he wanted "down calvers," meaning heifers that would calve directly. In answer, defendant said they would all calve within two months. He depended on his word, and agreed to give him 20 guineas each for them. He then asked him whether he had any more to dispose of, and he drove him about a mile to a field in which were ten other heifers grazing, which he said had been drawn out from the other lot as being nearer for the time of calving. There was a cow among the last lot, and he agreed to give £23 each for the heifers, including the cow. From thence they went to a small public-house in Warwick, where a deal was completed and he gave him a cheque for £500, leaving £89 balance. After this they went to luncheon, and next drove to Warwick market, where he gave him a cheque for the balance. On the following morning, however, he stopped the payment of the last cheque, considering that £500 was sufficient to pay on account. A number of the heifers were removed to his farm, and, about a month afterwards, he wrote to him complaining that they did not turn out as warranted. To that he received the following reply: "Dear sir,—I beg to inform you that the heifers must be removed this week, and a cheque for the balance, £89, placed to my credit at the bank before Saturday." He answered that letter, though he could not speak to the

posting of his answer, and his letter was accordingly not put in, and in reply he received a letter from Mr. H. C. Passman (defendant's attorney) to this effect: "Sir, I am instructed by Mr. Tough to apply to you for immediate payment for the amount of cheque paid to him from you by return of post, together with 5s. costs for this application, or I am instructed to commence legal proceedings. I am also to inform you that ten of the heifers which remain are at your risk, and that the sum of 5s. per head per week will be charged for their keep from the 16th December, the date on which they should have been removed." He wrote in reply, and on the 11th of January he went to see defendant at his house, where he told him the only reason he had for keeping back the £89 was to see that the heifers turned out really according to agreement. He also told him that only three of the seventeen he had received had calved; but the only reply he made was that they ought to have done. He told him he should expect him to keep the remaining ten free of charge up to the time they were about to calve, respecting which he signed the following agreement: "I hereby agree to keep the ten heifers belonging to Mr. Lane up to the time of calving, and will allow 30s. each for those that do not calve." The letter he wrote defendant, in answer to Mr. Passman's, was here put in, and was to this effect: "I have received a letter from some lawyer of yours. I think it is a great pity if we cannot settle our difference without such men as those. I only want what is right, and am willing to refer what there is between us to any business man, either Mr. Margetts, Mr. Slute, or anybody else. I shall be at Warwick on Saturday next, and if the men we may appoint think it right I will pay 5s. or 10s. per head for keep. I think I have more cause to be dissatisfied, and also to make a claim for compensation, as the heifers lay so long over the time named. There will be no difficulty about settling this small matter." On the day he saw him after sending this he paid him the £89. A fortnight afterwards he received six of the ten heifers, and a fortnight later the remaining four. On the 3rd of March he wrote him: "I received the four heifers yesterday, stated in your note of the 25th February to be in calf. If so, why did you send them yet? as I will guarantee three of them will not calve for four months. As I have stated in my letters to you before, I shall expect compensation, so many lying so long over the time agreed upon for them to calve. It is time some agreement was come to, and I request you to give me compensation according to your own terms of 5s. per week for keep. I consider I have a claim upon you at that price for the heifers that went beyond the time specified, in all amounting to £36 15s. You will perhaps send me a cheque for that amount, as I shall prefer not taking legal proceedings unless you compel me to do so." After receiving the heifers they calved in the following manner: 11th Jan., three; Feb. 1st, three; Feb. 15th, four; March 6th, four; March 30th, one; March 31st, one; April 5th, six; April 12th, two; and three proved barren. He charged 5s. per week for keep per head for the animals that went beyond the time they were warranted to calve, in all amounting to £45 5s., from which was to be deducted the charge for defendant's keep, according to agreement, leaving his claim at the amount stated. In addition to that he had sustained a loss by the heifers not supplying him with milk at the time he expected they would have done, and also on the depreciation in the value of the animals, which he computed at £5 per head, on account of their having been thrown out of the season this year, consequent of their late calving. He estimated his loss on milk sale at £100, but he had not charged for that, nor for the depreciation of the animals in value.—By Mr. O'Malley: An animal "down calving" meant that it would calve in a week or ten days. These animals were not so near calving as that.—After expressing his doubt about it, defendant said he would warrant the whole lot would calve within two months of that time. He gave him the cheque for £500 at Warwick, afterwards he gave him the cheque for the balance, and he then returned him the "luckpenny" on the deal—£2. He did not remember him complaining to him that he had made a bad bargain, and denied that the memorandum whereby defendant agreed to allow him 30s. each for the heifers that proved barren was to be regarded as a settlement of his claim. He did not take legal proceedings until the other side had commenced to do so, and his solicitor then suggested that if defendant was acting for Lord Warwick in the transaction, and he desired him to take action against his lordship he would do so. Several of the heifers did not calve until April.

William Dickens proved to attending two of the heifers in calving in the second week in April.

In cross-examination he denied having told defendant that the whole lot calved within eleven weeks of the time they were bought.

William Martin and William Bliss were called to speak of the term "down calving," which they said meant that the animal to which it was applied would calve within a week or ten days.

This was plaintiff's case.

In opening that for defendant, Mr. O'Malley said it entirely turned on the credit the jury would give to each of the witnesses—the plaintiff on one side and the defendant on the other. Defendant, who had been farm bailiff to the Earl of Warwick for many years, might have defended the action on the ground that he was agent to that nobleman in the transaction, but he did not wish to throw it upon Lord Warwick, and was quite willing and ready to undertake the responsibility of it himself. Mr. O'Malley reviewed the facts of the case and the correspondence, and contended that plaintiff's story was an improbable one, and that it was not likely that defendant would warrant a lot of heifers to calve within a given time, when it was not the custom to do so and about which he could have no positive knowledge.

Defendant, David Tough, stated that he was farm bailiff to the Earl of Warwick, and occupies Heathcote Farm, near Leamington. Early in November he received a letter from the plaintiff, stating that he had heard from Mr. Harwood, that he (defendant) had a lot of heifers to sell, intimating that he would become a purchaser, and naming a day when he would be at Leamington. He accordingly met him at Leamington on the day fixed, and then drove him to where the heifers were. In the first field there were 16, and on going into it he said, "They are a nice lot of heifers, and asked what time the bull was put amongst them. He told him the first or second week in March, and he then further asked him what time they would calve, to which he answered that he did not know, and, in reply to a further question, said the bull was taken from them in the harvest time. He told him that it appeared to him that a good many of them would calve in two months. He did not ask him to specify the time when they would do so, nor did he give a warrant to that effect. He agreed to purchase the heifers, and also ten others in another field, together with a cow in the last lot, the price agreed upon being £589, and the delivery of the whole lot to take place within a month, he (defendant) to be at the cost of their keep during that time. They then went to Warwick, and concluded the deal in the Wheatheaf public-house for £589, plaintiff giving him a cheque for £500. Afterwards they went to his house, where they had luncheon, and next drove to Warwick-market. On going there plaintiff said he had better give him a cheque for the balance, and then he could return him the "luck penny," and then the purchase would be completed. He gave him the cheque, and he returned him 30s. as the "luck penny," but not being satisfied with that he gave him £2. On the following Tuesday he received a letter from the bank, and was surprised to learn that the cheque for £89 had been stopped. He wrote to plaintiff respecting it, and in reply he said he thought it better on second consideration to stop the cheque until such time as the beasts were removed. On the 2nd of January he wrote to him demanding payment, but between that time and the 11th he received no answer, and he then instructed his solicitor to write to him, in reply to which he (defendant) received a letter stating that it would be a hard thing if they could not settle their differences without putting it into a lawyer's hands. Afterwards he saw him, and in reference to the same subject he told him that it was his own fault that he had received a lawyer's letter, as he should not have stopped the cheque for £89. He replied that he had made a bad deal over the heifers, but that he had brought him the money that day. He also asked him whether he would allow him anything if any of the heifers proved not to be in calf, and he replied that he would allow him 30s. for each heifer that proved barren. A memorandum to that effect was left with his sister, but he did not sign it. On the 4th of March he received a letter from the plaintiff claiming compensation for the keep of the heifers beyond the time, as he alleged, he went over to plaintiff's farm, but did not see him. One of his cowmen told him that the heifers had calved

within eleven weeks from the time of purchase, with the exception of three or four that proved barren.—In cross-examination defendant still denied that he ever warranted the heifers to calve within a particular time. He admitted agreeing to allowing 30s. each for those that proved barren, and had paid £6 into court. Plaintiff never suggested to him that the

difference between them should be put into the hands of an arbitrator.

Mr. O'Malley addressed the jury for the defendant, and Mr. Metcalfe for the plaintiff. The learned judge reviewed the evidence to the jury, who retired to consider their verdict. After an absence of about an hour they found for the defendant.

THE MALT TRADE.

BIRMINGHAM COUNTY COURT.—TOMMAS v. HIORT AND BROCHNER.

This action, which had been several times adjourned, was brought to recover £50 (reduced amount) damages said to have been sustained through the sale by the defendants to the plaintiff of a quantity of barley. Mr. Wilkinson (Messrs. Rowlands and Baguall) appeared for the plaintiff, and Mr. Nathan (instructed by Mr. Fallows) was for the defendants. The plaintiff, Mr. Robert Tommas, maltster and hop merchant, of Winsou Green, near Birmingham, sued Messrs. Hjört and Brochner, corn merchants, of Hull, for £50, reduced claim, damages for breach of contract, under the following circumstances: In September, 1872, the plaintiff purchased of the defendants' agent in Birmingham 260 quarters of barley, for malting purposes, the agent warranting the barley to vegetate, and producing a sample in process of malting, and giving the names of several gentlemen who had purchased barley out of the same bulk as that which the plaintiff was to receive. This sample of barley malted tolerably well, and shortly after the defendants' agent sold Mr. Tommas, jun., 250 quarters more, which he represented was of the same quality and sample as the previous lot sold to the plaintiff. But while this barley was in process of delivery the plaintiff's foreman found that it was not equal to sample, being very much out of condition and not so good. The plaintiff accordingly wrote to the firm, and their agent (Grimmett) and his clerk both saw the barley, and admitted that it was not so good as the sample; and Grimmett requested the plaintiff to accept the barley, stating that an allowance would save to be made for it by the firm.

The plaintiff's foreman proved that the barley was discoloured and not equal to sample, and also that the quantity wetted did not yield malt fit for sale.

Mr. Thomas Place, Supervisor of Excise, was called, and he said he went to see a steeping of barley from the sample in question, and to test it. In malting barley there was a more particular tendency of the vegetating grains to rise to the top, and for the indiffererent grains to fall to the bottom; and he was particular in taking the sample he did take to secure its being a fair one. On examining the sample, and by counting the grains indiscriminately, he found that 75 per cent. of them had not vegetated, and were, in fact, perfectly useless; for on further testing the indiffererent grains they rotted on the kiln, which would not be the case with all barley which was not absolutely fit for malting. It would at all events be fit for grinding. The law required that all barley should be under water forty hours; he never knew—and he had been an Excise officer for forty years—that there was any distinction made between the time of steeping old and new grain. It was the custom of maltsters, more particularly in the Midland Counties, when barley would not sprout freely to keep it under water for fifty hours, and to further wet it on the malt-room floor; but this was purely optional with the maltster, who generally acted on his own discretion. Where barley was not sprouted sufficiently, it was the duty of the Excise officer to call the attention of the supervisor to it. That was done in this case, and the Board of Commissioners in course of time remitted the duty to the plaintiff.

Mr. Braund, Excise officer, proved that not more than 25 per cent. of the barley in question vegetated while on the floor, and that the Commissioners of Inland Revenue directed the duty should be returned provided that the barley was ground and mixed with a tenth of its weight of linseed meal. This was done in the presence of the officers.

Mr. Thomas Old, collector's clerk, proved that the duty, amounting to £140 odd, had been returned.

The plaintiff, who said the price agreed on for the barley was 36s. per quarter in Hull, admitted in cross-examination that he bought the sample of old barley. He was not aware that it was a well known custom of the trade not to warrant old barley to vegetate, but he had had several transactions with firms where the bulk of the barley sold had not turned out equal to the sample, and the parties did not hesitate to take it back, or to reduce it to grinding price.

Mr. John Bromwich, from the firm of Messrs. Edward Gomm and Co., proved that the plaintiff had purchased a lot of 500 quarters of his firm the same week, and that, in consequence of its not vegetating properly, they took back 308 quarters and made a reduction in the price of 5s. per quarter of the 192 quarters that were used.

This was the plaintiff's case.

Mr. Nathan, in opening the defence, said the question was whether there was a contract entered into at the time of sale, and if so, what was the damage? Having reviewed the evidence, he contended that there was no contract, and that, moreover, the barley had not been vended for malting purposes. It was a sale simply on the understanding that the second quantity should be equal to the former, and with this provision he should prove his clients had strictly complied. The learned counsel then called his Honour's attention to cases, and submitted that "where the sale of an article was by sample, it was not an implied part of the contract that the article bought should be fit for the purpose for which it was bought, even where the seller might be aware of the purpose for which the buyer bought it." He called Mr. Bröchner, one of the defendants' firm, who, after deposing to the circumstances of the sale, said Grimmett was simply a broker, selling for them on commission, and as such he sold the two lots of barley in question. No instructions were given him to sell the barley for malting purposes. He was forwarded samples and sold on his own responsibility, being allowed commission only on all orders that were approved by the defendants.

Cross-examined: His (defendant's) firm didn't care what price Grimmett sold for so long as he obtained their price. He had no authority to sell the barley for malting purposes; but the firm considered that it was fit for malting.

In answer to his Honour, he said he believed Grimmett had samples of the second lot of barley from the firm.

Several witnesses were called, the tendency of whose evidence was to show that there were two different lots of barley in the same shipment; that the plaintiff received one of each; and that every care had been taken of the barley while in dock, and that it was sent out in good condition as old barley.

Mr. Thomas Badger, a corn broker, of Birmingham, said that in the month of September, 1872, new barley was selling at 45s. to 46s., and old barley at 35s. to 39s. a quarter. It was generally the practice for buyers of old barley to take samples and test them, if they bought for malting purposes, and if they did not do so they bought at their own risk. The germination of old barley was always hazardous.

Mr. Wilkinson, in replying on the defendant's case, submitted strongly to his Honour that the defendants had made themselves liable in this action by having adopted Grimmett's acts, who had in this instance assured the plaintiff that the barley was fit for malting.

His Honour said he had quite made up his mind as to the verdict he should give. He had no doubt whatever that, for some reason not explained by the defendants, and which he didn't believe was known to them, that there was a difference between the sample which Grimmett showed and the barley which the defendants sent. This, as well as the difference between the first and second consignments, he believed had arisen from the fact that the barley had laid in store for six months, and some part of it had become heated, and therefore would not germinate, and was not fit for malting purposes. Under such circumstances the plaintiff was entitled to recover, by reason of the bulk not being like the sample, and as the evidence had clearly shown that the loss he had sustained exceeded £50, there would be a verdict in his favour for the full amount claimed.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The month of March has exhibited the greatest fluctuations of temperature, opening unseasonably mild, but on the second week we were plunged into mid-winter, with the severest snow-storms experienced for some time past; but this severity only lasted four days, and the late mildness immediately returned, and has since ruled, though fearfully high spring tides on the 20th have done immense damage to houses and goods in low situations on the banks of the Thames. The crops on the ground appear to have sustained no injury by frost, but the forwardness of the wall-fruit buds brings us to the conclusion that in exposed localities they must have been seriously cut. This is the second touch of winter we have had in a most extraordinary season; but the ice breaking unusually early in many foreign ports, have brought such continuous supplies; that holders have got nervous, and accepted 3s. to 4s. less money in the course of the four weeks, and Paris has endorsed the fall. After rising unexpectedly 5 francs in flour one week, the next was followed by a decline of 4 francs, though the reduction in wheat has not been equal, and in the provinces the upward movement has predominated, Marseilles, the great southern port, remaining pretty steady all through. Yet, neither here nor in France do native supplies justify the reduction, and the foreign arrivals, though early and pretty free, do not equal our wants, if they have been correctly estimated, as equal to last year's, when the imports were thirteen millions. It is true that the last crop was not sprouted, and nearly the whole of 1872 was, which as it made a difference in value of 5s. per qr. there may be an equivalent improvement in flour in favour of 1873, and this may possibly reach to 1,000,000 qrs. wheat, but even then we should want 5,687,368 qrs. in five and three-quarters months, or about 1,000,000 per month, and are we so sure of obtaining it that we are warranted in sacrificing a bird in the hand for two in a bush? Stocks everywhere run short. Southern Russia, Hungary, Egypt, Italy and France, have had but a poor yield, and with the changes of temperature we have already experienced who can reckon on a prosperous blooming time, especially when in our own Indian Empire there is the pressure of famine upon a large population? A failure therefore this year would be unusually calamitous, and force prices up to a fearful height. Let us hope no such visitation is before us, but at the same time be careful not to entertain a groundless confidence. The following prices were lately paid at the several place named: Best native white wheat at Paris 71s., red 69s.; Berdiauski red at Marseilles, 66s. 8d.; Ghirka, 67s. 4d.; wheat of Liege, 65s. 6d.; white Californian at Brussels, 64s. 6d.; white Zealand at Rotterdam, 63s.; fine yellow at Hambro, 62s.; red at Stettin 55s., at Berlin 56s., at Cologne 60s.; new high-mixed at Danzig, 60s. free on board, or 68s. cost, freight and insurance; fine red at Pesth (Hungary), 66s. 6d.; white at Valladolid, 47s.; soft red at Algiers, 65s.; white at San Francisco, 60s., cost, freight and insurance; No. 1 spring red at New York 47s. 3d. per 480 lbs.; No. 1 white at Toronto, 44s. 8d. per qr.

The first Monday in London had a small supply of English wheat, but there was plenty of foreign, consisting mostly of American red. The show on the Essex and Kentish stands was small, with about the average condition. Factors, however, could make no way in sales till they accepted a reduction of 1s. to 2s. per qr., the long prevalence of unusually mild weather keeping the foreign trade well supplied, with promise of more. American, and indeed all sorts of red wheat, could only be placed freely at a reduction of 2s., and white was also

1s. per qr. lower. The market, however, closed with more firmness than on the previous Friday. Cargoes off the coast were unaltered in value. Several of the country markets this week appeared surprised at the London decline, and resisted it. Among these were Boston, Birmingham, Brigg, Thirsk, &c.; others only gave way 1s., as Leeds, Louth, Melton Mowbray, Newark, Sleaford, Spilsby, and Rotherham, and some accepted the full reduction, as Gainsboro', Hull, Market Rasen, Sheffield, &c. Liverpool was down 2d. to 4d. per cental on Tuesday, but recovered 1d. to 2d. on Friday. There was no change at Leith or Edinburgh, but Glasgow gave way 1s. per qr. At Dublin there was no difference from the previous rates in either native or foreign wheat.

On the second Monday there was another limited supply of home-grown wheat, and though the foreign arrivals were reduced they were sufficiently plentiful, being half from the United States. There was rather an improved show of English samples on the Essex stands, in pretty fair condition. However, millers would not pay anything over the previous rates, and the trade was steady at the rates then ruling. The business in foreign was not active, but there was more confidence in holders, and some were asking more money, which, however, was refused generally, though in some instances paid. With buyers from the Continent the floating trade was very firm. With the return of rough weather and rather better accounts from London, the country markets this week were more cheerful, and many noted an advance of 1s.; among these were Birmingham, Brigg, Hull, Louth, Leeds, Rotherham, Sleaford, &c. Liverpool was 2d. dearer per cental on Tuesday, but lost the advance on Friday. Glasgow was 6d. to 1s. higher, and Edinburgh 1s. fully. At Dublin red wheat improved 6d. per barrel, but not white.

On the third Monday there was again a small English supply with, however, more foreign, and of this two-thirds were from New York and Baltimore. With small show of fresh supplies from the near counties, factors were at first demanding rather more money, but found it useless, and sales only quietly proceeded at the previous quotations. Though the foreign trade was far from brisk, there were no offers at less money, the sales made being at precisely the same rates as on the previous Monday. With a good foreign demand for floating cargoes, very few were left unsold. This week the country trade was dull, with a tendency downwards, being influenced by fine growing weather and the advices from London, some places, as Barnsley, being fully 1s. per qr. lower. Liverpool was 2d. to 3d. down per cental on Tuesday and 2d. more on Friday. Edinburgh and Leith had heavy markets, and Glasgow lost the advance of the previous week. Dublin was, however, steady for both native and foreign wheat, and Belfast was without change.

On the fourth Monday the supplies of home-grown wheat were moderate, those from abroad being good, but not heavy. The show of fresh samples from Essex and Kent was limited, and the condition generally poor. The best samples were taken at 1s. per qr. reduction, and the rest were neglected. There was very little doing in foreign, at the same decline generally; but on red American ex ship a greater reduction was taken in order to make sales.

The arrivals into London for four weeks were in English qualities 15,789 qrs., and in foreign 115,653 qrs., against 21,071 qrs. English, 75,456 qrs. foreign for the same period last year. The exports were 2,479 qrs. The foreign arrivals into the kingdom for four weeks, ending March 14th, were 3,471,528 cwt. wheat,

647,783 cwt. flour, against 3,299,576 cwt. wheat, 652,278 cwt. flour for the same time in 1873. The general averages commenced at 6s. 10d. and ended at 6s. 10d.

The flour trade gave way 1s. per sack in country sorts, as well as foreign, on the first Monday, and has since remained dull, with a downward tendency, Norfolks being scarcely worth 43s. per sack; country households 46s. to 47s.; but the top price of town sorts has remained at 47s. The finest American barrels here are worth barely 31s.; extra State at New York 6 d. 50 c. (24s. 6d.) per brl. The imports into London for four weeks were 63,714 sacks country sorts, 8,333 sacks 22,525 barrels foreign, against 87,903 sacks country, 13,689 sacks 37,161 barrels foreign for the same time in 1873.

In maize there have been fluctuations. The first Monday noted a decline of 1s., but subsequently it went up 2s. to 3s. per qr., arrivals being short with a good demand, and mixed American has become worth 40s. per qr. The imports into London for four weeks were 21,601 qrs. against 50,869 qrs. in 1873.

The supplies of barley have continued moderate, both English and foreign; malting sorts have maintained their high prices, fine continuing scarce, and foreign have been in brisk demand and dearer in consequence, while inferior and grinding descriptions have been steady, especially since the recovery of maize, and bring about 34s. per qr. The imports into London for four weeks were 18,523 qrs. British, 31,194 qrs. foreign, against 7,888 qrs. British 39,052 qrs. foreign for the same period in 1873. Saale barley still brings 56s. at Hamburg, and inferior qualities are high priced in all foreign parts.

The malt trade has been quiet all through the month, but the best qualities have maintained their value.

Oats have fluctuated in prices with the foreign supplies. On the first Monday these were very heavy, and the trade consequently gave way 1s. per qr.; but this was recovered in the two successive weeks, leaving thus much as they previously were for fine corn, but rather cheaper for rough new. A large demand is now weekly made, and with but moderate stocks in granary a short supply immediately tells; and but for the early breaking up of frost in the Baltic this grain must have been very dear, the price everywhere being high, and stocks of old on the Continent apparently quite exhausted. Fine old Petersburg, weighing 40lbs. per bushel, are still worth fully 29s., and lower weights in proportion, fresh new Swedes, (40lbs. per bushel,) bringing 28s., 38lbs. 25s. 6d. per qr., and lower weights 22s. to 23s. 6d. There being now scarcely any arrivals from Ireland or Scotland we have become quite dependent upon foreign aid, but as rates must remunerate foreign growers no doubt every effort will be used to meet the wants of Great Britain. The imports into London for four weeks were 3,909 qrs. English, 150 qrs. Scotch, only 15 qrs. Irish, 182,422 qrs. foreign, against 2,222 qrs. English, 87,091 qrs. foreign for the same period in 1873.

Though the supplies of beans, both English and foreign, have been moderate, the extreme mildness of the weather has so reduced the demand that they have given way in value about 2s. per qr. Good hard new ticks are worth 39s., harrows 44s., and small 46s.; for old, which are very scarce, 2s. or 3s. must be added. A cargo from Egypt arrived last month, some of which still remains, and is worth about 42s., French 42s. to 43s. Maize having again advanced there is more chance of improvement as to this grain, but as the season advances the demand becomes reduced. The arrivals into London for four weeks in English were 3,084 qrs., in foreign 3,236 qrs., against 2,984 qrs. English, 8,104 qrs. foreign in 1873.

With very short supplies of peas, both native and foreign, this grain has been uncommonly dull. The finest white boilers are not worth over 45s., maples 43s.

to 44s., duns 38s. to 39s. The stock of boilers being no longer wanted for human food, will go off for horses at about the same price as beans. The imports into London for four weeks were 1,617 qrs. English, 2,790 qrs. foreign, against 2,124 qrs. English, 4,186 qrs. foreign in 1873.

Linseed, with short supplies, has fully maintained its value, and so has eake, as all feeding stuffs have been dear. The supplies for four weeks were 10,779 qrs., against 11,961 qrs. in 1873.

The cloverseed trade has been hitherto disappointing, the demand experienced being almost exclusively for fine new English red, and though the crop is reported as short, inferior qualities have been very difficult to place, with very uncertain values. Tares have not experienced the brisk demand expected, but good Hambro' spring have brought 40s. for small, 47s. to 50s. for large Brunswick.

PEDIGREE STOCK SALES IN 1874.

- APRIL 1.—Mr. T. Allen's Shorthorns. At Thurmaston, Leicester. By Mr. J. Thornton.
- APRIL 7.—The Marquis of Exeter's Shorthorns. At Burghley Park, Stamford. By Mr. H. Stafford, Euston Square, London.
- APRIL 9.—Mr. Hetherington's Shorthorns. At Brampton, Carlisle. By Mr. J. Thornton.
- APRIL 10.—Mr. R. Jefferson's Shorthorns. At Preston Hows, Whitehaven. By Mr. J. Thornton.
- APRIL 15.—Mr. J. Burgess's Shorthorns. At Edenham, Lincolnshire. By Mr. J. Thornton.
- APRIL 16.—Mr. J. H. Casswell's Shorthorn Herd. At Laughton, Lincolnshire. By Mr. J. Thornton.
- APRIL 22.—Mr. W. W. Snye's Shorthorns. At Beaumont Grange, Lancaster. By Mr. H. Stafford.
- APRIL 28.—Mr. Garne's Shorthorns. At Chipping Norton. By Mr. J. Thornton.
- APRIL 30.—Mr. Bland's Shorthorns. At Coleby Hall, Lincoln. By Mr. J. Thornton.
- MAY 1.—Mr. T. Purkis's Shorthorns. At Linton, Cambridge. By Mr. J. Thornton.
- MAY 5.—Show and Sale of Shorthorns. At Smithfield Market, Leeds. By Mr. T. Dodds, Wakefield.
- MAY 7.—Mr. H. Killiok's Shorthorns. At Eceeshall. By Mr. J. Thornton.
- MAY 14.—Mr. Gilbey's Jerseys. At Stanstead, Bishop Stortford. By Mr. J. Thornton.
- MAY 19.—The late Mr. H. D. Barclay's Shorthorn Herd and Southdown Flock. At Eastwick Park, Leatherhead. By Mr. J. Thornton.
- MAY 21.—Mr. C. Collard's Shorthorns. At Little Barton, Canterbury. By Mr. J. Thornton.
- MAY 22.—The Rev. J. Storer's Shorthorns. At Blisworth. By Mr. J. Thornton.
- JUNE 12.—The late Mr. J. Blyth's Shorthorns. At Woolhampton, Reading. By Mr. J. Thornton.
- JULY 24.—Messrs. Rawlence's Hampshires. At Bulbridge. By Messrs. Ewer and Winstanley.
- JULY 28.—Mr. W. Bennett's (Chinnmark) Hampshires. By Messrs. Ewer and Winstanley.
- AUGUST 11.—Mr. E. Dibben's Hampshires. At Salisbury. By Messrs. Ewer and Winstanley.
- SEPTEMBER 9.—The Duke of Devonshire's Shorthorns. At Holker Hall, Lancashire. By Mr. H. Stafford.
- SEPTEMBER 10.—The Earl of Bective's Shortlorns. At Kirkby Lonsdale. By Mr. J. Thornton.
- SEPTEMBER 23.—Mr. E. Cheney's Shorthorns. At Gaddesby Hall, Leicester. By Mr. H. Stafford.

THE FARMERS' AND THE LABOURERS' UNIONS.

—At a meeting of the Norfolk Farmers' Labour Defence Association in Norwich, Mr. Robert Leamon in the chair, the following resolutions were passed unanimously: 1. That it is desirable to form a Norfolk Farmers' Labour Defence Association. 2. That the objects of the association be to resist the oppressive action of the Agricultural Labourers' Union, and generally to defend the interests of the occupiers of the soil as affected by such Union, and to secure the freedom of the non-Unionist labourers. 3. That a committee be formed, with power to add to their number, for the purpose of drawing up the constitution and rules and regulations of the association. 4. That the Board of Guardians of each Union be requested to form a committee from their number, to consider and offer suggestions to the General Committee at Norwich, as a guide in framing the constitution and rules of the association.

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6 lb. 30 " " " " " " " " " " " " " "	0	3	0
8 lb. 40 " " " " " " " " " " " " " "	0	4	0
10 lb. 50 " " " " " " " " " " " " " "	0	5	0
20 lb. 100 " " " " (Cask and measure	0	10	0
30 lb. 150 " " " " included)	0	15	0
40 lb. 200 " " " " " " " " " " " " " "	1	0	0
50 lb. 250 " " " " " " " " " " " " " "	1	3	6
60 lb. 300 " " " " " " " " " " " " " "	1	7	6
80 lb. 400 " " " " " " " " " " " " " "	1	17	6
100 lb. 500 " " " " " " " " " " " " " "	2	5	0

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"For JOHN TINGEY, Esq.,

"R. RENNEY.

"To Mr. Thomas Bigg."

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MAY, 1874.

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JOHN SHARP, Secretary.



The Sleepy Bear of Siam.

THE FARMER'S MAGAZINE.

MAY, 1874.

PLATE.

THE CUP PEN OF PIGS,

AT THE SMITHFIELD CLUB SHOW, 1873.

These pigs, improved Dorsets, were bred and fed by Mr. C. McNiven, of Perrysfield, Oxted, near Godstone. They were 17 months and 23 days old when exhibited at the Smithfield Club Show in December last,

where they took the first prize of £10 in a class of any black breed between twelve and eighteen months old, and the Silver Cup of £20 as the best pen of pigs in the show.

THE LABOURER'S HOME.

In a leading article on Monday last we dwelt upon the wretched cottage accommodation in the disaffected districts about Newmarket, and the imperative duty on the part of the landlords to see that this was amended; as the sooner the better for the three classes concerned. Of course we spoke with a personal knowledge of the country, while *The Agricultural Gazette* of last Saturday thus takes up and confirms our argument: "The principal fault of the agricultural system around Newmarket is the lack of decent cottages. In some of the villages this is very obvious. We went over several cottages in Ashley, and saw many at Exning which are in a miserable plight. In other villages the accommodation seems more satisfactory—and in all there are many cottages to which no exception can be taken. But it is here, certainly, where the help and interference of the landowner are most called for. We are glad to learn that these disturbances are already making themselves felt in this direction; and that our Lands' Improvement Companies are receiving unusually numerous applications from landowners all over the country for loans chargeable on their estates under the various Lands' Improvement Acts, for the purpose of cottage building."

There has, we regret to say, been little or no sign of a settlement during the past week, but the struggle rather increases in intensity. The farmers pretty generally decline proposals for arbitration, and the men are seeking further assistance from without. In the Newmarket

district a desire has been manifested on either side to extend the field of operations, and just now Bury St. Edmunds is the centre of a very warm argument, the discussion of which has approached closely upon a riot. Still, the employers believe that they can hold out the longest, and notwithstanding the admitted difficulties of the situation, the work of the farm, as a letter from an Essex correspondent shows, is generally very forward. The local Chambers of Agriculture, like the Central, appear disinclined to take any action over the matter, but two or three meetings of Farmers' Defence Associations are to be held during this week in the disaffected districts. The following paragraph, which has been published this morning, brings us back to our original argument, that comfortable cottages and good garden-ground are amongst the most wholesome of means for avoiding such instruments as strikes or lock-outs: "In spite of various attempts by union leaders to induce Sussex labourers to combine, no sign of dissatisfaction is shown by the men—the masters, in the majority of cases, having voluntarily increased the wages of the most deserving. The Duke of Richmond has just added 1s. a week to all the labourers and mechanics on the Goodwood estate. These men not only receive good wages for persons of their class, but each married man has a convenient and substantially-erected cottage and a large piece of garden-ground at the nominal rent of £4 a year."—*Mark Lane Express*, April 20.

THE FARMER'S CLUB.

THE FARMERS' INTEREST IN THE NEW PARLIAMENT.

At the monthly meeting, on Monday April 6th, the subject for discussion was "The Farmer's Interest in the New Parliament," the introducer being Mr. JAMES TRASK, of Orcheston, Devizes. The attendance was smaller than usual, doubtless in consequence of its being Easter Monday.

The CHAIRMAN, in opening the proceedings, said he did not expect a large attendance, and therefore did not feel disappointed. The question originally fixed for discussion that evening was "The Farmers' Interest in the Next Election," but the dissolution came so suddenly and unexpectedly, that several of the elections were over before the first evening set apart this year by the Club for discussion. Mr. Trask had accordingly undertaken to read his paper as "The Farmers' Interest in the New Parliament," and remembering how well he had introduced other questions, he felt sure that the subject would be well and properly ventilated. The subject was very important in itself, and he hoped there would be a vigorous discussion upon it (Hear, hear). He then read the following letter from Mr. James Howard :

"Clapham Park, near Bedford, April 4, 1874.

"MY DEAR SIR,—I much regret that circumstances, unforeseen, prevent my joining you on Monday. It was my full intention to come up, and, perhaps, take part in the discussion. The experience I gained in the House of Commons has convinced me that if the Farmers of England want their interests attended to, they must send representatives to Parliament who are either tenants themselves or whose sympathies are with the class. Mr. Read has proved how useful even one such a man can be, but how much more good would he have been able to accomplish if he had had the advantage of, say about, fifty coadjutors. All the talking in the world will not supply the place of the right men as representatives. Mr. Read was about the only country member, at all events on his side, who had any real sympathy with my Landlord and Tenant Bill. The only encouragement I ever met with was from Radical members representing the large towns.

I am, yours very truly,

"JAMES HOWARD."

Mr. TRASK then said: The question which was placed on the discussion card for the year for consideration this evening was, as you are all aware, "The Farmer's Interest in the next Election;" and I yielded, at the last moment, to the request of the committee to introduce that subject. The election, however, took place so suddenly that any discussion here, even at our first meeting in February, could not have advanced the object we had in view. It was necessary, however, the election having taken place, to alter the wording of the subject; but the question itself is not so much altered, for the farmer's interest in the new Parliament is the same as would be urged at an election. But, gentlemen, I am quite sure you will all agree with me that this question which we are now met to discuss is a very wide one. I believe, indeed, that no more difficult subject could be brought forward; and I feel very great diffidence, and a high sense of my inability, in dealing with a question of such great magnitude and importance. Some matters, however, that would come within the scope of this paper will, I am glad to say, be brought before this Club at the next meeting, and I shall not, therefore, refer to them. The ground over which I shall travel is still very wide indeed; but I will say this, however, that I have endeavoured to arrive at an impartial conclusion on the different points of my subject, apart from any political party feeling whatever; and I am sure that you will take the same course in the succeeding discussion. There are few who are not familiar with the well-known words of Dean Swift, "that whoever could make two ears of corn, or two blades of grass, to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of politicians put together." Without casting any sweeping reflection on "the whole race of politicians,"

I think it will be universally admitted that the words I have quoted represent a great and indisputable truth. Indeed, the increase and development of the inexhaustible resources of the soil is, or should be, the prime object of every agricultural society—the object of all legislation relating to the land, and the prime object that we should keep in view in dealing with the discussion this evening. Howver essential to the country it may be to produce the two blades of grass and the two ears of corn, it is a very long time since that the politicians who have been in power in this country have acted as if they desired to encourage this increase of production. Is it desirable that our agriculture should be encouraged?—that the soil of this country should go on increasing in productiveness in order to meet as far as possible the requirements of an ever-increasing population? Or is it desirable to go on, as at present, depending more and more on foreign countries for our daily food? We are now spending about three millions sterling a-week for the produce of the soil of other countries! while, at the present time, the agriculture of our own country is very far indeed from the prosperous, or even progressive state it should be in. What is the cause of this? The fault is not in the soil, for, without expressing any opinion as to whether the produce from it may be doubled or not, I say, without any hesitation, that the soil of this country may produce a vast deal more than it does; and, to whatever pitch of excellence you may bring the science of agriculture, it will still be possible for the land to produce, progressively and continuously, an ever-increasing amount of food for the people, for it is impossible to show that a maximum of produce has been reached as yet for any single plot of land. I need not stop, surely, to point out the importance to all classes of this great community that the growth of agriculture should go on unimpeded, and that whatever prevents, or has a tendency to prevent, its natural growth, should be immediately removed. In the course of the discussions on the abolition of the Corn-laws in 1846, Sir R. Peel spoke of "that great interest whose welfare ought to be one of the first objects of our concern—the agricultural interest." But the legislation of late years would lead us to suppose that it was not an object to be concerned about at all, except by putting on it an increased taxation; and, no matter what the state of the revenue may be, every other interest must be considered and relieved as far as possible; but you cannot relieve the agricultural interest, for, if you remove any of its burdens in the way of taxation, it would be immediately added again by the owners in the shape of increased rents. This has not been the invariable answer of the present day only. Twenty-four years ago, when in almost every village some farmer was ruined, the present Prime Minister of this country earnestly in the House of Commons pleaded for a committee of inquiry, which he hoped would recommend the transfer of a portion of the expenses which had hitherto been defrayed out of the rates to the general taxation of the country, with a view of relieving the agricultural interest, which was then in a state of the greatest distress in consequence of the abolition of the Corn-laws. But the answer which Sir J. Graham used on that occasion was that which I have just referred to—viz., that the proposals of Mr. Disraeli would only benefit the landowner, and not the farmer; and this argument prevailed then, and it has prevailed ever since. Indeed, I am not sure that this opinion is not more generally held now than it was at the time I refer to. Mr. Bright, when President of the Board of Trade, stated in the House of Commons that farmers had very little interest in politics, and they should trust to the sun and rain. And when a deputation of farmers sought an interview with the Right Hon. Robert Lowe, the other year, in reference to the abolition of the Malt-tax, he plainly told them that they were only advocating the interests of the landowner, who would immediately sweep up all the benefit that would be derived from such a measure. I shall say a few words, further on, in reference to the Malt-tax; but

it is necessary, before I proceed further, to inquire what truth there is in this statement that is invariably used, by way of answer, when any question affecting the financial interests of the farmer is put forward. It is clearly desirable to know no what ground we, as farmers, stand in reference to any public question affecting the interests of agriculture, because it will be quite apparent that, if we can reap no advantage from the settlement of any question relating thereto, it is quite useless for us to interest ourselves in the removal of any impediment whatever which we feel stands in the way of the proper development of the resources of the soil. But the notion which exists, that the landowner only can reap any advantage from the removal of taxes on agriculture, is perfectly erroneous, and anyone at all acquainted with the relationship existing between landlord and tenant must at once see that it is absurd. As a rule, the rents of farms are seldom altered, certainly not oftener, I think, on the average, than fifteen years: in many cases I have known it has not been altered for more than double that period, and during the past few years the rent of corn farms more particularly have declined. But for all practical purposes it must be borne in mind that, alterations of rent are not of frequent occurrence. This will be seen more clearly if I show you how very little, in comparison with the fabulous growth of the wealth of the country generally, the rent of land has increased in this country. I find from Mr. Goschen's calculations, that in the year 1814 the annual value of lands was £37,063,000, and in 1868, it was £47,767,000. Now I am sure we must all agree that, for a period of 60 years, this increase is very little indeed; and it must be borne in mind that, during this period of 60 years, a vast many inclosure bills have passed, and many thousand additional acres brought into cultivation; besides this, the rapid growth of many towns have largely increased the value of lands in their immediate vicinity. Taking these facts into consideration we must come to the conclusion that the annual value of lands in purely agricultural districts have, for a period of 60 years, increased marvellously little. Under such circumstances, therefore, it must follow that any addition to, or alleviation from, the burdens on land must in the first instance be immediately felt by the occupier entirely, because in England and Wales these local burdens, to which I am more particularly referring, are all paid by the occupying tenants. If farms were subjected to something like an annual valuation, and rents adjusted accordingly, I should at once admit that any remission of taxation would benefit the owners entirely; the fact, however, is very different, as I have just shown. But, it may be said, had it not been for the increase of these burdens, the rents would have increased more than they have done, and the landowners in reality bear these charges, as but for them they would be receiving higher rents than they are now doing. I admit they would be receiving these higher rents, but before rents would have been raised, the money that has been continually drawn from the pockets of the tenant would have been employed by him in his business, enriching the soil, and enriching the country by making the "two ears of corn and the two blades of grass grow where only one grew before," and this result would practically happen and an increased competition for land arise before the farmer would be called on for an increased rent. But Professor Fawcett said at Haekney the other day that farmers were being made "the victims of a palpable fallacy." I think, however, that they are better aware of the state of the relationship existing between themselves and their landlords than the Professor seems to be. He says that if rates are reduced £100 a year the rent would be immediately raised £100 a year; but such a case will never arise. The average size of farms in this country is only 56 acres, and the rent probably not above £100 a year; at 3s. 6d. in the pound the rates would amount to £17 10s. Now if a remission of taxation takes place to the extent of one-third the reduction would be £5 16s. 8d. per annum, a sum that no landlord would ever think of taking advantage of. It would, however, materially benefit the tenant, as the position of this average farmer is very little better than the position of the better portion of agricultural labourers. At the present time the increased cost of labour will far more than swallow up what amount of taxation is likely to be remitted from the charges on land. And here I wish to state that, if more capital is the great necessity, and we all know it is, for increasing the produce of the land, this increase of capital must flow into

the land through the farmers. And I may here also tell those who are disseminating the most scurrilous abuse of the farmers throughout the country, on the plea that they are advocating the cause of the agricultural labourer, that increased wages can only reach him by increasing the ability of the farmer to pay them. "In the case of the farmer and labourer," wrote Burke, "their interests are always the same, and it is absolutely impossible that their *free contracts* can be onerous to either party. It is the interest of the farmer that his work should be done with effect and celerity; and that cannot be unless the labourer is well fed, and otherwise found with such necessities of animal life, according to his habitudes, as may keep the body in full force, and the mind gay and cheerful. It is, therefore, the first and fundamental interest of the labourers," he said, "that the farmer should have a full incoming profit of his labour. The proposition is self-evident, and nothing but the malignity, perverseness, and ill-governed passions of mankind, and particularly the envy they bear to each other's prosperity, could prevent their seeing and acknowledging it with thankfulness to the benign and wise Disposer of all things, who obliges men, whether they will or not, in pursuing their own selfish interests to connect the general good with their own individual success." Increased burdens, therefore, whether local or imperial, and falling, as local taxation wholly does fall on the occupying tenant, takes away that which would otherwise be employed in increasing the produce of the soil, and the whole community suffer in consequence through a lessened produce; the landlord also suffers by a reduced rent, and the labourers suffer from the inability of the farmers to pay higher wages, which they cannot do at present except by lessening the number in their employment. We see, therefore, a constantly decreasing number employed in agriculture, not because fewer are needed, but because the prosperity of every other branch of industry has outstripped that of agriculture, enabling it to pay better wages than farmers can afford to give. They are obliged, under these circumstances, at the present time to curtail the employment of labour in every possible way; but if the same beneficent legislation that has encouraged other industries had been vouchsafed to agriculture, we should not be under the necessity of employing as few as possible, but, on the other hand, exercising our abilities with a view to the profitable employment of a larger amount of labour, which is necessary to secure a larger production. The remission of taxation has done great things in developing and increasing the trade of the country in many directions, and a remission of taxation on the farming interest would, in like manner, benefit all classes—the labourer especially. And in no way could the country be more enriched than by increasing the produce of the land, as that is a creation of real wealth to the whole country; and not only that, but less capital would have to be taken out of this kingdom for the produce of the land of other countries. I have gone thus fully into this matter, not that I felt that members of this club wanted to be told that a remission of taxation on the land would be of advantage to the whole community, and not of the landowners only, but because this latter idea has always been put forward, and acted on, by those who have held the reins of power in this country for many years past. At the same time, the fact is admitted by everyone that if a greater produce is to be got from the soil a greater amount of capital must be employed to produce it. Yet how is the farmer taxed? A large occupier in Wiltshire has supplied me with figures showing the comparative weight of taxes actually paid by him. His Income-tax at 3l. in the pound amounts to £9 11s. 10d. The increase of local taxation since 1865 is £35 6s. 0d. The Malt-tax on the beer consumed by the men in his own employment only, and which they cannot do without, amounts to £36 13s. 4d. It will be seen, therefore, from this—and I don't think it is an exceptional case at all—that the Malt-tax, together with the increase of local taxes during the last nine years, is equivalent to just eight times the amount of an Income-tax at 3l. in the pound; and this enormous weight of taxation falls exceptionally upon the agricultural interest, for I believe there is scarcely any other interest in the kingdom from which taxation has not been either removed entirely, or very materially reduced. And, in the face of all this, so repugnant and obnoxious is the business of farming to the

Right Hon. Robert Lowe that he was greatly disappointed a year or two ago at not being able to levy a tax on every horse engaged in it! I ask for no favour for the agricultural interest; we cannot but feel, however, that it is nothing but justice that, when the Chancellor of the Exchequer has to consider the ways and means for the year, this great interest—which Sir R. Peel said ought to be “our first concern”—should not be utterly ignored, but should at least receive the same consideration that is bestowed on the interests of other classes. And I may here state that in referring to the agricultural interest I allude to the landlord, the tenant, and labourer collectively. Farmers are quite as much interested as other classes in the legislation of Parliament, and it is for the interest of the whole community, and of landowners in particular, that they should exercise every legitimate influence in their power in the election of their representatives. Hitherto, however, the power which the farmers have exercised over legislation has not been sufficient to secure the passing of a single measure for the encouragement of agriculture since the Tithe Commutation Act was passed thirty-eight years ago. Since then, the position of the agricultural interest has been many times brought before Parliament, and investigated also by committees, but nothing has been done; no distress even has been alleviated—and there have been times of the greatest trial and disaster to all engaged in farming. Farmers have had to shift for themselves, however, under all circumstances; and I think I may say, without question, that the agricultural interest, for this period of thirty-eight years, has not been touched by those who have been in power, except to injure it. My remarks, hitherto, have been mostly of retrospective character; I have now to deal with the more prospective view of the subject, and I think we may be quite certain that questions connected with the land will receive greater public attention in the immediate future than it has received in the past; and I trust we may look forward with hope to a brighter, and altogether more satisfactory period, for all who are connected with the business of agriculture than we have been able to do before. I think we have a right to assume that the farmers, as a class, are not likely to be supplanted, for the superiority of English farming is due more than anything else, I believe, to our system of letting land to a class of persons who are brought up and educated for the especial avocation of agriculture. Other systems have been propounded, and thirty years ago O'Connor concocted a land scheme which was to be the means of realising a social millennium for the working classes. I refer to this particular scheme, because, unlike many that have only been talked about, this scheme of O'Connor's was carried into practice. An estate was purchased and inaugurated, we are told, with great ceremony; but the historian tells us that the calculations were all erroneous, and the consequence was a signal and complete failure, attended by heavy loss to all engaged in it. Until some other system of farming, therefore, has proved more successful, I think we should endeavour, as far as possible, to improve our own system by removing those impediments which prevent its full development by restricting the flow of capital into the soil, and subjecting the capital of the farmer to an excessive amount of taxation. We are told, however, that we are quite mistaken in supposing that we bear an undue amount of taxation, for in point of fact, we are “less heavily rated than formerly.” Figures are given showing the enormous amount of the Poor-rate for many years anterior to the passing of the new poor-laws in 1834; and these are compared with the figures of to-day. But it is very easy to show that the occupiers of that period never bore the amounts stated in the shape of taxation, for a very large proportion of the rates in reality went to pay wages. This will be more clearly seen if I give an extract from the letter of a Norfolk Farmer in *The Mark Lane Express* of last January 12th. He says: “I could name two parishes in which the farm-labourers were put up at auction every Saturday night, and then next week's work knocked down to the highest bidder, which, as every farmer by consent was allowed to buy his own man, in some cases did not exceed *fourpence per day*,” and he goes on to say that “wages were then 3s. 6d. to 4s. per day, and this was made up to them *out of the poor-rate*, by which the non-agricultural portion of the inhabitants were made to bear their portion of the wages.” It is bad enough to be able to refer back to such a system, and, although it may not have

been carried to this extent generally, it shows clearly that the farmers did not in reality bear these rates in the shape of taxation alone; and it will be seen at a glance that figures from such a vicious system cannot be justly compared for any practical object with the present state of things. For any purpose of comparison I hold that you cannot go back beyond the introduction of our present Poor-law system in 1834. Since that period the increase of local taxation has been enormous, and during the past twenty years the increase of expenditure for the relief of the poor alone has been over 60 per cent., whilst the increase for purposes *unconnected* with poor relief, though levied with the Poor-rate, has been no less than 132 per cent. But Mr. Goschen says in his report on Local Taxation that the increase has been much greater in towns than in purely agricultural counties, and by adding improvement, water and gas rates, &c., he shows that this is nominally the case. The owners of real property in the country, however, have to carry out improvements, sewerage, and water supply, &c., if they are to have them, although the cost does not appear in any rate, so that it may be compared with town-rates for the same purposes. We have, however, to deal with the enormous increase of local taxation that is levied under the name of “Poor's-rate” both in town and country; and I wish to show the effect of this increase of taxation on the occupiers of land as compared with persons engaged in any other trade; and taking into consideration Adam Smith's first canon of taxation, “that each person ought to contribute to the revenue in proportion to his ability to pay.” The Government assumes that a farmer gets an income equivalent to half the rent of his farm; but he is assessed for local taxation on his whole rent, which is double the amount of his income. A tradesman, on the other hand, is assessed only on the value of his premises, which will not, as a rule, I think, amount to more than one-fifth of his income. A rate of 2s. 6d. in the pound therefore would be equivalent to 5s. in the pound on the income of the farmer, and on 6d. in the pound only on the income of the tradesman—a very material difference. Mr. Goschen, however, gives a number of towns where the rates are high, and compares them with the average rate for the country. I will take the first on his list, which will be quite sufficient for the sake of comparison; it is Reading, where (all rates being taken into consideration) they amount to 4s. 9½d. in the pound. This is compared with Berkshire, where the rate is 3s. 4d. in the pound, and it is assumed that the ratepayer in Reading is rated more heavily than the ratepayer in the country. But nothing can be more erroneous; for taking the facts as I have before stated, that the tradesman is assessed at only one-fifth, and the farmer at double the amount of his income, it will be seen in this particular case that the ratepayer in Reading does not pay according to his ability more than about one-seventh of what is paid by the farmer in the country. But, it is said, the farms were taken subject to these local burdens—and for the matter of that so were houses too—and but for them the rent would be 50 much higher. I admit the full force of this argument; but I am speaking of the enormous *increase* that has taken place, the rates having nearly doubled in the past twenty years. Nearly the whole of this increase has been borne by the occupying tenants, for I have pointed out before that farm-rents are never altered in consequence of any increase or decrease of local taxation alone. I will refer to two charges, which Mr. Goschen says increased the rates by one million a year, of which the main portion fell on rural districts; this was the police rate, and the increase in the highway rates. Now, this million of taxation was immediately borne by the occupying tenants; the farmer had to put his hand in his pocket, and pay this much the more in hard cash, and this increase alone, to which I am referring, was to a farmer equivalent to a trebled income-tax at its present rate of 3d. in the pound, while to no other class did it amount, I believe, to more than one-tenth of that amount! What would those engaged in trade say if they suddenly found their income-tax under Schedule D trebled, for objects which are for the good of the whole community, while all other ratepayers contributed only a tenth of the amount? We know very well they would not suffer it for a day. But farmers had to bear these new charges in this unequal way, and every other addition to the rates is levied in like manner. Can it be a matter of surprise therefore that there is a universal feeling among farmers throughout the country that they are most iniquitously treated in this

matter? Then we have just had an Education Act and a sanitary bill passed, the charge for these purposes being levied in the manner I have described, the tenant-farmer being assessed on double the amount of his income, the owner paying nothing, and those engaged in trade being charged on about one-tenth of the sum which the farm is assessed. I received a letter recently from a Dorset farmer, in which he said: "The occupiers of land have been grossly treated by the legislation of the Gladstone ministry. I dispute the necessity and justice of putting school rates, highway rates, police rates, lunacy rates and military store rates, &c., &c., upon the land. If put on the land it should have been on the owner, not on the occupier. The farmers have been between two stools: the Radicals strong enough to heap the charges on the land, no matter where the shoe may pinch; the Tories strong enough to keep all charges off the landlord." He further said that "every county in England and Scotland ought to have sent a tenant-farmer to Parliament to demand justice." It is indisputable, I think, that the occupiers of land have, as my correspondent says, "been grossly treated." Tenants have had to bear the full brunt of all rates that are put on the land; but I think the owners have acted most unwisely in allowing them to do so: I am convinced they are great losers by it. If we turn to Scotland, and see the effect of a different system, this will be very clearly seen. Mr. F. J. Cockburn, in his evidence before the select committee of the House of Commons, 1870, described the mode of assessment in a Scotch parish, half rural and half urban: owners were rated at 9d. in the pound; the occupants of dwelling-houses, 1s. 1½d. in the pound; shops, warehouses, &c., were rated at 7d. in the pound; and the third class, consisting of farms, cultivated grounds, and fishings, were rated at only 3½d. in the pound, or but little more than one-third of what the owner is rated at. Now for the result of that system as compared with ours. Mr. Caird states that the rents of land in Scotland have increased 29 per cent. while in England it has increased but 19 per cent. But this is not all: the agriculture of Scotland, which was formerly much behind ours, has gone rapidly ahead of it. The land produces more food for the people, the labourers' position is improved more, and the owners are being richly rewarded as well. It is a historical fact that, even in the Lothians, now models of farming excellence, it was in the rudest and almost barbarous state when George III. came to the throne. To throw heavy burdens on the capital of the farmer that is fruitfully employed in cultivating the soil is, I believe, the very height of folly. It is burdening the fund which Adam Smith said "ought to be considered as a fund sacred to cultivation." It is taxing the very motive power of agriculture by which the produce of the soil is derived—the very capital, in fact, that you want to develop and encourage by every possible means; yet this is the capital that is subjected to the heaviest taxation that is borne by any capital employed in any other business in the kingdom. The farmers' capital is lightly burdened by the Scotch system; it therefore flows on in its proper channel into the soil, and there it fructifies, ever bearing a more fruitful harvest to the advantage of the whole community. In England, on the other hand, the capital of the farmer is intercepted, charges, constantly increasing, are being thrown upon it continually, and the natural result of these two very opposite systems is apparent to every one. I referred before to Professor Fawcett's speech at Hackney; he said, further, that he would exempt all incomes under £200 a year from the Income-tax. This would embrace the income of all farmers whose rent is under £400 a year, and I trust the worthy Professor will endeavour to apply this principle to local taxation as well as to imperial. But great as the burden of our local taxation is, we must look forward to a large increase of it, more particularly for education, road and sanitary purposes: the farmer, therefore, has an especial interest in the alteration of the existing system of levying the rates, by which he is made to bear a ten-times greater proportion, according to his ability, than is borne by those who are engaged in any other industrial occupation. No class of persons are placed at so great a disadvantage as regards the education of their own children as the farmers are, and to levy a rate on the present system for the education of the children of other people is one of the most iniquitous proposals that can be conceived. As to sanitary matters there can be no question that a great public benefit would be derived by proper and effective arrangements being enforced throughout

the country; but I must say that farmers are not more interested in this question than the rest of the community, and it is most unjust to them to levy a new rate for this or any other purpose on the existing system of local taxation. Then there is another matter of very great importance belonging to this question that will necessarily cause a considerable increase of expenditure: I refer to the roads. In the course of my remarks at a meeting of the South Wilts Chamber of Agriculture, nearly three months ago, I said that the roads, in my opinion, were not in the condition they ought to be in, if we looked forward to what agriculture might become when tenants were able to provide large traction steam-engines in its developments. But it had been found that there was an obstacle to the employment of these engines, inasmuch as many bridges were too weak to bear their weight, and the result would be that if they were to be made strong enough a very heavy extra expense would be thrown upon those who had to keep the roads in repair. Many hills, too, will want to be lowered, and I am glad to see that this matter is to engage the attention of the Central Chamber of Agriculture, but I much regret that the Scotch system of dividing the rates between owner and occupier has found no support from the Chamber. In this matter of the roads I consider it especially applicable. What can be more unreasonable and unfair than to charge the cost of these public improvements, which are permanent, upon the occupying tenants only? I am quite certain that highway boards will not make even necessary improvements under the present system of levying rates. Some short time ago it was proposed to effect an improvement in the district in which I reside, and it was suggested that, as four or five parishes would be more particularly benefited by the carrying out of this improvement, they should all contribute towards it; but the ratepayers said that, though they should be very glad to see the improvement carried out, they thought it most unjust that the charge for such a purpose should fall wholly on the tenants, and the Highway Board agreed with them, and the proposed improvement fell to the ground. The ratepayers cannot be blamed for resisting all improvements while the occupying tenants alone are called on to bear, as they now do, such an undue proportion of the cost of them. The general public are being constantly relieved of the cost of the maintenance of public roads by the abolition of turnpike tolls in different districts of the country, the cost being transferred to the already overburdened ratepayer, and in many cases farmers have found this new charge alone equivalent to a doubled or trebled income-tax, and in some instances much more than this. In one case that I am acquainted with the charge thrown on the occupiers by the abolition of turnpike tolls amounted to 1s. in the pound on the rateable value of the parish, equivalent to an income-tax on the farmer of eight times its present amount. It will be seen, therefore, that while all ratepayers have an interest in the removal of certain charges which are now borne by them, farmers and landowners also have a much greater interest having the existing system of levying rates entirely altered. Mr. Grey, of Dilston, considers the Irish system of road management "beyond all comparison simpler and better than ours," and he wanted Sir G. Grey to adopt the system instead of our "blundering Highway Act, but English ministers cannot see anything good in Ireland;" and since writing the above he has very kindly given me an interesting description of the Irish plan. I cannot, however, state the whole of this here; of our own system he says, "Here it will be impossible to have good roads till we have a very much wider area for uniform rating than the parish, which here means township, and that often is one farm, often four or five ratepayers only, sometimes only a woman ratepayer who has to hold a meeting and elect some male friend as her 'Waywarden,' making him promise to oppose all outlay on her road, as she lives in the corner nearest the market and station, and 'meeting house,' and never uses her own parish road. The surveyor," continues Mr. Grey, "is the creature of the most of the waywardens who attend only when he is to be defended for his neglect of the orders of the half-dozen working members of the board, to put some road in repair, which the waywarden is interested in not having repaired." He believed a uniform county rate would be best, but next best to that the Poor-law Union should have a uniform rate and a small board, each waywarden to represent a considerable district. The whole county should be under one surveyor, with one or more assistants in each union. Turnpikes should be done away with; and at least

half the expense of them, or other main roads between large towns, should be defrayed from the Consolidated Fund, for surely the general public, who pay no local rates, need not use these roads as much as the rated occupiers. The local rates, all of them, he thought should be equally divided between owner and occupier, and he also thought many of the rates, such as prosecutions, police, asylums, &c., should be largely supplemented by money collected by Government from the general taxpayer." Mr. Grey has had many years' experience of the Irish as well as of the English system of road management, and his opinion is entitled to great weight. Having been a member of a highway board ever since they were generally established in this country, I can only say that I agree almost entirely with his recommendations. The advantages of a division of rates between landlord and tenant were, as many of you no doubt remember, advocated at this Club five years ago by Captain Dashwood, who then read an excellent paper on the subject. The advantage of securing the immediate interest of the landlord as well as the tenant in the economical and judicious management of local rates was very clearly shown, and the opinions of many men of great experience in different parts of the country were given by Captain Dashwood in support of this view of the question. I think it was Mr. Trethewy who said, at a meeting of this Club some time ago, that farms ought to be let to tenants, tithes free, the owners themselves paying the tithes direct to the clergyman. Mr. Trethewy no doubt felt that, after valuing a farm, and fixing the rent according to all the circumstances of the case, a tenant ought to hold the farm at that rent until circumstances arose which would justify an alteration of that rent, and every enlightened agent would, I am quite sure, take the same view. But however important it may be that owners should pay the tithe, it is much more important that they should pay, if not the whole, at least one-half the rates—the rates vary much more than tithes do: they are always increasing—and however bad a season the farmer has to contend with, and whatever his losses may be, these increased rates have to be paid by him in hard cash, and Mr. Mechi tells us that money carries a certain amount of credit with it too. In the case of increased rates, however, both cash and credit is lost to the business of the farmer, the land suffers in consequence, and I am persuaded the evil to the agricultural interest is much greater than is supposed, for these increased rates have to be borne, not for one year only, but it is a continual drain on the resources of the farmer. At the present time, however, there is a pretty general opinion that certain charges which are now borne by local ratepayers should be paid for out of the national exchequer: these are for the cost of prosecutions, police, lunatics, &c.; in fact, nearly all the charges that are now levied under the head of county and police rates. I should be very glad to see these charges removed, and the county rates abolished altogether. I think it is very possible to accomplish this, because after those charges to which I have referred have been removed, there will remain but a few minor sums left to be raised for county purposes such as for bridges, &c., and these, I think, may be placed under the management of the existing highway boards. One of the greatest causes of the increase of local taxation is the multiplication of boards, and the increase of the *sources* of expenditure; it would be a most important and beneficial measure therefore to stop up the source of expenditure under the head of county rates altogether. They have increased over 130 per cent. in the past twenty years and it would be a much more satisfactory proceeding to abolish these rates than to establish county financial boards, with the certainty that the expenditure under them would be constantly increasing. The proposal to assist local boards with increased funds from the exchequer may lead to a less careful administration, and you want more care exercised in the matter. The only board that I think may with safety be largely assisted in this way is the Highway Board, and considering the great relief that has been afforded to all classes by the removal of turnpike-tolls, &c., and the large additional charges thereby added to the local ratepayers, it would be nothing but just that the whole public should contribute to the cost of our public roads through the imperial revenue. If one moiety of the cost was borne in this way and the other moiety by local rates, paid equally by landlord and tenant, there would be no difficulty in effecting all necessary and judicious improvements that may be required. Then there is another most important matter that must not be lost sight of in dealing with the question of local taxation, and

that is the making of the assessment; nothing can, in my opinion, be done upon a more loose and imperfect system than the valuation of property for the purposes of assessment is carried out at the present time. There is in reality no valuation; the assessment committees act upon different principles; they take certain data, which is very often erroneous, and they draw from these certain inferences, which are still more erroneous in nine cases out of ten; the result is a very imperfect and unequal valuation and assessment, which is nothing to be wondered at considering that the members of assessment committees, apart from acting on these principles, are all personally largely interested parties. Then we have the county authorities making another valuation of precisely the same property as that assessed by the Union Assessment Committees. The cost of making a new valuation for the county of Somerset some years ago amounted, I believe, to £3,000. What the cost of making the different union assessments have been I cannot say, but it has been considerable; the result, however, is, that we get two expensive valuations, both of which are very imperfect, and the union valuation especially bears most unequally on the ratepayers. Mr. Grey, of Dilston, informs me that for making the Poor-law valuation in Ireland "the most competent and independent men were sought out, who made the valuation of every tenement;" and he says, "it is fair and equal as far as Ireland is concerned, though it is much too low in comparison with Northumberland." What we want in England is a fair and equal valuation, and I don't think it need be costly, not nearly so costly in proportion as the Irish valuation must have been, from its vast number of small holdings. But the proposal of the late Government to assess each holding according to the rent would not have secured a fair and equal valuation. I am quite sure that there is nothing so unequal as rents are in this country, and to adopt them for purposes of taxation would cause that class who can least afford it to pay the most. We have generous landlords, who are content with a moderate rent, and we have others who act quite the reverse, and get as high a rent as possible; but surely no taxation ought to be levied on such a basis! I fear I have occupied your time unduly with the question of local taxation; it is a large and intricate question, however, and I could say much more upon it; but I must pass on to other matters of great interest to farmers that will, in turn, doubtless come under the consideration of Parliament. As we have been considering the question of the taxation of the agricultural interest, I will now refer to that enormous tax which is levied on one of the most important products of our industry—that of barley. It is a remarkable fact, that in the very first session of the reformed Parliament, after the passing of the great Reform-bill of 1832, a motion was made to reduce the duty on malt from 20s. 8d. to 10s. per quarter, and it was carried against the Government by a majority of 10, 162 voting for the motion and 152 against it. The resolution, however, was set aside a few days afterwards, the Government having induced the House to pass a motion for the re-imposition of the tax; but our earliest fiscal reformers continued to fix on the Malt-tax as one of the most injurious taxes that then weighed on the industry of the country; for we are told that in the Session of 1835 that extraordinary man, William Cobbett, though seventy years of age, and suffering from an affection of the throat, which rendered him inaudible except to those members who were seated close to him, could not be induced by any persuasion to refrain from addressing the House in favour of the motion of the Marquis of Blandford for the repeal of the Malt-tax—an exertion that proved fatal to him. But the earnestness of such a man as Cobbett or Cobden contrasts most strongly with the lukewarmness and insipid way in which the repeal of the Malt-tax is advocated at the present time. I shall not repeat the arguments which have been lately put forward, as they are no doubt fresh in your recollection. One result of the tax that strikes me very forcibly is, that it keeps many thousands of acres of land out of cultivation altogether. The lowest quality of land in cultivation is that which will produce somewhat more than enough to defray the average cost of production, including, of course, the tax on barley. Now there is a great deal of land in this country uncultivated because it is a little lower in quality than the least productive land in cultivation. Suppose it were possible to grow four quarters of barley an acre on such land once in four years, the tax would be equivalent to £1 1s. 8d. an acre; and although the consumer no doubt pays a considerable amount of the tax at present, still I am quite

certain there is enough of the tax remaining, that falls directly on the produce, to turn the scale sufficiently against the class of land to which I am referring to keep it out of cultivation entirely. In such a case not only is the produce of the barley lost to the community, but the other crops also that must precede the barley crop, and the stock that would also be kept on the land is lost as well. It is impossible to give any reliable estimate of the quantity of land kept out of cultivation through the operation of the Malt-tax and the value of the produce that is, in consequence, lost to the nation; but I have not the least doubt that it is far beyond the whole sum the tax produces. Beer of the best quality is the most important and the most nutritive beverage that is produced in any country. Beer, as you all know, was the article given to H. R. H. the Prince of Wales, by the direction of his physicians when prostrated on a bed of sickness, and which helped, more than anything else, to restore him to health. It is found, also, to be the very best thing for the support of our fellow subjects in India, against the most trying climate of that country. A friend of mine was lately in conversation with a missionary just returned from India the other day, and he stated that by far the best thing for them to drink in India was the best bottled beer brought from this country; he also said that not being well there some time ago he consulted his physician and told him he thought it was caused by the beer he had been drinking, and which he had left off drinking in consequence. The doctor asked him how much he drank, and the missionary said "A bottle a day." "Drink two bottles a day," said the doctor, which he afterwards did, and soon got very well. In New Zealand at the present time I am told that the best beer is selling at about seven shillings a gallon, showing the value that is set upon it in our southern colonies. Now if the tax were remitted I think more of our brewers would turn their attention to producing beer of the very best quality for export, a trade that is now in the hands of a very few. Of course I am aware that the tax is remitted on beer sent out of this country, but the produce of barley is limited by the operation of the tax, and the great majority of brewers find it profitable work to supply the demand at home for a cheap low class article, so the export trade is neglected. The high duty favours adulteration, and while large profits can be made in this way, but very few brewers will turn their attention to the production of beer of the finest quality, fit for export, for which there is, I am informed, an almost unlimited demand. It is impossible to say to what an extent our export trade in beer would grow if, like our cotton trade for instance, it was subjected to a healthy competition. There was a remarkable statement in Mr. Gladstone's address on the dissolution of Parliament the other day; he said, "Of all the changes marking the present day there is none which I view with more heartfelt satisfaction than the progressive rise of wages in the agricultural districts. I view this rise as the natural and proper, though long delayed, result of economic laws; as the removal of something like a national discredit, as carrying with it a great addition, never too abundant, of human happiness; and as a new guarantee for the stability of the Throne and institutions of the country." Mr. Bright also said at Birmingham that "the farm-labourer, abject, suffering, and neglected, is now finding that the beneficent shower (of Liberal legislation) is even descending upon him." Now I am sure there would be nothing more gratifying to farmers than to witness an improvement in the condition of the farm-labourer; but I wish to point out that at the present time this improvement is not the result of the general prosperity of the agricultural interest. We have lately witnessed a great and rapid state of prosperity in the coal and iron trades, and, as a consequence, the coal proprietors and iron masters reaped a rich harvest, which was immediately shared also, and very properly, by those in their employ. But with the agricultural interest a very different state of things has prevailed. The labourers have been leaving their farm-work for employment in other more profitable trades that can afford to pay them better than those engaged in farming can possibly do: this is evident from the fact that farms that a few years ago would let readily are let now with difficulty, and in many cases landlords have had to submit to a considerable reduction of rent, particularly on the hill farms, the principle crop of which is barley. Yet from this single product of the industry of those engaged in tilling the soil the Government levies a tax of over 7½ millions sterling annually, and this tax falls with especial severity on the

labourers employed in agriculture. This is the tax which Mr. Gladstone has always determined not to remit; and although he may rejoice at the improved condition of the agricultural labourers, I can find no record of any public act of his that has particularly benefited them. It is quite refreshing to refer to the views of Richard Cobden on the Malt-tax, and although they are well known some of them can hardly be repeated too often. In his letter to the chairman of the Wakefield Farmers' Club just ten years ago he states that "it has often occurred to me to compare the case of the British agriculturist who, after raising a bushel of barley, is compelled to pay a tax of 60 per cent. before he is permitted to convert it into a beverage for his own consumption, with what I have seen in foreign countries, and I can really call to mind nothing so hard and unreasonable. I am quite sure that the cultivators of vineyards in France, or the growers of olives in Spain and Italy, would never tolerate such treatment of their wine and oil. And the extraordinary feature of your case is that it has been made, as I will in a few words show you, the flagrant exception to an otherwise universal rule. In 1848 I published a financial programme under the title of 'The National Budget,' in which I recommended the repeal or reduction of a great many duties and taxes involving a very large amount of revenue. In my projected budget I suggested that the tea duty, which was then 2s. 2d. a pound, should be reduced to 1s.; that the coffee duties should be equalised, the wine duties revised, and the legacy duty applied to real estate. I proposed that the excise duties on malt, hops, soap, paper, and bricks should be abolished; and that the window tax, and the taxes on knowledge, the timber duties, and the duties on butter, cheese, and upwards of 100 smaller items of the tariff should be abolished. These were all the recommendations contained in my budget; and it is, I repeat, a suggestive fact that all these changes have been carried out to the minutest particular, with the sole exception of malt, the duty on which remains precisely the same as it was in 1848—viz., 2s. 7d. a bushel and 5 per cent. I do not allude to this for the purpose of claiming merit for myself, for really I had but little personal share in the good work, but merely that I may remark, for your information and guidance, that these reforms have been effected only because they have had their earnest and persevering advocates." Malt, you will observe, occupies the first place in Mr. Cobden's list of articles, the excise duties on which he recommended should be abolished; but for many years past the duties on all the other articles have been removed, yet the excessive duty on malt is still continued. Farmers can appreciate the policy of Richard Cobden, but they naturally object to a counterfeit and one-sided imitation of it. I am astonished to see that there are some who profess to be the friends of the agricultural interest, appear to think that a tax on beer instead of on malt would meet the objections that are entertained against it. I consider this to be a fatal error. After the Corn-laws were repealed the agricultural interest had a right to expect that the duties on any product of their industry should be repealed too, and the cultivation of the soil at home freed from every restriction. A neighbour of mine brews his own beer and sends his own barley to the malthouse to be converted into malt for the use of his own labourers, and the tax on this amounts to just £28 a year, while his income-tax is not more than about one-fourth of that amount. I can answer for it that beer is not given in excess on that farm, and nearly the whole is consumed in the summer-time principally at haymaking and harvest, when it is impossible for farm-labourers to do without it. The labourers themselves say that if they had a moderate quantity of beer regularly in their own homes, they would not be tempted to go to the public-house occasionally where the unwholesome article they get there very quickly upsets them. It is said the Chancellor of the Exchequer fears for the spirit duties if the Malt-tax was repealed, but I believe this fear would prove unfounded; our beer, of the best quality, is an article of too great a value to be ever given away at a very low price; healthy competition would send it over a great part of the world; the portion consumed at home would be of a much better quality, and would be consumed generally by the labouring classes, particularly by the farm-labourer, who, except at hay-time and harvest, do not regularly get it. Our labourers do not drink spirits now to any extent, beer is the prime necessity with them. Wines and spirits are consumed by the higher classes of society, and they would be the consumers of these articles still, irrespective of the

abolition of the tax on malt. The Chancellor of the Exchequer, therefore, may I think deal boldly with the Malt-tax, without any fear as to its effect on the spirit duties; and I trust if he cannot see the way to abolish the tax all at once, he may, at all events, take such steps towards it that we may look forward with confidence to its entire abolition at a very early date. If the tax were continued in any shape, whether as a tax upon malt or on beer, it is equally a tax on the product of one of the most important articles of agricultural industry, and is directly contrary to the policy pursued towards any other industry of this kingdom; we should, therefore, be united in the demand for the entire abolition of the duty, and listen to no compromise in the shape of a beer-tax, and as justice and right are on our side, I am certain in the end our demand must be conceded. I must now draw your attention to another subject—that of Tenant-Right. I shall endeavour to point out the main principles for which I think we should contend, for I cannot trespass on your time now by going fully into the details of so large a measure, without going much beyond the limits of the generality of papers read at this club, and occupying time that should be allowed for the discussion to follow it. If I have not referred to this question in an earlier part of this address it is not because I think less of it than of those matters on which I have hitherto been speaking. The question of the taxation of the agricultural interest will, no doubt, first receive the consideration of Parliament; but the question of Tenant-Right stands, in my opinion, in the position of “the key-stone of the arch” of all agricultural improvement; for it is contrary to every commercial principle to suppose that costly improvements will be generally effected by tenants while the law says that such improvements shall become the property of another without compensation. The point that has given rise to the greatest difference of opinion is the principle of the 12th clause of the bill which was prepared last session by Mr. James Howard and Mr. C. S. Read, M.P. The clause, as I understand it, is intended to make binding on all parties the provisions contained in the bill. I don't know that I have ever heard of an Act of Parliament that has passed for the purpose of remedying an universally-acknowledged wrong leave it optional with any of the principal classes concerned to observe the measure or not as they pleased. A bill may not go so far as many wish, or it may go too far, but that Government, who alone, I think, can deal successfully with such a measure as this, will ask Parliament to stultify its own action by allowing its work to be acted on or not, as anybody pleased, is more than I can believe. Any measure of this kind must receive the greatest consideration of both Houses of Parliament before it is passed; and, whether it contains all we wish or not, after it becomes law, we may, I think, be quite sure that its provisions will be binding in all cases where existing agreements do not contain an equivalent to the terms provided in the bill. I do not think we should expect Parliament to lay down all the details of an agreement that will meet all the different circumstances under which land is held in this country. Such a measure, I think, impossible; but we must expect it to alter the existing law that gives to the owner, without any compensation, all improvements that may be effected by the tenant. It is remarkable to see the unanimity of opinion that exists on this point; everyone readily admits that those who make improvements ought to be compensated for them; but it is equally remarkable to witness how successful everyone appears to be in the art of perceiving “How not to do it.” The Prime Minister said at Aylesbury the other day that, “in his opinion, and speaking from his knowledge of the affairs of a particular estate, that if the tenants generally held under agreements which secured them a long notice to quit—he would say a two-years' notice to quit—you would lay the foundation for a complete understanding between the two important classes connected with the land and the basis on which their interests should be settled, so that very little legislation beyond that is requisite.” There can be no doubt that a tenant, *with no restriction as to cropping*, can generally compensate himself in the two last years of his tenancy for the cost of ordinary improvements; and although the tenants may not have much reason to complain of such an arrangement, the landlord would, and so would the community. The landlord has the greatest interest in having his estate left in a good state of cultivation, for there will then be no difficulty in getting another tenant for it at a fair rent; but on

the other hand, if an estate is legged out it will let with difficulty, even at a lower rent than it would otherwise command. It is clearly the interest of all parties, therefore, that a tenant should be encouraged to farm well up to the close of his tenancy; and if he is to do this he must be fairly and generously compensated for any real improvements that he has made, and for which he has not already received the full benefit. If this is carried out in a broad and generous spirit, and a fair and proper notice also provided for, I should readily agree with the Prime Minister “that very little legislation beyond that is requisite.” But from the necessity of providing proper safeguards against imposition and for ensuring the proper carrying out of the intentions of the Act, and also from the great difference that exists in the nature of agricultural holdings, it will, doubtless, be necessary to make a considerable number of provisions; but I cannot help thinking that the bill prepared by Mr. James Howard and Mr. C. S. Read, M.P. will go very far indeed in the solution of any difficulties of this kind, and those gentlemen have rendered a very great service, in my opinion, in bringing this measure before the country. After a period of great changes, the present is a most favourable time for the calm consideration of this question, and I have no doubt but that it will be availed of by the present Government, for it is every day becoming a matter of more pressing importance. The importation of foreign food is advancing with such rapid strides that, at the present rate, we shall expend in this way as much as the whole of our national debt for five years of our requirements; and at the present time our export trade is seriously declining. In the first two months of this present year our imports amounted to nearly eight millions more than in the corresponding period of last year; while, for the same time, our exports were nearly three millions less, showing a balance of nearly eleven millions against us for these two months as compared with the same period last year. I cannot believe that we shall see many such returns as this without the question being earnestly raised as to whether it is really necessary that such vast quantities of food should be annually imported, and whether justice is done, and the best use made of the soil of our own country. When the nation is fully awakened to this important matter, very little inquiry will be needed in discovering the answer to these questions. Mr. Bright, in his speech the other day at Birmingham, referred with great apparent satisfaction to the fact that during the past twenty-five years “he supposed the whole food of the people of this country for about ten years has been imported from abroad.” I think this more a reproach to this country than a matter for pride and gratification. I consider also that it is an eminently unhealthy sign under such circumstances to see that plenty of capital can be found for all sorts of schemes, while our agriculture languishes for the want of it. The select committee of the House of Lords, appointed last session to consider the question of the Improvement of Land appear to have limited their inquiry to the consideration of matters relating to the existing facilities of raising money for effecting improvements of a permanent character, such as drainage, the erection of buildings, &c., &c., and very little fault I think can be found with the recommendations of the Committee, so far as these embraced the very limited extent of this inquiry. But no great impetus will be given to increased production by these means; and I feel quite sure, with all due respect to Mr. Bailey Denton, that his statement that 20,000,000 acres of land in England and Wales require drainage, and that only 3,000,000 have as yet been drained, is an enormous exaggeration. The Committee, however, was careful to point out that the estimate was of a “speculative character.” It is not by the aid of drainage companies that our agriculture will be brought to the position it ought to be in—that can only be accomplished by placing the farmers in the position they ought to occupy; and Mr. Disraeli very truly said at Aylesbury “that nothing was more important than to secure the independence of the British farmer.” I have no doubt that if farmers are placed in this position of independence they will drain all the land in their own occupation that can be profitably drained, quite as effectually, and at one-fourth of the cost to the landlords that would be charged by drainage companies. In saying this, however, I am referring to ordinary drainage work, and not to great schemes where engineering difficulties have to be overcome. The Lords Committee further state in their report that “the case for Parliamentary consideration lies in this, that the improvement of land, in its effect upon the price of food, and

upon the dwellings of the poor, is a matter of public interest, but that as an investment it is not sufficiently lucrative to offer much attraction to capital, and that therefore slight difficulties have a powerful influence in arresting it." There can be no doubt whatever that this is so. The exceptional burdens that are continually being levied on the farmers' capital—"the fund that should be held sacred for cultivation"—has a powerful influence in arresting the flow of capital into the soil; the subjecting of one of the most important products of the land to the enormous tax of nearly eight millions a year has also a powerful influence in arresting it; the absence of security for the tenants capital has a powerful influence in arresting it. These are all great difficulties, and if "slight" ones have a powerful influence in arresting the flow of capital into the soil, what a vast impetus will be given to agriculture, and what an increase of production would follow the removal of all those great "difficulties"! It is universally admitted that increased production from the soil benefits the entire community. This can only be effected by the employment of more capital in farming; yet nothing appears to me more extraordinary than the hostility and almost frantic alarm of certain authorities on finance to any proposal for the remission of taxation of the agricultural interest. Instead of assisting the most fruitful source of industry, and the professed "object of our first concern," one would suppose that the money was about to be put on board a rotten vessel and sent out to sink in the ocean. Whatever may be said to the contrary, I am quite sure that any impartial inquiry would show that justice is very largely in arrear with the agricultural interest. It is only that other interests have had, as Mr. Cobden said, "Their earnest and persevering advocates," that they have fared better. Every farmer has his representative in Parliament through whom he can urge his claims, and it is not sufficient for a few to call on Hercules for help; it is the duty of everyone to whip the horses and put his own shoulder to the wheel, and then I doubt not that we should move forward with the rest of the community in the road to success. There are other matters of interest to farmers that will engage the attention of the Legislature, but I have dealt only with those questions that stand out prominently at the present time for Parliamentary consideration. You will find many vulnerable points in the opinions I have expressed. I do not wish for a moment that you should shield them in any way; nothing is better than honest and fair criticism in the elucidation of that which is just and right, and I have great faith that this will, in the end, prevail. I should be the last to advocate anything that was found inconsistent with what is fair and just to every class; and I shall be amply rewarded if I have succeeded in aiding the solution of those questions that will, if properly dealt with, do more, I believe, than anything else to increase the produce of the soil, which we are told is of such essential service to this country, and, at the same time, I trust will improve the position of all those who are immediately connected with the agriculture of this country.

Mr. S. SIDNEY said as his views on that subject would probably differ from those of every farmer present, he thought it desirable to take the earliest opportunity of expressing them. He hoped that on that occasion a member of the Club who did not understand the feeding of beasts or pigs, or the best mode of growing turnips might express his opinions in relation to a matter which belonged to political history, because that was, after all, a question of politics. Although farmers' clubs professed to exclude political discussions, he had often observed that so long as the opinions expressed were in accordance with the prejudices of the majority, the speaker might go on as long as he liked (laughter). The question dealt with by Mr. Trask—"The Farmers' Interest in the New Parliament"—reminded him of a book on the natural history of Ireland, in which there was a chapter on snakes, and it was there observed, "There are no snakes in Ireland" (laughter). He thought that was something like the position of the farmers at the present time. Farmers had no interest as such in the new Parliament (laughter). As citizens they had an interest in it, but as farmers they had none. He had followed Mr. Trask that evening through a series of grievances which he had heard repeated there perhaps thirty times. Those grievances always assumed the same shape. Farmers were always on the verge of ruin, always the most ill-used persons in society, and yet they always presented a flourishing appearance. He did not see any signs of distress in their ap-

pearance, and he believed that whenever there was one good farm to let there were a hundred farmers after it. The story told that evening was a very old one. Three thousand years ago Esop described a countryman, no doubt a tenant-farmer, calling upon Jupiter to assist him in what he was very well able to do for himself (laughter). It was very kind of gentlemen to read such papers for their amusement as that to which they had just listened; but he could not believe that farmers were really in earnest. If they had really any grievances to complain of, having the whip in their own hands in the shape of votes, they would have taken care to return to Parliament people who would try to get them removed. [Mr. Trask: They have done something in the case of the new Parliament.] Agriculture in the present Parliament was entirely represented by landlords, and for his part he was glad of it, because he had observed that the land-owning class were always, as regarded political wisdom, at least ten years in advance of their tenants (laughter). Having for the last forty years belonged to the party which had mainly dictated the politics of the country, he could not help remarking that there was this great difference between the Liberal and the Tory party—the Premier of the one had to restrain his supporters, the Premier of the other had to drag his party on. Mr. Trask had given them scarcely any idea of what he would have done by Parliament, except the repeal of the Malt-tax and the reduction of the local rates. As regarded rates there could not be the slightest doubt that if they went to the towns and spoke to members of any party, they would tell them that the continual additions to the rates was a most grievous thing, and that they would like to have part of the burden at least thrown on the shoulders of some one else, many of the towns paying as much as five shillings in the pound. That was not an agricultural grievance, it was a general grievance (Hear, hear). Public opinion used to be contented with lunatics roaming about the country uncared for by anyone, now it wished to have them kept comfortably in nice houses. Public opinion used to be contented with paupers being shut up in a sort of dens, now it wished them to live in expensive buildings. It also insisted on good roads and on a good education being provided for the poor. It was a remarkable thing that Mr. Trask had not mentioned any of the advantages which farmers, like others, had gained during the last forty years, such as railroads which took them and their produce almost to and from their doors, and other improvements of the same kind. He admitted that rates pressed heavily, but farmers could not both have their cake and eat it. If the Government took upon itself the payment of the police rates the Government would expect to manage the police itself; and perhaps that would be a very good thing for the country. As regarded the cost of roads it should be borne in mind that the acts of Parliament of which farmers complained were passed by country gentlemen, and if these gentlemen did what they ought not to have done it was for farmers to change their representatives. The next grievance was the Malt-tax. That question was what he must call a bogus question (laughter). It was one of those sham things which were brought forward to make political capital, and had no meaning in them. The very people who brought it forward admitted that there were only five barley counties; and was Parliament to abolish a tax which was paid by the whole country for the sake of the four or five counties which grew fine malt, there being only sixteen, it appeared, that paid anything at all? Colonel Brise, of Essex, had declared in the most candid manner that, as a landlord, he would willingly pay a sixpenny income-tax to get malt relieved from taxation. There was once such a thing as a hop duty (laughter). One gentleman devoted his life to the obtaining of the repeal of that duty? And what was the result of that repeal? Why, very soon after the hop duty was repealed the landlords raised the rents of hop grounds (laughter); and if any Chancellor of the Exchequer were so deluded as to take off the Malt-tax, the very next thing that they would all hear was that the rents in the barley counties had been raised (laughter). Persons who had sensible notions of finance knew that there was not the slightest chance of such a tax being repealed unless an excise on beer was substituted for the Malt-tax (cries of "Oh! oh!"). Forty years ago, when Lord Althorp was beaten on that question in the House of Commons, the motion having been proposed by Sir William Ingoldby—a Whig—the Malt-tax produced only £4,500,000; it now produced £7,500,000. If the country went on prospering, and the wages of mechanics

and agricultural labourers went on increasing, he should not despair of seeing it amount to £9,000,000; and the Chancellor of the Exchequer was not yet born who would give away £9,000,000 for the purpose of pleasing the inhabitants of five or sixteen counties (Hear, hear). Where, then, was the use of farmers wasting their energies on that question instead of concentrating them on the cultivation of their farms (laughter)? He remembered talking over that question some years ago with a well-known farmer in Lincolnshire—a very strong Tory. It was after he had had some delightful shooting and some wonderful port-wine (laughter). They had a most interesting discussion, and in the course of it, he (Mr. Sidney) said to his friend, “Tell me what you think of the Malt-tax question?” “Well,” was the reply, “The Malt-tax question is a political utensil, to be used at elections, and, like another domestic utensil, to be put out of sight as soon as you have made use of it” (great laughter). That was what it really was. This country derived £15,000,000 from the spirit duties and £7,500,000 from the malt duty, and he was sure that no Chancellor of the Exchequer, who had any regard for his reputation, would, if he had a surplus, consent to make a present of either to persons who asked for their repeal. That such taxation caused some inconvenience, he did not deny, but they must balance one thing against another. We were a great nation, and had a great deal of money to pay, and we must keep up our credit and reputation, and not throw away revenue. Mr. Ward Hunt, who had been the Conservative Chancellor of the Exchequer; Sir Stafford Northcote, who now held that office; and Mr. Disraeli, who came into power as a friend of the tenant-farmers, had all too much sense to act in that manner. The man who had said that he was a gentleman of the Press and had no other esctecheon, would not sacrifice his reputation by repealing the Malt-tax. If they wanted to have any change made with regard to rates, let them fight on the question, shoulder to shoulder with the towns. As to the repeal of the Malt-tax, nobody believed in it, except a few lunatics in Essex (laughter). He came now to the question of security of tenure. Well, either that was a very important question or it was not. If farmers believed it to be important, why had they acted as they had done lately? At the late election, one tenant-farmer was returned to Parliament who was able to represent them in a proper manner; but that farmer was now placed quietly on the Treasury benches, and now they had not a single representative to bring forward the question of the repeal of the Malt-tax or any other farmers' question. He could hardly believe that they believed themselves in security of tenure, or of compensation for improvements. If they did believe in it, they would surely act like other classes of people in reference to what they thought concerned their interests (Hear, hear). People engaged in trades in which they had invested a large amount of money, when their interests were in question, met together, and subscribed a handsome sum to make a row (laughter). Farmers sometimes talked together very boldly over a glass of wine, but, when it came to a question of politics, or of an election, they always wanted to know what the landlord said, and they returned to Parliament a well-dressed young gentleman whose agricultural qualification consisted in having tumbled into every ditch in the county (laughter). This gentleman afterwards said to them, “Gentlemen, I like you very much. You are excellent persons in your own pursuits, hospitable in your homes, and in every way estimable; but, my dear fellows, there is one thing which I ask you not to do—don't enter into any scheme of plundering and confiscation” (laughter). That was what farmers were now proposing (laughter). After having expressed horror at the plundering and confiscation of the late Government, they were now wishing to confiscate and plunder themselves in reference to Tenant-Right and hares and rabbits (great laughter). This was really shocking (renewed laughter).

Mr. J. FRASK (Northington Down, Alresford) to whom Mr. Sidney referred as “Mr. Frask No. 2,” rose to order, and protested against Mr. Sidney's allusion to himself.

Mr. SIDNEY apologized for what he had said, and humorously added that he included in his remarks about plundering the demands of farmers respecting ground game.

Mr. A. CROSSKILL (Beverley) said he was not going to follow Mr. Frask at any length into the question which he had handled with so much ability. He differed somewhat from that gentleman in reference to the farmers' interest in the present Parliament, and he must frankly say that he thought the farmer had only a very minute interest in it. They all

knew that he was not himself a farmer, but he wished to express the view of an outsider. It appeared to him that it was the interest of tenant-farmers to return tenant-farmers to Parliament, and that there could be no greater mistake on their part than to return only landlords (Hear, hear). One of the most important questions that Mr. Frask touched upon was that of security of tenure. On that question no one could doubt that the interests of farmers and those of landlords were diametrically opposed. It appeared to him that the farmer could not have a worse representative upon it than the landlord. Regarding the question as a political one, it seemed to him that if farmers wanted that security which was proposed to be given in the bill of Mr. Howard and Mr. Read, the way to get it was to return members to Parliament who would vote for it, and they would be able to do that under the ballot. Farmers were a predominating body in many counties, and might if they chose return men who would look after their interests in Parliament. He thought the most important of all questions connected with that subject was the return by tenant-farmers of members of their own class to Parliament. He was happy to see that he was not alone in that matter, but that Mr. Howard had, in a letter read by the Chairman, expressed the same views (cheers). Mr. Read could not, under present circumstances, introduce the Tenant-Right Bill of last session, and there was no reason to suppose that the Government would take it up. They were always being told at agricultural dinners and other gatherings that the interests of landlords and tenants were the same; but it appeared to him as an outsider that they were entirely different, and farmers would never have their interests properly cared for in Parliament until they returned to Parliament men of their own class who would attend to them (cheers).

Mr. J. CRESSINGHAM (The Lodge, Carshalton) thought the interests of landlords and tenants were the same, and in his opinion they ought to work hand-in-hand. He believed that if tenants had any grievance to complain of on the part of their landlords, and acted in that spirit, it would be attended to and remedied.

Mr. H. CIEFFINS (Easton Manor, Dummow) wished to ask his friend Mr. Crosskill whether he could expect to find tenant-farmers in every county in England who would consent to sit in Parliament? (Hear, hear). Further, was it the tenant-farmers' interest alone that was to be represented there? Was not Mr. Crosskill's own interest pretty well represented, and was the English, he asked, to be merely a class Parliament? (Hear, hear). It was argued that tenant-farmers ought to care for their own interest solely, and to elect only tenant-farmers. Were farmers statesmen? Had they been trained to the work of members of the House of Commons? If tenant-farmers only were elected, there would be a class Parliament instead of a Parliament acting for the whole kingdom. He thought that argument had been carried a little too far, and that it would not add to the reputation of the Club.

Mr. W. GLENNY (Crabourne Lodge, Barking) thought that the first question to which the attention of the new Parliament should be directed was local taxation. Farmers, as a body, did not complain so much of the burdens on land which existed some years ago—they did not complain so much of the poor-rate and other burdens of long standing, as they complained of fresh charges having been put on the same basis as the poor-rate (Hear, hear). He would not take up the time of the meeting by attempting to enumerate all the new expenses which had been recently placed on the occupier, but among them were those connected with the school boards and the Public Health Act. These burdens formed a vast additional charge on the land. No doubt, it was far easier for the Legislature to adopt the basis of the poor-rate than to devise any new system; but the additions pressed very hardly upon farmers, and he thought those who represented them in Parliament ought at once to set about redressing that grievance. These new burdens were increasing year after year. In his own district he had, as chairman of the Rural Sanitary Authority, observed continual demands for fresh outlay; and Parliament was, in his opinion, bound to consider the matter, and to do something to help the agricultural interest.

Mr. J. NASH said farmers generally felt that they had a great grievance in the Malt-tax, and he hoped the new Parliament would do something to meet their wishes on that subject.

Mr. J. TREADWELL (Upper Winchendon, Aylesbury) said he had come there that evening hoping that, as that was a Farmers' Club, he would hear a discussion on what concerned farmers; but it had happened that night, as it often did, that the farmers' business was supposed to be best understood by persons who were not farmers (laughter). He himself spoke as a farmer, having been born and bred a farmer. His opinions would be expressed from a farmer's point of view, and he thought that in a Farmers' Club opinions always should be expressed from that point of view (Hear, hear). He was more sanguine with regard to what their friends in the new Parliament would do than some speakers who preceded him. He could not forget that when Mr. Disraeli was in office before he offered to repeal half the Malt-tax, and he could not believe that anything that had occurred since had altered the right hon. gentleman's views on that question (Hear, hear). It had been contended that evening that that question affected only a few counties which produced fine barley. He dissented very strongly from that opinion: he thought the counties which could not grow fine barley had a very much greater interest in the repeal of the tax than those who could and did (Hear, hear). Moreover, the talented gentleman to whom he now alluded seemed to forget to what an extent malt might be used in the feeding of stock if there were no tax. He daresay it hardly ever entered into his mind that the question might be regarded from that point of view, because he did not see things in the same way as farmers generally did (Hear, hear). As regarded the other subjects introduced by Mr. Sidney, he thought it was the duty of farmers to impress upon their representatives in the House of Commons that they considered themselves to have been most unfairly used in reference to local taxation. If householders had a good case, it did not follow that the case of farmers was not equally good, and even better (cheers). In addition to all the other expenses, farmers had recently been saddled with expenses for sanitary works and for education, and the latter would in many districts prove a very serious burden. He agreed with Mr. Crosskill, that it would be well if they could send more tenant-farmers to Parliament as their representatives; but where, he asked, were they to find them? (Hear, hear.) It was proposed to send their worthy president to Parliament, but he declined to go (laughter). The thing was not so easily done as it was talked about.

Mr. H. TRETHERY (Silsoe, Ampthill) said he did not know that he should have spoken that evening but for the reference made to him by Mr. Trask in his opening address, in connection with the views which he had expressed on the tithe rent-charge. It was quite true that he had always held that that charge should be included in the rent. It was a charge which must be paid, and which a tenant farmer had no control over, and therefore he had always thought, and still thought, that it was far better that it should be included in the rent. There was another reason why he thought that should be done, and it might perhaps be considered a somewhat selfish one; it was that the landlord was responsible for the payment of the tithe rent-charge, and that the only remedy which the owner had in the event of non-payment was against the landlord. Payment could not be obtained by any legal process from the tenant, the Tithe Commutation Act clearly contemplated that the charge should be paid by the landlord, and if it were not paid by the tenant the tithe owner had to distrain upon the land, and therefore he thought the landlord could only protect himself by letting his land tithe free. Those were the two reasons why he held the opinion which he had before expressed on that subject. But those reasons would not hold good with regard to rates, because the landlord had no control over them, the control resting with occupiers. It was occupiers who generally composed the Boards of Guardians (A VOICE: "There are some magistrates?") All magistrates were *ex-officio* members, but, generally speaking, the poor-rates were administered by boards of guardians consisting mainly of the large occupiers in the respective parishes, while the county rates were administered by the county magistrates. As a rule the great bulk of the local rates were administered by ratepayers, and it would he thought be manifestly unjust to let farmers so as to include in the rent rates over which the landlords had no control. With regard to the poor-rates he did not quite agree with what Mr. Sidney said. He understood him to say that the poor-rates had lately very much increased; but if they made a comparison between the present rates and those which were paid

before the Poor Law Amendment Act was passed they would find that there had been a great diminution. As regarded the sending of tenant-farmers to Parliament, he partly concurred in the remarks of Mr. Crosskill and partly in those of Mr. Chellins. No doubt it was highly desirable that there should be more tenant-farmers or more gentlemen who would represent the interests of tenant-farmers in Parliament; but the difficulty was to find the men. There were many men who were quite competent to represent tenant-farmers; but he was afraid there were very few who could give the requisite time and attention to the duties which devolved on a member of Parliament (Hear, hear). He did not think they need fear that there would be class legislation if there were more tenant-farmers in the House of Commons (Hear, hear). He thought the presence of a few such persons in that House would be very conducive to the interests of the whole country, as well as those of agriculture, because they would be enabled to bring a great deal of practical and useful information to bear upon questions connected with the improved cultivation of the land. As regarded what Mr. Glennie said respecting the Sanitary Act, he begged to observe that the chief expenses—he was now speaking of rural districts, and he was himself a member of the Sanitary Committee of his own district—were charged, and, as he thought, very properly, on the owners of property. He did not see any hardship, so far as his experience had gone, in that matter, and he thought that the Sanitary Act, if properly carried out, would prove a very good one. A great many cottages in which labourers lived were wholly unfit for human habitation. He was quite sure that in his district the application of the Sanitary Act had produced a great improvement, and was a step in the right direction. He might have said a few words about the Malt-tax; but he thought that enough had been said already.

Mr. GLENNIE said he found fault not with the Sanitary Act, but with the basis on which the charge rested. He thought the Act was a very good one, though the expense of the construction of sewers was very heavy.

Mr. C. HOWARD: That falls upon the owners.

Mr. H. CORBET, having risen in response to a call from the chair, said he was going to let out a secret. When that question was first before the Committee, three names were suggested to take it up: Mr. Masten, who was not now present; Mr. Trask, who had treated it that evening; and himself. Although Mr. Trask had dealt with it so ably, he must confess that he (Mr. Corbet) would have treated it in a rather different manner. Instead of dealing with it as a general question bearing mainly on local taxation, he would have attempted to make it almost a personal matter. There was a certain question which that Club, and, he hoped, farmers generally, were pretty well agreed upon; he meant the question of Tenant-Right (cheers); and he should have urged that the question of Tenant-Right was a question which ought to be talked about and legislated for in the House of Commons. That was a question which was certainly pertinent to that of the farmers' interest in the new Parliament (Hear, hear). How was that interest represented? Whom had they now in the House of Commons to take up the question of Tenant-Right? At a meeting of the Staffordshire Chamber of Agriculture, held the other day, the Chairman remarked that that county had returned six Conservative members to Parliament, and had returned them without any of these Honourable Gentlemen saying a word about Tenant-Right; and perhaps even if they had done so, no more might have been heard about the matter after they had got into Parliament. Mr. Chellins seemed to think it a very remarkable thing that members of the Farmers' Club should wish to see returned to Parliament men belonging to their own order. Why, what in the world should they do in that respect but endeavour to secure the return of men of their own order? (Hear, hear). Hardly any great measure had ever been carried in this county except through class representation (Hear, hear). Let them look at the result of the late elections. Let them look at the brewery interest and the railway interest, and see how they had worked to return representatives of their own class; and why should not tenant-farmers, then, try to return tenant-farmers to represent them? The Conservative majority was made up very much of representatives of the brewers and railway proprietors, and of land-owners, and it seemed to be thought that those gentlemen would do very well to represent tenant-farmers. It was, he admitted, a rather

diligent thing to get tenant-farmers to consent to go to the House of Commons, but he hoped they would be encouraged to do so. He hoped that none of them would be afraid of attempting to advance their class interests in Parliament, for that was the very thing which they had to do (cheers). Let them take example from what occurred during the days of the agitation for free trade. How did those people act when they were striving to attain their object? Were tenant-farmers going to be such superior gentlemen as to avoid talking about their own business and interests? (Hear, hear.) Mr. Trask's paper was a very good one, but he would ask them what they were going to do to secure the good things which that gentleman had been talking about? (cheers).

Mr. J. TRASK (Northington) here renewed his complaint of the allusion to himself by Mr. Sidney, but the chairman reminded him that that gentleman apologised, and Mr. Sidney afterwards remarked that he had no intention to give offence.

Mr. J. TRASK (Orcheston) then replied: He had no complaint, he said, to make with regard to the remarks of Mr. Sidney, feeling as he did that if any member wished to express opinions opposed to those of the introducers of the subject he was at perfect liberty to do so (cheers). As a farmer he

did not wish to advocate anything that was not fair and just. When the late Mr. Cobden moved for a committee of inquiry with regard to agriculture he said he would be contented even with a committee of landowners; so he (Mr. Trask) would be contented with an inquiry even by a committee of Mr. Sidney's (laughter), confident that he could convince them of the justice of our claim. At the same time he must say, that to charge the farmers with "clamouring for plunder and confiscation" was very strong language, and for which Mr. Sidney had not the slightest justification. He could not agree with Mr. Crosskill that the landlords' and tenants' interest were diametrically opposed on the question of Tenant-Right. It was for the advantage of the landlord that his estate should be improved and well farmed to the end of a tenancy, and this will not be done unless the tenant is compensated for any real improvement that he has made. The landlord cannot obtain any benefit, except through the tenant; he should, therefore, make the tenants' interest his own.

On the motion of Mr. H. Trethewy, seconded by Mr. S. Sidney, a vote of thanks was given to Mr. Trask for his introduction, and the proceedings terminated with a vote of thanks to the Chairman.

THE LABOURER'S COTTAGE.

There are certain points, always pretty sure to crop up in any consideration of the case of the labourer, which are now once more coming under discussion; as prominent amongst these are the questions of cottages, garden-ground, and perquisites. It does so happen that in some of those districts where the differences are of the greatest the men are undoubtedly but badly housed; and of course the most has been made of this in the sensational descriptions which have been published. There are family pictures of people crowded in hovels little better than pig-sties, and so ill-provided in the way of ventilation, water, and room, as to make it almost impossible for a man to maintain his health and strength in such places. Possibly this sketch has been occasionally over-coloured; probably the utter wretchedness of such "homes" is often only too faithfully depicted. Had there been no Union and no Lock-out, it would still have been commercially profitable to look to the labourer's cottage. There have been very old stories floating about for centuries which go to point the moral that no man can be a respectable contented citizen if he have not a decent house over his head, and we really believe that the farm-servant would have been less inclined to move had his wants in this way been better provided for.

On the face of it the farmer who really knows his business is to blame here, as he should be as careful in seeing to the housing of his labourers as of his cattle. But as we go deeper into the matter we find that the employer has been almost if not altogether powerless. The times are now changing, but within the very last year or two the tenant who was "too particular" stood a fair chance of being a tenant no longer. If he held out over such items as game, security, and cottages, he would most likely do so at the hazard of never getting into an occupation. Moreover, looking still to the surface, cottage-building would not pay for the outlay incurred, and thus on many estates there has been no improvement for many years. Even further yet, many owners of apparently large possessions have been incapable of doing justice to their properties; and, strange as it may sound, the Acts for facilitating the transfer of land, with other measures for amending the law of entail, may do something towards putting master and man again on good terms with each other.

It was only during the last few days that, when driving through a midland county, we could tell something of a good landlord, of an able agent and of a tenantry doing their best by their holdings, simply by the condition

of the cottage property. And, let it be noted, there has been little disturbance so far in those districts where the labourer is comfortably cared for in the way of house and land. It would, in fact, be not merely interesting, but more decidedly useful to ascertain how far discontent and bad housing go together. It is said, and often fairly enough, that the labourer receives far more than his money wages of fourteen or fifteen shillings a-week; but nevertheless there is a growing feeling against perquisites, and one effect of this discussion will probably be, that the employer will find it more satisfactory to pay altogether in hard cash. At the same time we should like to hear more said of the man's advantages in other respects; of a comparison drawn between his lot and that of the mechanic, who with higher wages pines away in the narrow streets and unwholesome suburbs of the neighbouring city. An observant man like Mr. James Howard will speak during the autumn at the Farmers' Club to "Our Villages and their Sanitary Reform," but Lord Stradbroke the other day, when addressing the farmers in Suffolk said nothing of our villages or our cottages. It would, indeed, be in a degree suggestive or more directly serviceable to ascertain the actual condition of those cottages about Newmarket, which the occupiers will be required to quit at Michaelmas next; while *The Times* in some degree supplies the want: "At Exning, where the Lock-out began, there is no compensation for the absence of allotments in the extra size of the cottage gardens. Very many cottages, indeed, have no gardens at all, and in this and other respects might almost as well be up some alley in a crowded town. The crying evil of Exning, however, is the cottage accommodation. I entered seven or eight of them. All had but one bedroom; all were occupied by labouring men with families. I am glad so say that all the children were young; but this description would not apply, I believe, to the tenants of other cottages of a like class. The ground-floor, without exception, was of brick, I think it is an over-estimate to say that the sitting-room was 9 feet square. All the ceilings were low; I could not stand upright in one. Then you went upstairs into a sleeping-room, with shelving, barn-like roof, lighted dimly by one small window; and in this one room, or rather loft, were thickly crowded miserable truckle-beds, in which father and mother, and in one case four small children, must lie and sleep. Another window, or any aperture for ventilation, might make the place

more endurable. I found the suggestion had generally been made by the occupier, but disregarded by the landlord. The rotten boards swarmed with vermin—'enough to run away with the children,' one mother said. 'And a good job too, perhaps!' cried a woman, half in joke, half in earnest, as she talked of the enforced idleness of the bread-winner and the hardness of the times. Upstairs and downstairs, it was squalid and depressing. In one loft into which I put my head the children had been put to bed, and already the air felt close and heavy. What must it be with five or six people breathing the same confined atmosphere in the hot nights of summer? It was wonderful how, in such dwellings, the women looked so clean and neat. Habitations like these are enough to crush nearly all sense of decency, or notion of tidiness and comfort among the women, while they must inevitably drive the husband to the publichouse. The wonder is, perhaps, that the women are so neat and that the men are not worse. In one cottage both living-room and bedroom were on the ground-floor, and man and wife and three young children had to sleep in the poor beds placed upon the brick floor of the wretchedly small, damp bedroom. This family sail for Queensland on Tuesday." The report also speaks to a far better kind of cottage, which letting at close upon £5 per annum is commonly beyond the reach of the mere farm labourer, and occupied by a carpenter, or some other mechanic.

It is getting on for thirty years since a prize essay was published in the Journal of the Royal Agricultural

Society of England on the condition of the English Agricultural labourer, when the author, Mr. George Nicolls, took up four points as those upon which any improvement in the man's case must mainly depend. They were, 1st, by extending the field of labour; 2nd, by looking more to education; 3rd, by providing comfortable cottages; 4th, by providing cottage gardens. The two first of these points are not now susceptible of much further discussion, the field having been enlarged with labour no longer a drug, and the benefits of education ensured. But on the other hand a comfortable cottage and a garden, or as now most commonly spoken to, an allotment, are points which require nearly as much consideration as when Mr. Nicholls wrote. In the interim, no doubt, some landlords, backed by intelligent agents, have come to take a pride in their cottages, and to so plan and build that these shall become ornaments rather than eye-sores on their estates. We may see such as these dotted about Woburn and Wrest, or grouped together as one of the show sights at Chatsworth. In mind, body, and estate, the labourer here is alike a better man to his employer, his neighbour, and himself, as we might almost go on to say that he is worse proportionately as he is worse lodged. Three years back, Mr. Dent Dent, a member of the Council of the Royal Agricultural Society, said, in a continuation of Mr. Nicholls' essay, "in the matter of cottages we have still much to accomplish," and with the Lock-out before us we may say so still.

A MODEL FARM AND A MODEL AGREEMENT.

Notwithstanding the comparative failure of this feature in Yorkshire the farm-competition for the approaching meeting at Bedford promises to be as interesting and instructive as that in the adjoining county, where four years since the class was originated. On that occasion the first prize went to a stranger, a lady of Lincolnshire experiences; as, perhaps, the fairest example of all that Oxfordshire could do for itself in the way of improved or high farming was to be found at Upper Winchendon, on the holding of Mr. Treadwell, a native, who took the second prize, after clearly a very close contest. And of this Model Farm, as we believe it is now written, we gather such particulars as these from the judges' report: It contains 420 acres, 180 of which are arable land, and 240 of good dairy pasture. The amount of sheep feed raised is considerable, and as the green crops as well as the roots are all fed off by cake-eating sheep, the soil is in high condition; the land for roots is ploughed very deeply and frequently subsoiled; the mangold-wurtzel crop perfect in plant, healthy and vigorous; the crops of wheat, barley, and oats remarkably clean, heavy, and good; the Shorthorn dairy cows very useful and in excellent condition; the Oxford Downs a prize flock, and the Berkshire pigs also well known on the prize list. Thus, we have a "model" farm, backed by "model" stock; while the judges tell us further that Mr. Treadwell buys annually £600 worth of linseed and cotton cake, £200 worth of corn, and besides this, generally consumes beans and peas grown upon the farm, to the value of £600—"the amount expended year by year in cake and corn being very large." Then, we go on to gather that this farm so well done by, is held under the Duke of Marlborough, not only a landlord living in the county, but a past President of the Royal Agricultural Society, concomitant advantages, as we take it, to the tenant.

Thus, necessarily a man of some position and influence amongst his fellows, Mr. Treadwell has scarcely evinced

full consideration for others not so happily placed as himself. In a word, he has long been, both in public and private, an opponent of the Tenant-Right movement; he has seen no cause for the interference of the law, because if a man only has a good landlord, of course they can make a fair agreement one with the other, and so forth. But as Mr. Backhouse said at Shrewsbury only last week, "They had no doubt excellent landlords of their own, but it was not so everywhere, and these things would have to be settled by Parliament to make them more equitable between landlord and tenant." But even beyond this, a man cannot "insure" his good landlord, who may die, or leave, or exchange, or sell; and, in support of this view of the matter, we would call Mr. Treadwell's attention to a case in illustration, and that case shall be his own. At Lady-day last, Mr. Treadwell received notice that he will be required to give up the possession of the Model Farm at Michaelmas next, as the estate is about to, or has changed hands. That is, in six months, he will have to make the most of his "very large expenditure" on the land in the way of linseed cake and corn, and will have to pull himself up short, in a word; although, fortunately, as we learn again from the judges' report, "there are compensating clauses for manures on leaving." Let us assume, however, that Mr. Treadwell had held under a landlord who objected to compensating clauses—and there are thousands on thousands who do so object—and would he not like to have a little legalised interference on his behalf, especially when giving over his occupation to a stranger owner?

We do not know how far back these compensation clauses extend at Winchendon; but, with such a system of cultivation as that which the Royal Society's judges tell us is practised on the model prize farm, we question very gravely whether, under the best of circumstances, the tenant can get out comfortably in six months. Probably, Mr. Treadwell never thought of going out—pos-

ably, he may not go out now; but the very delivery of that Lady-day notice will teach him and others a wholesome lesson as to the half-year's security of a good landlord.

In this same county of Buckingham the Premier of England only the other day declared himself in favour of a two-years' notice and nothing less, as even Mr. Treadwell might now go so far for the law's interference. But a two-years' notice without Tenant-Right clauses would do no more than give the quitting tenant a chance to run his own out of the land again whilst he was looking about him: as a long lease, or a long notice without security to finish with, must serve rather to retard than to establish agricultural improvement. Everybody and everything come back to "As you were!" Despite, however, the objections of Mr. Treadwell, it is not unlikely from what occurred in the House of Lords on Thursday afternoon

that the Legislature will shortly interfere over the land question; and indirectly promote by such interference the very enactment of that principle, which gentlemen with good landlords have affected to despise. The Lord Chancellor's new Land Transfer Bills will get the wedge gradually in, and the consequence of course will be that with land more readily saleable, there will be proportionately more changes of landlords. It will be the tenant's duty to stand prepared for these changes, however little he may expect them, whether by an assured Tenant-Right, a six-months' notice with compensating clauses, or a bare two-years' notice to "right himself."

An example, especially when put well *home*, will always tell more than an argument, however ably handled, and we thus do not hesitate to make an example of the Royal prize Model Farm at Winchendon, and its landlord-loving six-months'-holding tenant.

BOROUGHBRIDGE AGRICULTURAL SOCIETY.

THE SHORTHORN.

At the last quarterly meeting at Boroughbridge, the president of the Society, Mr. Dent Dent, in the chair,

Mr. J. OUTHWAITE spoke of "The Breeding and Management of Shorthorns." He supposed the reason he was invited to that meeting to treat of the subject announced was, that the farmers present would like, as far as the successful breeding of Shorthorns was concerned, to step into his shoes. He had brought, to illustrate his remarks, four engravings of some of his principal prize animals. [These were portraits of Royal Windsor, Vivandiere, Lady Brough, and Lady Godolphin]. Three of the four were of his own breeding, the other having been purchased by him. Each of these four world-renowned animals had taken a first prize at the Royal shows, and the farmers present well knew what a coveted honour a first prize at the Royal was. It had been said that to take a first prize at the Royal Agricultural Show once in a lifetime was an ample reward for all the exertions which could be made, and they all knew what an object of ambition it was, and how many failed to secure it. The career of Royal Windsor had not terminated with taking the premier honours of the kingdom, but he was now used most successfully as a stud bull at twenty-five guineas, and upwards of fifty calves last year were produced by that animal. This showed the fallacy of the opinion entertained by many farmers, that the prize animals at a showyard were worthless, after their course of treatment, to bring them into such condition as breeders. The agricultural shows were sustained by the liberality of the public, and it was not intended by those who subscribed to the shows that they should be merely for the profit of the exhibitors, but for the benefit of the public and the country. That this had been the case was evident by the fact that year by year shows were springing up in every agricultural district of the country. In the breeding and management of his Shorthorns, a great deal of his success was unquestionably due to the tact, knowledge, and unremitting attention of his manager, who, he was glad to say, had been with him no less than thirty-three years, which he cited as an example of the good feeling it was so desirable to have on a farm, as alluded to by the Chairman. If such amicable working and good feeling were more prevalent there would be no striking amongst the men employed in agriculture. Referring to the four prize animals, Royal Windsor had obtained in cups and money £463, and had not been exhibited last year; Vivandiere had been successful in winning in money and cups no less than £581. Lord Godolphin had never been exhibited but four times, and yet had won five first and one second-class prizes; this animal fell amiss just before the Yorkshire Show last year, and was defeated, although he won at the Royal. Lady Brough had taken first prizes at the Royal and many other shows, and in fact had never been beat in her life, although she had been classed with thirty-three good animals in one class. He did not mean to speak disparagingly of any particular herd of Shorthorns; his object was merely to give the Society, whose guest he was that day, his own opinion, founded on practice, how to breed good animals, and to obtain them to ensure good

form and constitution. In the first place, to secure those two points, they must select well-made level animals, with a combination of both quality and muscle in both male and female to breed from, regardless of pedigree. When he said "regardless of pedigree," he meant that he did not regard what a great many farmers did when they talked about the family or tribe of the animals. He did not recommend any particular tribe of animal; what they should aim at was real good animals of different classes, rather than of any one specially. His own prize animals were not descended from any one particular tribe, but they were all from very good animals of different families. In order to obtain good-constituted animals they must to a certain extent avoid "relative" breeding, as he was quite satisfied that too close relationship had much deteriorated some of the oldest herds of Shorthorns, both in shape and constitution. There was no doubt the country was much indebted to some of the eminent breeders who had pursued the practice of "relative" breeding, but he thought those who had either hired or bought bulls from these herds had received more benefit than the actual breeders, supposing them to have selected well-formed animals, by crossing them in different blood. These observations were not based upon theory, but on practice and experience. His herd was of no particular blood or herd, but of a mixed combination of various Shorthorn herds; and he thought the showyard, which they must consider the best test, would prove that he had been a most successful exhibitor. By giving the members of that Society his advice as to breeding, he wished to show that he was not selfish—he would like them to share in his honours, and he felt satisfied that if they tried the same method as he had adopted, the same results would be accomplished. As to exhibiting, he had more pleasure in showing his animals among good ones than in having them classed with decidedly inferior animals. He was content to win with the best animal, and there was one rule he had invariably adopted, which might with advantage be imitated by others—namely, never to find fault with the judges. The office of a judge at a good agricultural show was an onerous and often thankless one; but the best cure for a dissatisfied exhibitor was for once to make him a judge, and let him experience what it was to be found fault with in his decisions. It would be presumptuous in him to give an opinion on breeding and managing Shorthorns if he could not bear it out in practice, and he invited the members, if desiring ocular demonstrations as to his system and its results, to pay a visit to his farm at Bainesse and judge for themselves. Too much reliance had been put in pedigrees, regardless of the shape of the animal; hence had arisen disappointment in breeding by some noblemen and gentlemen, who, regardless of expense, had laid out large sums of money, not for any remuneration they were likely to get by so doing, but really with a praiseworthy intention of benefiting the country; but in many cases this design had been frustrated, and the experiment given up as a failure. As an example of judicious crossing, his cow Vivandiere was one, if not altogether the most perfect specimen of a Shorthorn

ever bred. She is by a Booth's bull, her dam by a Bates' bull, grandam descended from Colonel Cradock's Old Cherry. Many other examples he could cite to show that pedigree was not everything which was required, whilst with judicious crossing, and level, well-proportioned animals, both male and female, they were almost certain to procure a thorough specimen of a Shorthorn. They must altogether avoid rough-fat animals, as they were useless, to a great extent, either in the prize ring, or for the butcher. They all knew that a fat cow might have been in request for the butcher at one time gone by, when the country was not prosperous as it was at present—but such animals were of no service now. What were wanted were good level animals with plenty of fine flesh, and without those great lumps of fat. Beasts of the latter class were not of so great value, and hence their production was not desired. They must now breed such animals as were likely to benefit the country generally—those that would lay on most meat at the lowest expense. A gentleman from the United States, in the year 1872, wished to purchase Royal Windsor, Vivandiere, and Lady Brough, and since then had applied to him to sell him nine females and the bull, Lord Godolphin. He said he had previously bought entirely from pedigree, and he could not produce a really good animal. The consequence was that he had now sold them off in disgust, and had determined to change his plan, and buy nothing but the best-formed animals. From this it appeared that the Americans were opening their eyes to the mistake which had hitherto prevailed amongst them, and as they are generally our best customers, we should try and breed what they are anxious to buy. The day had not gone by when persons wished to buy animals of only one strain of blood. He should be very glad to answer any questions that might suggest themselves in the course of the discussion, and said that he had thus briefly given them his own opinion about breeding Shorthorns. To show the result of his mixed breeding, he mentioned that he had bred eight bulls and sold them within the last nineteen months, and let out another. He had sold one to go to Australia, and had refused 800 guineas for another, only eight months old. He thought this a clear proof that he was breeding good animals, and that such a course was calculated to benefit the country. The following are detailed particulars of the nine bulls referred to, eight of which have been recently sold from the Daines herd: Baron Killerby, let for two years to Mr. Bruce, Scotland; red and white, calved 17th March, 1864, got by Knight of Windsor, dam Resamond by Apollo. Baron Conyers, sold to Mr. Wells, of Booth Ferry; roan, calved Nov. 6th, 1861, got by Baron Killerby, dam Lady Bird by Sir William. Master Fox, sold to Mr. Bruce, to go to Australia; roan, calved 14th October, 1871, got by Royal Windsor, dam Formosa by Baron Killerby. Marquis, sold to Mr. Horsfall, Hornby Grange, Northallerton; white, calved 18th October, 1871, got by Baron Killerby, dam Myrtle by Fitzlarence. Nimrod, sold to the Earl of Lichfield; roan, calved 16th February, 1872, got by Royal Windsor, dam Matchem by Baron Killerby. Lord Windsor, sold to Mr. Syndle, Emley Hall, Lincolnshire; white, calved April 1st, 1872, got by Royal Windsor, dam Lady Catterick by Baron Killerby. Crown Prince, sold to Mr. Cran, Scotland; white, H. B., vol. 21, calved 22nd November, 1872, got by Baron Killerby, dam Syvira by Champion. King Charming, sold to Mr. McKay, Scotland; roan, H. B., vol. 21, calved 6th August, 1872, got by Chilton, dam Charmer, by Cistercian. Pretender, sold to the Marquis of Londonderry; roan, calved 18th January, 1874, got by Royal Windsor, dam Charmer by Cistercian. Turning to the question of management of Shorthorns, it was a very great mistake to overfeed the young animals, and a great many calves were destroyed by this practice. He had, within twelve months, no less than thirty-two calves, and he had not lost one of them. He explained the method he adopted with success. He allowed the Shorthorn calves to suck till they were about six or eight months old, and then he took them from the mother entirely, and let them feed for themselves, on grass, turnips, cake, &c., according to the season. Many farmers kept their animals, both old and young, in far too close confinement to keep them in good health. Vivandiere, which took the first prize at the Royal, and the Cup at the Yorkshire Show last year, only had a shed to lie in all through the previous winter. The animals could not be kept too airy and cool, and thus they were kept in the most natural state. It was his practice to keep his animals in an open shed as much as possible. Every calf by Royal Windsor promised to be equally as good as his sire, and

he had a calf about four months old, which was the next extraordinarily good animal he had ever yet produced.

Mr. T. PARKINGTON said that he had been connected with Shorthorns all his life, and his father's name would be familiar to the readers of the first volume of the Herd Book; as Wildhare belonged to his father, and from her descended the celebrated Wild-eyes tribe. Mr. Outhwaite's lecture had been the plain, practical, common-sense lecture he had expected to hear from that eminent breeder of Shorthorns. He had been much interested in listening to it, but he thought Mr. Outhwaite had been rather elary in telling how he had attained his great success; hence he should supply the omission. Mr. Outhwaite had only been a breeder of first-rate Shorthorns for exhibition during the last eight or ten years, and he knew several gentlemen who had tried all their lives to produce first-class show-yard animals, and had failed, as some men had tried to breed the winner of the Derby with the like result. The late Lord Glasgow had for fifty years endeavoured to produce the Derby winner, but had never succeeded. Mr. Outhwaite's success was owing to two or three important facts. First, having made up his mind to breed good Shorthorns, he spared no expense, divested himself of all prejudice, bought the best animals he could meet with, and he had been fortunate in securing the services of one of the best herdsmen in the world. Then Mr. Outhwaite had gone on crossing his animals most judiciously. He had also some of the best land in Yorkshire to run them on, and the consequence of all this, and the indefatigable attention he had himself given to his herd, was, that he was probably the most successful breeder of Shorthorns in England. This position he had won for himself in a few years. It would almost appear as though there were some peculiar virtues about the air of Catterick—for Mr. Outhwaite's neighbour, Mr. Hutcheson, who only lived a couple of fields from him, some eight years ago determined to breed some first-class Leicester sheep, and to beat such noted breeders as Borton, Wiley, and others. He, too, adopted the same successful plan as Mr. Outhwaite, and they knew with what result—that he was at this day at the top of the tree as a breeder of Leicester sheep in Yorkshire. It certainly was singular that two men, living next to each other in North Yorkshire, should have attained such a wonderful degree of proficiency in stock breeding in so short a time. There was no doubt that the same course was open to others, especially young men, if they chose to enter on such a course. It was unquestionably a very profitable business, but it required the greatest possible attention. Anyone bringing to bear the same amount of intelligence, industry, carefulness, and liberal expenditure of capital, with plenty of good land—for this latter was indispensable—might reasonably hope for success as a breeder of either Shorthorns or Leicesters.

Mr. BENNETT acknowledged the great usefulness of such an address as they had that afternoon heard, and said that much useful knowledge and valuable hints had been imparted. He felt that in listening to Mr. Outhwaite he had been sitting at the feet of a Gamaliel for information, and he had obtained knowledge on the subject which would be useful.

Mr. HARLAND quite agreed with Mr. Outhwaite that, instead of clinging to any particular tribe, great benefit would be derived from a judicious mixing of blood, and selecting the best possible animals for breeding of whatever kind. The early Shorthorn breeders were guided by their skill and judgment, and chose an animal by its eye, and did not care particularly as to pedigree. For his own part, he must say that he was rather partial to the Warbury herd.

Mr. SCOTT, the Vice-Chairman, said that, although Mr. Outhwaite had only exhibited prize animals during the past few years, he knew from his own experience, as a pupil with Mr. Outhwaite thirty years ago, that he had then a very good herd of Shorthorn cows, and hence he thought that Mr. Outhwaite's successful career had not been quite so rapid as some supposed. Agriculturists were very much indebted to those breeders—whether of Shorthorns, Leicesters, or other breeds, for which Yorkshire was so justly celebrated—who produced pure-bred animals, for most farmers nearly always had cross-breeds on their premises. One thing he regretted was the deterioration in quality of English cattle generally. Thirty years ago they had far superior animals in all the markets to those they had now; and he believed the Irish had quite as much improved in their breeding as the English had deteriorated. The improvement in Ireland had been effected at very great expense, for the Irish lauded proprietors had

bought high-class bulls—the Killyby, Warlaby, and other famous herds.

The CHAIRMAN said that Mr. Outhwaite must have displayed sound judgment in the selection of animals for breeding purposes, seeing that he had achieved his present enviable position with his unrivalled array of stock. He was glad to hear that Royal Windsor had proved so prolific an animal for breeding purposes; and, as regarded over-feeding, which Mr. Outhwaite had touched upon, he said he was often blamed for not more strongly deprecating over-feeding at the meetings of the Yorkshire and Royal Societies. He confessed he regarded over-feeding as a great fault. As to the alleged deterioration of English stock, he said he could hardly endorse that remark, though he was willing to acknowledge that there was a great improvement of Irish stock, which was no doubt attributable to the importation of the best blood from England. One great fault of Shorthorn feeding had been that they had looked too much to beef and too little to milk. He had been grieved to see a Shorthorn heifer unable to bring up her calf, and to require an inferior animal to be used. Bates and other breeders used to boast about the milk as well as beef-producing qualities of their animals, but this was not so now. The mania of giving extravagant prices for animals merely because they contained certain strains of blood seemed to him absurd. What the farmer now wanted was the class of stock fit to bring into the market as early as possible, and which would bring the greatest profit. What was wanted was to produce two-year-old bullocks as prime as they formerly were at four years.

The Rev. C. H. SALE regretted that English cattle were not so good as they ought to be. He had seen beasts which were a disgrace to the stock-breeding of the country. Undoubtedly, there was a large number of poorly-fed and ill-looking animals to be witnessed on every hand, and he argued that a poor breed of cattle must be a loss to the country at large. He saw no reason why there should not be a better prevailing class of cattle in all the rural districts. The question was a vital and important one, and concerned the welfare of the community.

Mr. HARLAND said that whilst he clung to the Warlaby blood, yet he thought a dash of the best Duchess blood was often advantageous for the production of good Shorthorns, and he thus far agreed with Mr. Outhwaite as to the benefit of crossing. Whoever would breed Shorthorns must have taste as well as sound judgment, and follow in the footsteps of the great pioneers who lived before us. They valued pedigree only when attached to a good animal, and rejected a bad animal, whatever the length of pedigree. It was the good taste of Mrs. Charles Colling which caused that lady to say to her husband, "Well, Charles if you will not buy the cow, I will;" and, suiting the action to the word, went back to Eryholme, and bought the grandam of Comet from Mr. Maynard. So with Mr. Bates, who saw the rolling eye of Belvedere as he passed the feeding-box, and at once purchased that impressive sire of Mr. Stephenson; and that same good taste has brought the Warlaby and other herds to so great perfection that it is now comparatively easy to breed good Shorthorns. It has been said that Shorthorns are not good dairy cows, but that depends very much on their early treatment. Rear them as ordinary cattle, on natural food, and they are profitable for the dairy; but if young animals are over-fed or forced for show, the milking properties are injured by the development of the flesh-forming propensities. Shorthorns, to be profitable, should only be artificially fattened once, namely, when they are intended for the butcher.

Mr. T. P. OUTHWAITE referred to the serious loss of cattle, amounting to 360,000, which was caused by the cattle-plague in 1866 and the following year, which was one great cause of the breed of cattle having suffered during recent years.

The CHAIRMAN expressed the thanks of the Society to Mr. Outhwaite for his address.

Mr. PARRINGTON said there was no doubt the breed of animals in this country had fallen off, in proof of which he referred to the exhibition of cattle at fairs now and in former years. A farmer from Lincolnshire used to buy sixty bullocks, in grazing condition, all roans, in the Darlington market; now, such a thing was impossible. At Yarn fair it was customary to see two dozen animals, four years old, weighing 90 stone each; now, there were none. No doubt the cattle-plague was one cause of this, and another cause was the great

increase of population in the North of England. Middlesbrough had sprung up into existence, and the populations of the Hartlepoons and Stockton had more than quadrupled, and for the supply of these towns a great deal of milk was required. In consequence of this, farmers got rid of their calves as soon as possible, and this was another reason why the breed had fallen off.

NOTTINGHAMSHIRE CHAMBER OF AGRICULTURE.—At the quarterly meeting the following resolutions were passed: "That this chamber is of opinion that the Privy Council should be requested, in consequence of the prevalence of the foot-and-mouth disease throughout the country, to invest the local authorities with the same powers for repression of that disease which they possessed previous to the revocation of the order of August, 1873." "That the attention of the Privy Council be called to the importation of the disease from foreign countries and from Ireland." "That it is highly important that a Minister of Agriculture be appointed."

DEVONSHIRE CHAMBER OF AGRICULTURE.—At the quarterly meeting of the Devonshire Chamber of Agriculture, a letter was read from Sir Stafford Northcote, the president, declining the post of delegate to the Central Chamber, as it would be an incongruity that it should be filled by one holding the office of Chancellor of the Exchequer. A long discussion followed on the subject of highway legislation, when Sir T. D. Acland, M.P., moved the following resolutions, which were carried: "That it is expedient that the expense of the principal improvements of main roads in highway districts should be defrayed from a common fund, or at any rate from a fund raised by more than one parish." "That the whole expense of permanent improvements should not be thrown solely on the occupier."

THE LANCASHIRE AGRICULTURAL SOCIETIES.—Arrangements have been nearly completed for the amalgamation of the Manchester and Liverpool and the Royal North Lancashire Agricultural Societies. At a joint meeting of the committees of the two Societies held in Liverpool, a resolution to that effect was passed, and the principal conditions agreed to. A report on the subject has been submitted to the members of the Royal North Lancashire Society, and was adopted with only one dissentient. The district of the amalgamated society will extend to all Lancashire, not embraced in the circle of thirty-five miles from Warrington, and the new portion will constitute the fifth division or sub-district. In future the annual exhibition will be held in rotation in each of the five divisions of the society's district. The amalgamation has resulted in the abandonment of the show of the North Lancashire Society which had been agreed to be held at Burnley during the present year.

YORKSHIRE AGRICULTURAL SOCIETY.—At the quarterly meeting of the Council, held at York, Lord Auekland, president, in the chair, Mr. Fairley, the Society's analytical chemist, reported that during the quarter he had made the following analyses: Linseed cakes 2, palm-nut meal 1, guanos 4, phosphates 11, nitrate 1, waters 3—total 22. One of the linseed cakes was tolerably good; one other sold as "pure linseed cake" was very impure, containing much rape, dotter, and starchy matter. Of the guanos, three were equal to the value at which they were sold; one was inferior. The phosphates were generally good, two were under their quoted value. The thanks of the Council were voted to Colonel Gunter for a complete set of The Shorthorn Herd Book. Mr. Jacob Smith, of Humberston, was elected on the Council in the place of Mr. Johnson, deceased.

REORGANISATION OF KIRBYMOORSIDE MARKETS.—Consequent upon the efforts of a committee acting upon the result of the opening of the railway to Kirby, the market has been commenced, and henceforward will be held weekly for produce and fortnightly for cattle. The cattle, sheep, and pigs, were penned in the market, and a rapid sale ensued. The corn and seed trades, and manures, &c., had all their representatives from Malton, York, Whitby, and Pickering, &c.

THE ORGANIC MATTERS LOST FROM AND RESTORED TO, THE SOIL.

BY CUTHBERT W. JOHNSON, F.R.S.

The question upon which I propose to dwell in this paper is not what is removed from the soil by the crops it supports, but the loss which our island sustains by drainage into the sea, and what the ocean and its tributaries restore to us. Some years have now elapsed since Professor Way investigated the composition of the water flowing from our land-drains (*Jour. Roy. Ag. Soc.*, vol. xvii., p. 123), and more recently Messrs. Lawes and Gilbert have examined the composition of the water flowing from soils long dressed with different fertilizers (*ibid.*, vol. ix. N.S., p. 275,). The Professor examined eight specimens of land-water obtained from the farm of Mr. Paine, of Farnham. In an imperial gallon he found the following amount of organic matter, nitric acid, and ammonia :

Number.	Soluble Organic Matter.	Nitric Acid.	Ammonia.
1	7.00	7.17	0.018
2	7.40	14.74	0.018
3	12.50	12.72	0.018
4	5.60	1.95	0.012
5	5.70	3.45	0.018
6	5.80	8.05	0.018
7	7.40	11.45	0.006
8	not determined	3.91	0.018

Now, although this may, as the Professor remarked, of the organic matter, be in some cases very considerable, yet it must be mentioned "that this organic matter does not contain any, or at most very little, nitrogen—a fact which I carefully ascertained in one or two instances. It is therefore of the carbonaceous nature, that is to say, resembles woody fibre and gum, or humus in a soluble condition. And although it is *pro tanto* a loss to the soil, its importance is not very great. I am inclined to think, too, that it is in great part derived from the roots of furze, wood, or grass, which must have been in the soil in large

quantities when the ground was first drained and broken up; and this idea, which is shared by Mr. Paine, from his knowledge of the nature of the soil, is further corroborated by the fact that the largest quantity (12½ grains per gallon) is found in No. 3, the history of which land is tolerably evident from the name, 'Furze-field,' which it bears." We must remember, however, that the amount of water draining from every acre of the land of our island varies in amount from about 1,300 to 4,500 tons annually, and that thus is withdrawn from say 40,000,000 acres of our cultivated lands an enormous amount of these soluble carbonaceous and other fertilizing matters. That the composition of the water of drains placed in land manured with different fertilizers varies in composition is a reasonable conclusion verified by the researches of Professors Voelcker and Frankland, upon the drainage waters of Rothamsted (*Jour. Roy. Ag. Soc.*, vol. ix. N.S., p. 333). These are thus described by Messrs. Lawes and Gilbert in their valuable paper: "Being fully occupied at the time with other subjects, and finding that Dr. Voelcker was desirous to investigate the question of land drainage, we gladly provided him with samples of the drainage-water from the differently-manured plots in the experimental wheat-field, and also with full particulars of their history for the purposes of inquiry. In the 'Journal of the Chemical Society of London' (vol. ix. S.S., p. 291, 1871), Dr. Voelcker has published the results of the complete analysis of seventy samples of drainage-water of accurately known history so collected. Those results are a most valuable contribution to our knowledge of the subject, not only in its agricultural bearings, but also in relation to the question of the influence of the sources of potable and other waters upon their composition and quality. For the details we must refer the reader to Dr. Voelcker's own paper; but the following table gives a summary of the results so far as they relate to the loss by drainage of the nitrogen supplied to the soil by manure :

COMPOSITION OF DRAINAGE-WATER FROM PLOTS DIFFERENTLY MANURED.—BROADBALK FIELD, ROTHAMSTED WHEAT EVERY YEAR, COMMENCING 1844.

Nitrogen as Nitrates and Nitrites, per 100,000 parts of Water. DR. VOELCKER'S RESULTS.

DATES OF COLLECTION, &c.	MANURES PER ACRE, PER ANNUM.						
	14 Tons Farmyard Manure every Year.	Without Manure every Year.	Sulphate of Potass, Soda, and Magnesia and Superphosphate of Lime.				
			Without Nitrogen in Manure since 1851.	And 41lbs. Nitrogen as Ammonia-salts.	And 82lbs. Nitrogen as Ammonia-salts.	And 123lbs. Nitrogen as Ammonia-salts.	And 82lbs. Nitrogen as Nitrate Soda
Plot 2.	Plots 3, 4.	Plot 5.	Plot 6.	Plot 7.	Plot 8.	Plot 9.	
Dec. 6, 1866, full flow	1.956	0.648	0.878	1.330	2.170	2.567	0.707
May 21, 1867, full flow .....	...	0.052	0.059	0.089	0.078	0.274	0.785
Jan. 13, 1868, full flow	1.256	0.667	0.926	1.704	2.811	3.104	1.196
Apr. 21, 1868, full flow .....	...	0.085	0.137	0.189	0.418	0.578	5.830
Dec. 29, 1868, enormous flow .....	...	0.500	0.530	0.952	1.193	1.874	0.659
Means	1.606	0.390	0.506	0.853	1.400	1.679	1.835

PROFESSOR FRANKLAND'S RESULTS.

Jan. 5, 1872, moderate flow	2.592	1.312	1.418	2.777	4.744	7.841	2.311
May 18, 1872, moderate flow	—	0.031	0.071	0.051	0.059	0.094	1.647
June 11, 1872, small flow	—	0	0	0	0	—	—
Oct. 20, 1872, moderate flow	0.932	0.366	0.360	1.354	2.303	1.808	0.975
Jan. 19, 1873, moderate flow	0.084	0.057	0.157	0.454	1.294	1.522	—
Feb. 26, 1873, small flow	0.082	0.131	0.088	0.122	0.461	0.441	0.264
Means	0.922	0.316	0.349	0.793	1.477	1.951	1.039

The reader will remark how very nearly these results show that the amount of nitrogen in these waters increase with the quantity of ammonia applied. Thus in Professor Frankland's results the water from 100 parts contained of nitrogen:

Land unmanured	0.316 parts
" with manure containing 41 parts of } nitrogen as ammonia-salts.....	0.793 "
" with 82 parts of the same	1.477 "
" with 123 parts of the same	1.951 "

Such is a general view of the extent of the most valuable of our fertilisers, constantly draining from the soil into our rivers, and thence into the sea. Then there is another great source of impoverishment of our soils—the drainage of our houses. Here we encounter an enormous outflow of rich organic matters, which is to a great extent a needless waste. I need hardly do more than refer to the sewage of our populous places, such as that of the 3,000,000 inhabitants of the metropolis—of that of our other large cities, such as Glasgow, Liverpool, Manchester, &c., and of many other minor places, by whose sewage great streams of rich liquid manure are continually flowing towards the sea.

Having thus glanced at the constant drainage of the richest fertilizing matters from the soil, the next question is the amount of enriching substances which our soil receives, either from the atmosphere or from the sea. From the rain, and the snow, and the dew the soil continually receives small amounts of nitric acid and ammonia. The extent of these was some time since also ascertained by Professor Way (*ibid.*, vol. ix. p. 114). He found that the rain-water which fell on an acre of land at Rothamsted in Hertfordshire, as it varied in bulk, also differed during different months in the quantity of ammonia and nitric acid which it contained. The subjoined tables gives the number of gallons of rain-water per acre which fell in each month of the year 1853, and the grains of nitric acid and ammonia, and also the total amount of nitrogen in these:

	Rain.	Nitric Acid.	Ammonia	Nitrogen.
January	13.523	230	1244	1084
February.....	22.473	944	2337	2169
March.....	52.454	1102	4513	3995
April.....	9.251	325	1141	1024
May.....	52.375	1540	4206	3939
June.....	41.295	3303	5574	5447
July.....	157.713	2680	9620	8615
August.....	59.622	3577	4769	4870
September.....	34.575	732	3313	2917
October.....	124.466	4480	7592	7414
November.....	35.950	1007	3021	2749
December.....	39.075	664	2438	2180
Total in lbs. whole year	2.98	7.11	6.63	

From these results we learn, as the Professor remarked, that the total quantity of nitrogen contained in a year's rain does not exceed 6½ lbs. This quantity is equal to 8 lbs. of ammonia, and would be furnished by 35½ lbs. of sulphate of ammonia, or 47 lbs. of guano. We can hardly, therefore, with these facts before us, continue to believe that the rain brings down nitrogen enough to account for

a normal or natural fertility, or the growth of 14 to 17 bushels of wheat from year to year.

We hardly, however, are yet sufficiently aware of the power of the growing plant to avail itself of the ammonia contained in the atmosphere, to estimate the real value of the supply. The plant, we must remember, does not only derive its ammonia from the rain-water—the same alkali is found not only in rain, but in the water of fog, and of dew, and of melted snow. In a gallon of snow-water, Boussingault found 0.080 grains of ammonia, in dew-water 0.714 to 0.4340 grains, and in fog-water at Liebfrauenberg 0.1790 grains, and at Paris 9.600 grains. Now, as these waters are all the products of the insensible moisture of the atmosphere, we can hardly yet place a limit to the extent to which a plant can absorb the ammonia existing in that ever-present aqueous vapour.

Next, let us briefly examine the returns in the shape of organic matters that our island receives from the sea. First, then, as to fish. Few of my readers will be prepared to hear that our trawlers employ a fleet of nearly a thousand vessels, and upon an average furnish us with about 300 tons of fish daily; and yet such is the fact. Her Majesty's Commissioners, appointed to inquire into our sea-fisheries, in their report (vol. i., p. 18) observe: "Not fewer than 955 sail of trawlers of between 40 and 60 tons are employed in the North Sea, the Channel, and St. George's Channel. These vessels are manned by at least 5,000 souls. They represent a capital, at the very lowest estimate, of £1,000,000, and they supply the market daily with, probably, not less than 300 tons of fish."

Such are the enormous contributions of the trawl fishermen. Then we must not forget the immense amount of fish drawn from the sea by the Seine and other net fishermen, in herrings, mackerel, cod, oysters, shrimps, and other fish.

And when we have enumerated the chief fish supplies, then we must add the sea-weeds, another enormous contribution from the sea to our soils. The amount of this is very large on all sides of our island, especially on our western shores. In no district have I seen these weeds so large in size and amount, and so carefully gathered, as on the shores of Devon and Cornwall.

Next let us inquire as to the vast weight of organic matters that is wafted over the sea and landed on our shores, matters which tend in some form or other to enrich our soils. From an official report then, we find the following amongst those articles imported into our country in 1872:

Oxen, bulls, cows, and calves.....	No.	172,993
Sheep and lambs	"	809,822
Bacon and hams	cwts.	2,001,855
Beef	"	228,912
Bones, except whalefins.....	tons	111,692
Bristles	lbs.	3,068,095
Butter	cwts.	1,138,081
Candles, stearine	"	106,370
Caoutchouc	"	157,114
Cheese	"	1,057,883
Cocoa	lbs.	15,044,134
Coffee	"	166,269,052

Corn :	
Wheat	cwts. 42,127,726
Barley	" 15,046,566
Oats	" 11,537,325
Maize	" 24,532,670
Other kinds	" 4,521,911
Flour of wheat	" 4,388,136
Other kinds	" 42,800
Total of corn	" 102,196,334
Cotton, raw	" 12,578,906
Eggs	No. 531,591,720
Fish	cwts. 671,192
Flax and Hemp :	
Flax, dressed and undressed	" 1,695,644
Tow or codilla of flax and hemp	" 380,243
Hemp and other like substances (except dressed and undressed).....	cwts. 1,115,946
Jute	" 4,041,918
Fruits :	
Currants	" 1,138,853
Raisins	" 617,418
Oranges and lemons.....	bush. 2,385,160
Guano	tons 118,704
Gutta percha.....	cwts. 41,597
Hair :	
Goats' hair or wool.....	lbs. 6,404,490
Hides, tanned and untanned	cwts. 1,679,108
Hops	" 135,965
Lard	" 579,056
Leather gloves	pairs 12,632,604
Oil :	
Fish	tuns 18,719
Palm	cwts. 1,006,497
Cocoa nut	" 433,883
Olive	" 24,025
Seed	" 20,084
Oil-seed cake	tons 134,300
Paper for printing or writing	cwts. 205,510
Petroleum :	
Unrefined	galls. 729,036
Refined	" 5,670,674
Pork	cwts. 218,260
Potatoes	" 5,987,429
Rags	tons 22,254
Esparto grass and other materials	" 115,157
Rice :	
Not in the husk	cwts. 7,033,361
In the husk	qrs. 27,447
Saltpetre	cwts. 307,034
Cubic nitre	" 1,594,197
Seeds :	
Clover and grass	" 290,849
Cotton	tons 167,904
Flax and linseed	qrs. 1,514,947
Rape	" 246,549
Silk :	
Knubs or husks and waste	cwts. 33,866
Raw	lbs. 7,302,083
Thrown	" 63,901
Skins :	
Sheep and lamb, undressed	No. 8,219,014
Tanned, tawed, or dressed	" 2,824,072
Seal, in the hair, undressed	" 657,697
Goat, undressed	" 1,132,054
Tanned, tawed, or dressed	" 4,605,266
Spices :	
Cinnamon	lbs. 1,072,080
Pepper	" 27,570,710
Of all other sorts	" 13,064,519
Sugar :	
Refined and sugar candy	cwts. 1,729,302
Raw	" 13,776,696
Molasses	" 696,615
Tallow and stearine	" 1,328,444
Tea	lbs. 184,927,148
Teeth, elephants', sea-cow, and sea-horse	cwts. 11,229

Wood and timber :	
Hewn	loads 1,789,576
Sawn or split.....	" 3,093,933
Staves.....	" 66,277
Mahogany	tons 33,920
Wool: Sheep, lamb, alpaca, and the llama	
tribe.....	lbs. 306,379,664
Woolen rags.....	tons 29,302
Woolen and worsted yarn :	
Berlin wool and yarn used for fancy pur-	
poses	lbs. 423,563
Yarn for weaving	" 11,706,427
Yeast, dried	cwts. 140,191

To these immense direct contributions of fertilising matters from the atmosphere, the sea, and by foreign countries, to our soils, we have yet to add another still more enormous indirect addition to our land in the carbonic acid gas of our atmosphere, which is constantly absorbed and decomposed by almost every leaf that adorns and enriches our land—its carbon assimilated, its oxygen evolved for the use of animal life.

In considering these facts, which are of necessity very imperfectly given, we can hardly fail to remark how very largely the efforts of man to fertilize his exhausted soils are supplemented by the arrangement of creative Wisdom—marvellous provisions, which, although they have quietly been operating ever since the creation of the world, we have only in modern days begun to estimate the grandeur and importance.

TENANT-RIGHT AND THE COUNTY MEMBERS.—

At a general meeting of the members of the Staffordshire Chamber of Agriculture, Mr. CARRINGTON SMITH, the chairman, said not one of the six members for the county of Stafford had thought fit to make any public declaration to his constituents as to the necessity for legislation on this subject. The conclusion to be drawn from that was, either the Staffordshire Chamber of Agriculture did not represent the feelings of the owners and occupiers of land in the county, or those members did not represent the agricultural interest of the county. Perhaps some blame was to be attached to the members of the Chamber. The Chamber was of very little importance, or else they had not gone the right way to bring their views before the Parliamentary representatives. The hon. and learned member for West Staffordshire had stated, as an objection to legislation on the subject, that it was impossible for the House of Commons to say what was, or what was not, unexhausted improvements. To his (the speaker's) mind, the words "unexhausted improvements" conveyed their meaning as clearly as they well could. If Parliament would only say there was such a thing as unexhausted improvement, it would be easy for men acquainted with their business to say whether it existed in a particular case. If the members of that Chamber desired to have that voice in the legislation of the country to which they were entitled, it was necessary for each of them to use his best exertions in connection with the election of members for the county, in order that the agricultural interest might be represented in the House. If the hon. member to whom he had alluded did not see fit to acknowledge the resolutions of that Chamber, the support of its members would be withdrawn from him when he came again before the constituents. With reference to what Mr. Disraeli had said on the contemplated Landlord and Tenant Bill, he thought that Mr. Disraeli had got hold of the wrong part of the question when he held that two years' notice to quit would be a solution of the whole difficulty respecting unexhausted improvements. Such arrangement could not, he thought, be beneficial to either party, and most certainly could not be in the interests of the nation, for it would lead to neglect of cultivation. Of course, if with this system of two years' notice there were to be a Tenant-Right, it would alter the question; but the system, unless there was, in addition, compensation provided by law for unexhausted improvements, would be of no advantage to the tenant, and would be, to some extent, a giving up of the landlord's right, and would be contrary to public policy.

THE MANAGEMENT OF SHEEP.

No. II.

BY THE NORTHERN FARMER.

The breed, or breeds, if crossing is intended, considered most suitable for the soil and situation, as well as the proposed mode of disposing of the produce having been decided on, and the sheep purchased, and placed upon the pastures they are in future to occupy, their owner will best consult his own interest by studying to preserve his stock in health and comfort at all seasons, on no account letting them lose condition through insufficiency of food, or unnecessary exposure to severe storms during winter and spring. Amongst all live-stock loss of condition invariably means loss of money, as however short the period during which an animal has been losing flesh, it has to be doubled, let the treatment be ever so liberal, before the lost flesh can be regained. A large number of animals, as in the case of a flock of sheep, going back at the same time, as they must necessarily do when under the same conditions, will thus, if partially neglected for one month, lose a very considerable sum of money, and if young stock, growth is checked, and profitable maturity greatly retarded. With sheep the danger of losing condition is almost greater than with other kinds of stock, as there seems with them to be a peculiar and almost irresistible tendency in some minds to overstock, and keep the pastures bare, rendering a continuous and plentiful supply of grass in a great measure dependent on the weather, or other accidental circumstances favourable to growth. This is at best but short-sighted policy, and when persisted in for any length of time is the cause of serious loss, more particularly, and almost unavoidably, whatever care may be taken, when it is pursued on very old pasture. Especial caution should be observed not to crowd such land with sheep, as of all other stock they are most liable to injury from the rank grass rendered to them in a measure poisonous by being forced from their own droppings. While horses and cattle refuse to eat the rich tufts of grass which surround their own excretions, until mellowed by frost and other atmospheric changes, sheep seem actually compelled to eat what to them must be quite as nauseous and disgusting, simply on account of its being so equally divided, and in such an extreme state of comminution that they cannot avoid doing so. Chronic diarrhoea, rotten livers, loss of condition, and general debility will soon tell in a way not to be misunderstood, that such a system is bad, and imperatively requires a remedy. Sheep will bear crowding on young land, retaining sound health, and moderately good condition, even should the pasture temporarily be eaten very close indeed, and if a very small allowance of cake is given every day, will tide over a period of scarcity with but little trouble or inconvenience either to themselves or their owner. Old pastures elastic with moss, in which the cultivated and useful grasses have mostly died out, and their places taken by those which are unnutritious, and every way inferior, should therefore be put through a renovating course of husbandry if at all practicable, no system of management, however enlightened by experience, being able to do more than partially ameliorate the evils which are sure to result when sheep have to be kept continually on pasturage so thoroughly unsuitable. Almost the only obstacle to such land being broken up is, the presence of trees thickly planted, or, if single specimens, each one covering a large space; but even this can be got over, as although the spreading roots obstruct the plough and increase the labour and expense of tillage, and under and

amongst the trees, the corn, unless in an exceptionally favourable year, may lodge and rot, or at best give but a poor return in grain, yet, as the ploughing and first year's crop is only a means to an end, the chief object being altogether ulterior, much annoyance, and possibly a certain amount of apparent loss must be put up with for the time being, so that the desired renovation of the soil and introduction of new grasses may be successfully accomplished. After all, the time required to do the work thoroughly is not by any means long, as the third year after the grass has been ploughed down should at farthest see it again clothed with the coveted emerald hue, and that of a far more brilliant shade than it previously possessed. In this case the course would be oats for the opening crop, the land being deeply ploughed immediately after its removal, so that the tough sod, so long interwoven with the roots of grass, and possibly couch and other weeds of a like nature may have time to be well rotted before it again requires to be worked for the succeeding crop. For the second year a magnificent crop of turnips may be expected from land so favourably circumstanced for their growth, although manured only with half-inch bones, a few hundredweights of superphosphate, and a sprinkling of guano. Such a crop as may thus be grown may well afford every alternate drill to be drawn to the yards for cattle-feeding, while the remainder, eaten on the land with sheep getting a daily allowance of cake, will not fail to give a manurial dressing to the entire field, sufficient to force a thick coat of succulent grass of the most nutritious and fattening quality. In the succeeding spring, grasses and clovers and a portion of rape may be sown without a crop, which seeds striking at once into vigorous growth in the beautifully fresh mould will be fit by August, if the season is ordinarily favourable, for the reception of a heavy stock of sheep, which may again be netted, and supplied with cake and crushed corn, exactly as was done during the previous season when the turnips were being consumed. If the number of sheep has been fairly proportioned to the acreage of the field in which they are being fed, the whole lot will be thick fat by the time they have it once cleared, making a handsome sum to their owner as profit. It is quite possible that if the weather during the autumn months has been soft and otherwise favourable to growth, the grasses might be so far advanced as to bear being again gone over; this, however, is rarely advisable, on account of the injury which may be caused to the roots of the young plants by exposure to the severe weather of winter and spring, and further, this second growth of grass, when preserved, makes an admirable provision for the ewes when suckling their lambs in the ensuing spring. It will be noticed that no stress or importance is placed upon or attached to the corn which might be grown on such land, the reason being simply that sheep husbandry suits the required purpose better than any other method which could be devised, and, when carried out in its integrity with sheep of the right sort, gives the largest return obtainable to the acre, while labour and other attendant expenses are cut down to the lowest possible limit, the latter being in itself a consideration few farmers can at the present day afford to overlook. To fully argue this part of the subject, it may readily be assumed that land which has been laid down to grass for an extended period, and grazed almost con-

tually, might easily give a second, and possibly a third crop of corn, either of which would in yield of grain far outstrip the first, as it usually gives a large quantity of soft and extremely flaccid straw, with a light and badly-filled head, while the succeeding crops with much less straw, give a capital return in corn, worth a considerable sum of money per acre. It might also be assumed that after the turnips another corn crop might with great propriety be taken, the grass seeds being sown at the same time as the corn, with an excellent prospect of success. It would be easy to find men who would at once confirm the plausibility of these theories by a reference to their own experience, and there are others again who would carry out the course of cropping exactly as indicated, not because of its merit as a paying speculation, but from pressing motives of expediency. The arguments against corn, and in favour of sheep-husbandry in such a case as has been here instanced, are however conclusive, and may be summed up briefly as follows: The primary object in reversing the sward having been the renovation of the land by restocking it with new and improved grass-seeds, and thus again adapting it to the profitable breeding, rearing and feeding of sheep, it becomes apparent that the introduction of any course or system of cropping which retards this consummation, nullifies the original idea, or at best postpones the realization of the expected advantages to an indefinite period. Again, when two crops of corn are taken the extra manurial resources possessed by the soil consequent on the decay of a large quantity of vegetable matter have become in a great measure exhausted, and the grasses when sown being imperfectly nourished, growth languishes, and the rich full bite so anxiously looked forward to is never obtained, the sheep placed upon it though few in number, do little more than keep themselves in store condition, and the money made by the corn is in a few years absorbed by the inadequate return obtained from the land on which it was grown. By all

means therefore let good sheep land which has been broken up solely for renewal of the grasses, be laid down to grass again as quickly as possible, no scouring crops being taken from it, but only if at all practicable those which tend to its amelioration, and the immediate results will exceed what the corn would make even at its best. The enormous crop of turnips which can be grown on such land the second year of its being turned up, would, it is no exaggeration to say, if carefully calculated when turned into mutton, give nearly double the return in cash than would be made by the corn, besides leaving the land in such condition as to be able to carry a heavy stock of sheep, and finish them in the best manner. Many attempts are made to bring old land to a better skin by merely netting the sheep regularly over each field, and feeding with turnips and cake, thus avoiding the trouble and annoyance of breaking them up with the plough. Going over the surface this way certainly makes for the time-being an apparent improvement, the grass gets to be of a deeper green, and the moss is trampled down and hidden, the whole field seeming from the quantity of droppings to be vastly enriched. There is however no reality in the improvement, no staying power in the manure; the skin of old grass is too tough to allow of the absorption of the dung, and under the influence of sun and wind it quickly dries off, leaving scarcely a trace behind, the moss and coarse grasses again reassert their former strength, the brown colour returns, and in twelve months there is little trace of improvement to be observed. When turned up with the plough, and laid down again in the spring of the third year after turnips and without a crop, the difference is so astonishing that it must be seen to be believed. The thick plant of succulent grass of the richest and most fattening quality forced by the *humus* formed by the decaying roots of the old sward, grows luxuriantly for the greater portion of the year, resists the inroads of moss, and retains its intensely green colour for very many years.

THE IMPROVEMENT OF LAND.

At a special meeting of the Shropshire Chamber of Agriculture at Eridgnoth, Mr. Jasper MORE, the president, in the chair, said before proceeding to the special subject for discussion they might be glad to learn what progress the question of the proposed Shropshire County Agricultural Society had made; and, if thought advisable, even to extend it to adjoining counties. They had heard from Herefordshire, and that county was willing and anxious to join them in the formation of a society for the two counties. Much Wenlock had not had time to consider the subject, and Oswestry and Ludlow had not held their annual meetings yet, at which this subject is announced to be discussed. So far, it appeared that there was a wish in Herefordshire and various parts of Shropshire to have a joint society; but no action would be taken upon the subject until they heard from the other local societies in the county.

Mr. DUDFIELD (Catsley) then said: I was in hopes it would have fallen into more able hands than mine to bring forward this motion. Nevertheless, I feel pleasure in doing anything in my humble way to bring about a better state of things than now exists in many districts. I do not know much of the north of Salop, but in the south, for some ten miles round me I find a great many farms in bad condition, some tolerably good, and my own not as I could wish. But this is not through any fault of my landlord, he having fulfilled his contract, and I trust I have done my own part in such a way that nothing but amicability may exist between us, and I wish it to be understood that what I have to say here to-day is not applicable to our position as landlord and tenant. It is true that I could do with two or three more cottages, as labour is the worst item that I have to contend with. I fear we shall find the question of increments to improvement of land more serious than it at first appears to be. The labour question is most difficult to handle just now, par-

ticularly in those districts where the landlords have not had the forethought to provide cottage accommodation, buildings for stock, drainage of land, &c., when the cost would have been from 25 to 30 per cent. less than it is just now, and the supply of men more plentiful. Taking a view through several counties I happen to know tolerably well, I find many estates in first-rate order, plenty of cottages and buildings, land drained and farmed well. Others in the same counties are in sad condition; and, upon inquiry, we shall find that the majority of the latter are held under game-preserving gentlemen who prefer to set under their old restricted agreements; and here we find the tenants in the midst of lots of overgrowing timber in the open arable fields and hedgerows, too, adjoining, up to their ankles in scutch, grass, or water, and eaten up with game, wailing, weeping, and grumbling of their overburdened taxation to the poor, roads, and maintaining the rates for educating the children of mechanical students, and the payment for prosecution of poachers. Meanwhile, we find the committee of the House of Lords inquiring of Messrs. Keary, Burd, and Ashdown how to improve the land by building of cottages, &c. Ah, I fear it is too late. Most of our young labourers have gone far away, and the old ones—and tenants, too, will soon have to follow, and such landlords occupy their own. It is of no use locking the stable door after the horse is stolen, but let us hope for a better state of things to come. It would be superfluous for me to explain the land tenure and game question, as those have been so thoroughly mooted by competent persons of this and other Chambers of Agriculture, and if there is anything more to be said I feel sure there are gentlemen here more competent than myself to handle the subject, and I respectfully appeal for assistance, feeling, as I do, that these are the main obstacles in the way of "improvements in land." I have always felt the necessity of Tenant-Right as an encouragement to good cultivation since I com-

menced farming in 1839, and have experienced great loss myself, and seen that of others for want of it. Where we find good husbandry, as a general rule, liberal, open landlords exist. Hence the happiness between them and their tenants; and in case of death, or any other cause for exchange of the tenant, he is sure to reap the benefit of his just and liberal treatment by obtaining a respectable man of capital, and generally at an increased rent. With regard to that obnoxious game question, I feel now to be on the most tenacious ground. Gentlemen as a rule are fond of sport, and I see no reason why they should not have it, so long as they are satisfied with enough game to afford healthful recreation; but it is the battue shooting that is the sore evil—where the hares are kept to excess, feeding upon the tenants' crops, and driven into the coverts "by hundreds" by beaters and keepers for the gentlemen to shoot as they stand in the racks in the coverts (cut expressly for that purpose), and I really wonder the Humane Society does not interfere. That such a state of things must be a great detriment to the improvement to land there cannot be the least doubt. I farmed an estate myself for fifteen years where the "loose and fast" system was practised, and could relate circumstances that would make you shudder. There is many a tenant's heart broken, and his family brought to grief and want, through the over game-preserving landlord. The game is generally shot down before the applicant looks over the farm. The steward tells you there is to be no more over preservation, you are to farm the land in the best possible manner, and shall have every encouragement. All seems to work smoothly for a time, until you have put the land in tolerably good condition; then come the hares, nocturnally, out of the woods, and eat up, and in many places entirely destroy your crops, and you are refused any compensation. How land can be farmed to any profit under such circumstances I am at a loss to know. It is a national question that all land should be made to produce as much bread and meat for the million as possible, and I only wonder that Messrs. Gladstone, Bright, and Co. (who profess to be the working man's friends) have not taken up this important question, as it is well-known the tenant-farmers are in too many places driven by the landlord in rein, and often the curb is added to the bit; but it is quite time this state of things should be at an end. I know too well of the propensities of many gentlemen for game preserving that it almost amounts to mania. One good old English gentleman in particular (with this exception) came and said to me. "Now, Dudfield, I want you to give that other farm up, and remain with me." I shook my head, at which he said, "Why not?" My reply was, "I should rather not answer you that question." "Oh," said he, "the game I suppose." I said "Yes," and his reply was, "Well, we must have game, and you will have it where you are going." Here is a state of things I cannot comprehend, for gentlemen to forfeit their word, and even their handwriting to satisfy their desires; and I am told it is of no use urging the game question, as the Prince of Wales is fond of battue-shooting. Suppose he is, we can manage that, as we do not wish to be disloyal. Let a tract of land be set apart for such, and fenced in just as the deer parks are, and the bailiff and keepers can cultivate the most palatable estates for such stock. Our landlords can do the same if they please; and I am sure my fellow-tenants will be glad to see his Royal Highness amongst us, and when the party have finished their morning's manoeuvres we will find them field sport to circulate their blood, and give them appetite for their dinner. That the ground game should be in the hands of the tenants I am quite certain, and I am sure that 99 out of every 100 tenant-farmers would agree with me in the endeavour to find a moderate quantity for the recreation of their landlords and their friends where required. The resolution for your consideration is—first, That this meeting is of opinion that an Act of Parliament, such as Mr. C. S. Reaa's, is absolutely necessary both for landlord and tenant, and the abolition of the Game-laws as regards ground game, being both great detriments to the improvement of land, and if approved and carried, a copy of the same to be forwarded to the Central Chamber, also to the M.P.'s of the county of Salop, with a request that they will exert themselves in the next and any other session of Parliament to further the interests of the same." Next comes the cottages, buildings for stock, drainage, and last, but not of least importance, laying down arable into pasture, and renovation of old pasture-land. These are items for a vast amount of consideration, as it is

well known they form so much importance in the case at issue, and if the 1st resolution be passed the 2nd will be: "That this Chamber form a committee of equal parts, land-owners or agents, and tenant-farmers, to discuss and determine the best code for this district, to be made out for the furtherance of buildings, drainage, &c., and allowance for unexhausted improvements on a tenant quitting, &c., as a guidance for letting and taking farms, and a basis for arbitrators to work upon." If I have said anything that may be irksome to anyone I trust they will forbear their verdict until sufficient time has elapsed for consideration, as I did not come here to put class against class, but quite otherwise. I came here not so much to serve myself as others. It may be regretted that many tenants stay at home and go to market grumbling about their grievances, but neglect to put their shoulders to the wheel, when required, and these are the very parties that require the most help. This is the place to bring our difficulties to; and if our landlords will give us a fair hearing I feel sure matters can be set right, and ultimate good will be the result, not only to the community at large and ourselves, but most of all to the owners of land.

Mr. RAINSFORTH begged to second the first resolution. Mr. WORRALL said he could not agree with the statement made by Mr. Dudfield, that they had lost their best labourers. There was an entertainment at Norton, the other day, at which it was stated by one of the speakers that those labourers before him (the Norton speaker), young and old, were such as any county or country in the world need be proud of. So far as the game was concerned, he (Mr. Worrall) had no objection to "feathers." Hares should be for the landlord, and rabbits for the tenant-farmer. He would defy anybody to come and get a rabbit off his land, because he employed a man at 12s. a-week and his meat, to kill all the rabbits on his farm; whether he brings home one couple of rabbits or 20 couples, he got his wages. It was no use paying a man by results—so much a couple—because if he could not catch enough to bring in his week's wages he would leave. He should be paid regularly as long as he is employed rabbiting. With respect to "agreements" between landlord and tenant, he should like Mr. Dudfield to see the one he had handed to Mr. Bowen Jones, and see what objection he could have to it.

Mr. DUDFIELD said he was a friend of feathered game, but a determined enemy of ground game. In the county from which he came—Worcestershire—they would not find a timber tree of any size in a hundred acres, because the land was laid out for steam cultivation and high farming. They had also in that county good cottages, in the hands of the landlord himself, and they are all numbered, and a certain number apportioned to each farm, and the rent, which is moderate, is paid to the landlord.

Mr. RALPH BENSON said that persons who came to meetings of that kind should be looked at through spectacles that would impartially reveal the truth on both sides. They had heard the subject pretty strongly and broadly stated on the one side by Mr. Dudfield; and he (Mr. Benson) had a word or two to say for that unfortunate and much-abused class—the landlords. He thought Mr. Dudfield had spoiled his argument by the language he had used to blacken the character of the landlords, in the ghastly phantom he had conjured up before them. Were there such a man to be found—be he landlord, or be he tenant—who could be guilty of the things attributed to landlords in Mr. Dudfield's remarks, he would deserve to be "gibbeted" in public estimation in the market-place. But it should not go forth throughout the length and breadth of the country that landlords denied their own hand-writing, repudiated their agreements, and would not compensate tenants for loss, without being contradicted by himself. If landlords were to be angels, even arch-angels, they could not make some bad farmers good ones, nor the way they managed their farms profitable. There were certain things in the labour and cottage question that Mr. Dudfield seemed to think belonged solely to the landlord; and that he (Mr. Benson) did not think was right. What had the landlord got to do with the labourers asking for high wages? He (Mr. Dudfield) also said that if the landlords found good cottages for his labourers there would be no great fear of labourers leaving him. Well, he would show them how the matter stood in his own personal experience. In the village of Easthope, near Mr. Acton's, there were six cottages in a row, only two of which were tenanted by agricultural labourers. He had cottages, and labourers in his employ, and when the cottages were not asked for by his own

labourers he let them to anyone that he approved. He had three cottages at Presthope, the erection of which cost him £150, and not one of these were asked for by agricultural labourers. Don't, therefore, let it go forth to the world that labourers leave—that wages are higher—because cottagers cannot get good cottages to live in. He did not think it was so, and he was sure it was not in the cases to which he had adverted. Now, then, as to the game preserving and the prosecution of poacher. [Cries of "That's the question."] What farmer in that room, he would ask, had ever paid out of his own pocket for the prosecution of a poacher? [Cries of "It comes out of the county rates," "We pay for it indirectly," "The police fund has been invaded for it," and other strong marks of dissent].

Mr. DUDFIELD: It was not the landlords in this neighbourhood or in this part of the county to whom I referred.

Mr. BENSON said he knew it was one of the great arguments against the Game-laws urged upon the attention of the committee who sat upon it—that of the prosecution of poachers, the pauperisation of their families, and the support that had to be accorded to them whilst the poacher was in gaol. In the mixed committee on the Game-laws, in which such men as Mr. McCombie, the Marquis of Hartington, and others, representing both sides of the question, they might rest assured that their claims would not be overlooked in the matter of game. In many places they have already become the property of the tenant-farmer. The rule he (Mr. Benson) laid down for his own tenants was to allow them to dig them out and to ferret them, but he would not allow them to set wires or traps, because if set by unskilful hands they were likely to catch other game. He had no objection to the use of wires for rabbits if they were set by a professed rabbit-catcher. Farmers should employ professed rabbit-catchers, and keep the rabbits for themselves. Mr. Dudfield said it would not pay to pay for them by the couple. Then, in that case, pay for them, as Mr. Worrall says, by the week. Mr. Worrall's speech would do good, because it stated the true principle of getting over the rabbit difficulty. Mr. Dudfield had said he should have no objection to landlords having some game, and he (Mr. Benson) admitted his generosity. But he should like him to have said something more on draining and labour. He felt sure that it did not pay to drain land at £10 an acre. He (Mr. Benson) had had a bill for draining some land of his that cost £9 10s. an acre, and yet that land had been letting at about 16s. an acre. But draining was likely to receive a great check, because wages for labour had risen to such an abnormal pitch, that the high charge for draining made it cease to be a profitable investment of capital. The wages fever, or mania, began with coal, then iron, and it soon permeated every branch of industry, and consequently raised the price of draining materials and labour. [A VOICE: "What is the per-centage?"] Mr. Benson: About £6 10s. per cent. It must also be borne in mind that drainage works won't last for ever, and in some cases that had come under his knowledge, draining had had to be renewed in twenty years. He was at that time paying interest in London for money borrowed by his late father to do draining, and that had now to be done over again. The pipes had been put in too small, and he thought any land-agent in the county would bear him out in his remarks about draining having to be done over again in many places.

Mr. WORRALL: I can find you some done two or three and twenty years ago as good now as it was then. It can't be done at £6 10s. per cent.

Mr. BENSON: He was sorry to hear that Mr. Worrall thought it could not be done for £6 10s. per cent. Many landowners with an income of £3,000 a year had not got £500 that he could lay his hand on for drainage. He did not think it was a sound principle for a landlord to borrow money to drain with, and at the same time he had to pay a part of it out of his own pocket. He thought the tenant ought to pay his proper percentage. If land were worth draining at all, he apprehended it was worth £6 14s. per cent. As to the question of unexhausted improvements, he thought there was no difference of opinion upon that subject with themselves or between landlord and tenant. No man could be honest that would not compensate his tenant, who had made his landlord's land better by the expenditure of his (the tenant's) capital and skill upon it. Everybody thought so; and all they differed about was the means of arriving at an equitable adjustment. He thought it would be hardly right to burden the resolution proposed by Mr. Dud-

field with Messrs. Howard and Read's Bill, because it was quite uncertain whether it may be gone on with in the present session. Before he sat down he wished to say that he hoped that anything he had said which they did not like they would at least receive it with that kindness and friendship with which it was offered, and they must also bear in mind that there were generally two sides to a question, and he had endeavoured to explain the landlords' side a little.

Mr. WORRALL: Do I understand you that you allow your tenants to take all the rabbits?

Mr. BENSON: I do—as many as they can get out by digging them out and ferreting them. If the tenant uses wires, I only ask that it may be done by a proper rabbit-catcher, to be approved by me.

Mr. WORRALL: If your cottages are not let, Mr. Benson, they must be bad ones, or high rented.

Mr. BENSON: They are good cottages, with pigsties and good gardens, and the rent is only £3 a year.

Mr. NEVETT (Yorton) said there were many detriments to land, and one of its most grievous ones was the letting and tenure upon which it was let. They were all too familiar with the old form of agreement, which he need not go further into than say, "That the game shall belong to the landlord," &c. They could read the agreement if they liked, but it made little difference whether they did or not, its conditions remained unaltered, and if they wanted the farm, sign it they must. The first farm he had held for four years, and lost a deal of money by it; and he need scarcely tell them that the game was the cause of it. He then shifted to the farm he now occupied. He wished to say a few words upon the four-course system of turnips, barley, clover, and wheat. This four-course system was very good where the land suited. It did not suit his farm. He could not grow barley so profitably as he could spring wheat, and he wanted to sow more spring wheat, but the four-course system stepped in and stopped him. Some time ago, he had been written to by his landlord's agent and he (Mr. Nevett) went to him, and because one farmer that he pointed to did it badly he (Mr. Nevett) could not be allowed to farm in the most profitable manner. Now, as to education, there was one thing quite certain—that farmers were not well educated, and it was equally certain that they must be well educated. A farmer to be successful in these times must know, and his sons must be taught, what manures will suit the land of which his farm is composed, and the crops he wishes to produce. They must stick up for the motto of the Royal Society—"Science, with practice." There was an excellent institution—the Cirencester Agricultural College—for the education of farmers' sons, but the charges were too high to be generally accessible to tenant-farmers. He should like to send his son there, but he could not afford to pay £120 a year for him. They wanted good and cheap middle-class schools for agriculturists. Then, as to draining, he had some done to his farm twenty-five years ago with two-inch draining pipes, four-feet deep, that were as good now as the day they were done to all appearances, and would certainly last another twenty-five years almost as good as now. He should like to see some improvement in the tenure of land. Where they have only six months' notice, landlords could not expect that tenants would go and throw their money broadcast over the land. They, as farmers, must have the commercial principle into land tenure more freely than it ever has been. A man must have his land at a fair price, use it well, and have increased security of tenure before he can do any good at farming. If he destroys the value of the land by taking everything out of it, he must be amenable to the landlord for the deterioration in the value of the farm. If, on the other hand, he improves its value by unexhausted improvements he must be allowed fair compensation for it. What must come to pass is, they must have security of tenure. He (Mr. Nevett) might, under present circumstances, sink £500 in his farm in a very short time, and yet he had no legal remedy, and he could be turned out with the six months' notice. What could he or any other man do with a six or twelve months' notice? What is it after all? Mr. Disraeli said at Aylesbury before the election that they ought to have two years' notice, but now he is in office he did not say anything of the kind to Mr. Read.

Mr. BOWEN JONES said that Sir Massey Lopes and Mr. Read had told him that they did not accept office to sacrifice principle.

Mr. NEVETT: I suppose I began farming the wrong way, but I hope it will end right.

Mr. RAINSFORTH said he had been greatly astonished at some of the remarks made by Mr. Dudfield. He had expressed himself so often on the subject of Tenant-Right and other matters at the Wenlock Farmers' Club, that he had nothing new to offer upon the subject, but reiterate his previous arguments. He certainly felt ashamed of many of his brother farmers who contented themselves with grumbling, but never tried by attending meetings of this kind to redress their grievances. He was also equally astonished that landlords should stand up against this subject of Tenant-Right, because he considered it more a landlords' than a farmers' question. He could not help thinking that land, under any circumstances, would pay pay draining; but tenant-farmers can't farm land to advantage with a six months' notice hanging over their heads if they talked for ever about it.

Mr. BACKHOUSE said he did not come there to make a speech, because there were so many farmers present who knew so much better than he did of the subjects they had met to consider. One subject had not been touched upon, and that was the question of tithes, which required more equitable adjustment, for hitherto it had been too much in favour of the clergyman. The question of local taxation would also have come before the Houses of Parliament again, for much was required to be done. In their highway district they had 30 miles of turnpike roads to keep in repair by the contributory parishes, and this question would have to be extended over a greater area, because it fell heavily on the people of the district. It had cost £1,000 last year, and in all probability the next would cost £1,500. It cost £500 a mile to make the Bridgnorth turnpike road, and it was quite certain such payments ought to be extended over a greater area. Then as to drainage. If the landlord found the pipes, the charge upon the tenant at the high price of labour was unduly oppressive, the latter paying at least two-thirds of the total cost. He thought £6 15s. was too much for the tenant to pay, because these improvements enhanced the value of the land, and if the property were put up by auction who gets the advantage but the landlord? They had, no doubt, excellent landlords in their own neighbourhood; but it was not so everywhere, and these things would have to be settled by Parliament to make them more equitable between landlord and tenant. He thought that the tenure of land should not be less than two years' notice. He thought the education question was a most important one, and he had hoped they should have heard more upon that subject from their Shrewsbury friends. They wanted better schools for the middle classes and for farmers, for at present there was little doubt the lower classes were much better provided for than those immediately above them. He thought it was a good rule not to tie farmers down too closely to the rotation of crops, because he could not grow spring wheat well, from the nature of the soil, and yet he could grow barley well, and there were others just the reverse.

Mr. BENSON: I understand you to mean that the clause is in the agreement, but should not, and in practice is not, too closely insisted on?

Mr. BACKHOUSE: That is so.

Mr. NEVETT: Our agreements are all cut-and-dried agreements.

The CHAIRMAN supposed the chief impediment to the cultivation of land was want of capital, which they had heard was a detriment a landlord often suffered from as well as a farmer. He knew there were many small farmers who fancied they could cultivate land just as well as large farmers, if they had the same capital, whilst large farmers were thinking it would be wiser for these small farmers to join their farms to the large ones of their neighbours, and come and be their bailiff. But the second detriment was the grievance so rancorously alleged of farmers having capital to improve land, and not having sufficient security from their landlords to induce them to spend it. He had always thought Bridgnorth would be a desirable place to discuss this question of compensation for unexhausted improvements, because it was a district of great agricultural interest, with rich landlords, first-rate tenants, high farming, and compensation clauses of a liberal character generally introduced into agreements. The existence of these might prevent farmers who had no grievances from taking the trouble to join their discussions, but the remarks of gentlemen living under such happy circumstances as Mr. Worrall would be very useful in enabling the public to form correct views on agricultural questions. Over preservation of game was, he believed, not experienced in the neighbourhood

of Bridgnorth. On the most highly-preserved estate in South Shropshire it was generally said that by the farms being let low, and by liberal presents of game to the tenants, they would stand any amount of game on their farms. In places, however, where game preserving was severely felt, he believed agriculture would not be satisfied with less than hares as well as rabbits being given to the occupier. He believed that next to want of capital, want of proper education for farmers' sons was likely to be a most serious detriment to farming. They had proposed a farmers' school, such as the Norfolk county school, for farmers' sons in Shropshire; but the proposal had met with no response. They were only told to go to the school at Denstone, on which a large sum had been expended by those who were anxious to promote particular religious views, and the whole usefulness of the institution was spoilt by its appearing now that the school contained a confessional for farmers' sons, which was a form of religious sentiment that did not seem to be appreciated in the midland counties. A gentleman in the neighbourhood had suggested it would be well to teach farmers' sons to speak in public at their schools. Then some gentlemen attached importance to local rates as a detriment to farming. No doubt new rates imposed since a tenant signed his agreement would fall on him, but generally he believed a relief of local taxation from the Imperial Exchequer would benefit landlords rather than farmers, because he expected when farms were re-valued the valuer would make a tenant pay in rent what had been remitted in local taxation. He thought, therefore, the Malt-tax dealt with in any of the ways proposed would benefit the farmers, and especially the small farmers, more than any remission of local taxation. He felt surprised at the Malt-tax not having been mentioned as a detriment to farming: he supposed it was because of the high prices they at present got for their barley. He did not feel sanguine of any immediate legislation on these subjects. Mr. Read, by being in office, was precluded from introducing his Landlord and Tenant Bill; and Sir Massey Lopes, by having office at the Admiralty, had his mouth closed on local taxation. He had inquired in London but did not hear of any gentleman who was going to take up the former subject, nor that there was any probability of such a bill being carried under the present Government, although they might always be prepared for any surprise in politics. The chance of a game bill, such as farmers spoke of being carried, might be regarded as equally remote.

Mr. DUDFIELD then reviewed the arguments that had been used, and considered that the meeting agreed with him, with the exception of Mr. Benson. He did not want to set class against class, but to get justice done to the tenant-farmers. He was proceeding to make some further comments on the landlords, when

Mr. BENSON protested against the language too frequently used by Mr. Dudfield throughout his address.

Mr. DUDFIELD then proceeded to say that the reason he left Worcestershire was, because the game drove him away. He contended that it was a great hardship that he and other tenants, who could be trusted by their landlords to pay £500 a year rent, could not be entrusted with the delicate office of laying a trap for rabbits, but a game-keeper or professional rabbit-catcher could. On one occasion he had lost 27 bags of wheat, by game, off a field of seven acres, and that was enough to try any man's temper.

Mr. Dudfield substituted the following resolution, instead of the two mentioned in his address: "That this Chamber considers that the over-preservation of game and the absence of Tenant-Right are amongst the principal detriments to the improvement of agricultural land, and is of opinion that such a bill as that introduced into the House of Commons by Messrs. Howard and Read, last session, and one to protect the occupying tenant from injury from over-preservation of game, are necessary for improvements."

The resolution was carried unanimously.

THE HYPOTHEC (SCOTLAND) ABOLITION BILL.—This Bill, prepared and brought in by Mr. Vans Agnew, Mr. Baillie Hamilton, Sir William Stirling Maxwell, and Sir George Douglas, proposes that from and after the eleventh day of November, 1875, the landlord's hypothec for the rent of all heritable subjects in Scotland, except dwelling-houses where the land attached does not exceed one imperial acre in extent, shall cease and determine.

THE HORNCHURCH SEWAGE FARM CASE.

ROMFORD BOARD OF HEALTH v. HOPE.

In this action the Local Board of Health for the district of Romford were the plaintiffs and Mr. Wm. Hope, V.C., was the defendant. The declaration was for breach of a covenant to pay the rent of a farm. The defendant pleaded that the indenture was not his deed and that the rent had not become due, and there were also pleas of eviction and fraud.

Mr. Hawkins, Q.C., Mr. Prentice, Q.C., and Mr. C. Hall, instructed by Mr. A. H. Hunt, Clerk to the Romford Local Board, were counsel for the plaintiffs; and Mr. Murphy, Q.C., and Mr. Tindal Atkinson appeared for the defendant.

Mr. Hawkins opened the case for the plaintiffs in an able and characteristic speech. The action, he said, was brought to recover the sum of £600, being a year's rent, reserved under a lease dated the 16th May, 1870, by which a farm called Breton's Farm, in the parish of Hornchurch, which was the property of the Romford Board of Health, and which had been bought by them for the purpose of utilising the sewage of the town, if it was possible to utilise it, was leased to the defendant. The rent of the land and buildings was placed at £300 a year, and a further sum of £300 was reserved as the price to be paid per annum for the sewage that flowed upon the farm. The sum was to be paid by quarterly instalments. Mr. Hope had paid the £300 for the rent of the land, but had resisted the payment of the charge for the sewage, and had done that upon two or three grounds. First of all he said he did not make the deed; but that, of course, was a mere formal plea; secondly, he said the deed was procured by the fraud of the Local Board; and thirdly, that he was evicted from a part of the premises which was subject to demise, and therefore that he was not liable to pay any portion of the £600 which was reserved as the price of the sewage, the part of the premises from which he alleged he was evicted being a portion of the sewage which he said he contracted to have, and which was not supplied to him in accordance with the terms of the lease. He (Mr. Hawkins) was sorry to tell the jury that when they had had the exquisite pleasure of hearing this sewage matter discussed until evening and probably during a portion of Monday also, there remained behind another question between Mr. Hope and the Romford Local Board. His experience of the profession, which had now extended over between twenty and thirty years, had left him in considerable doubt whether the position of a plaintiff or the position of a defendant was the happiest one to occupy; but at all events his clients on this occasion, and Mr. Hope also, had the opportunity of trying both positions—because in the present action his clients happened to be plaintiffs and Mr. Hope the defendant, and when that action was disposed of Mr. Hope would try his hand at being plaintiff, and the Local Board would have the happiness of being defendants. In the second action they would have to try over again what they were trying now, and they would have to try, moreover, two or three subsidiary questions—whether, for instance, there were agreements not embodied in the lease for giving Mr. Hope something which certainly did not appear in the terms of the lease itself; whether or not Mr. Hope had been misled into entering into the lease under circumstances to which he would have to allude; and if he had, whether he had sustained any damage by reason of a portion of the sewage, as he said, not having come to him; and, if he had, what was the amount of damage so sustained. This inquiry would involve, he was going to say, a most charming field-day for scientific men, because they would have to go into the mode in which a sewage farm ought to be cultivated, and the mode in which this farm actually had been cultivated; they would have to show what the farm would have produced without sewage, and what it had produced with sewage; what, moreover, it would have produced if more sewage had been applied than was wanted, and what it would have produced if less had been supplied than was wanted. He would now briefly state the facts. Prior to 1868 pretty nearly all the sewage of that part of the town of Romford which was sewered was diverted, first, into some tanks or works that were erected just outside the town, and from those works the whole of the sewage, in what was deemed to be a

purified state, was turned into a stream which was dignified in the parish of Romford by the name of a river. The people living near the stream, or through whose land it passed, did not quite like the smell, and the assistance of the Court of Chancery being sought, the Local Board was restrained from putting the sewage into the river any longer. That left the Local Board in a difficult position, and, for the purpose of utilising their sewage, they purchased Breton's farm, in the parish of Hornchurch, about 2½ miles from Romford. The farm contained altogether about 120 acres, and they bought it at a cost of not less than about £10,000. They then at a cost of another £10,000 erected works and laid pipes for the purpose of carrying the sewage from the town to the farm. At that time the board believed the population of the town of Romford was about 6,000 persons. All the houses were not drained into the outfall sewer by which the sewage was taken to Breton's farm, because a good many had cesspools and some drained otherwise, but building was going on, and week by week the number draining into the outfall sewer was increasing. The farm being ready for occupation, the board in July, 1869, inserted an advertisement in *The Chelmsford Chronicle* and other papers inviting tenders. The advertisement opened in this way: "To scientific agriculturists.—The Romford Board of Health are desirous to receive tenders from persons wishing to hire 120 acres of light land or thereabouts, recently purchased for the reception of the sewage of the town of Romford, which town contains a large and increasing brewery, and about 6,000 inhabitants. The sewage will be pumped on to the farm by the board, and the lessee will be bound to receive the whole of such sewage and use the same for the purpose of irrigation. There is a first-rate residence, with suitable buildings and a large garden inclosed with brick walls." That (continued Mr. Hawkins) was perfectly correct. Probably the residence was at one time inhabited by a peer of the realm, but at present it was fit for nobody who did not like sewage. Of course for a gentleman like Mr. Hope, who was interested in the question of sewage from a scientific point of view, it was the most luxurious habitation that could be found upon the face of the earth. He (Mr. Hawkins) had seen the place—he had smelt it, and he could imagine the feelings of a man who indulged and revelled in a sewage-farm. The advertisement further stated that the farm was 1½ miles from London, and he thanked heaven it was so far. It reached the eye of Mr. Hope, and he made application to the board for the purpose of taking the farm. The advertisement stated that the town of Romford contained about 6,000 people, and Mr. Hope wanted the board to guarantee to him the sewage of not less than 6,000 persons, and a total discharge from the outfall sewer of not less than 20 gallons per head, or, in all, 120,000 gallons per day. This proposal the board expressly refused, and Mr. Hope contented himself without it, for it was not contained in the lease. To the best of their judgment the board believed the population was about 6,000, but they did not guarantee to supply the sewage of 6,000 persons, and Mr. Hope had full opportunity of making himself acquainted with all the facts before he signed the lease. Moreover, he was distinctly told that a good many of the houses were not connected with the main sewer. Mr. Hawkins proceeded to read passages from the correspondence which took place before the lease, which was for a term of seven years, was signed, and he called particular attention to the fact that so far from complaining, as now, that he had not sufficient sewage, Mr. Hope said that the area of land was decidedly too small for the continued application of the amount of sewage he had seen going upon it. He also stated that the sewage, as he had seen it, was altogether too strong for irrigation. The lease was finally settled and approved in March, 1870. The Local Board leased to Mr. Hope, "firstly, all the sewage of the town of Romford, or such part thereof as shall flow by gravitation into the outfall sewer which now conducts the sewage into tanks or reservoirs constructed on the farm hereinafter mentioned." Secondly, the farm-lands, buildings, &c., containing 119a. 2r. 1p., to hold

from the 29th September, 1869, for the term of seven years, at the yearly rent of £600. At the end of the lease there was a provision that if any dispute or difference should arise the same should from time to time be referred to the arbitration of two indifferent persons, to be chosen one by the board and the other by Mr. Hope, or the umpire of such persons in case of their disagreement.

His Lordship: Has any application been made with respect to that clause?

Mr. Murphy: There is a claim in the cross-action for not applying it.

His Lordship: Why didn't you obtain an order to enforce it?

Mr. Murphy: An application was made to the board to refer the question, but we were met by an absolute refusal.

His Lordship: There is power to enforce it under the common law.

Mr. Murphy: No application was made; but there has been a correspondence on the subject, and an arbitrator was named by Mr. Hope, but the board positively refused.

Mr. Hawkins certainly thought it would have been best if the parties had settled their differences by an appeal to the arbitration of two or three gentlemen acquainted with sewage-farming. However, here the case was before the jury. Now, the first season after the lease was granted to Mr. Hope happened to be one peculiarly favourable to sewage-farming. It was a very dry season, and the result was very grateful to Mr. Hope—so grateful that, emulating a gentleman of great eminence in this county—he meant Mr. Mechi—he invited the Romford Board of Health and a number of his own friends to go to Bretou's Farm and see the luxuriant state of his crops. He entertained them most hospitably on the farm; there was a magnificent luncheon provided, and the Local Board, and Mr. Hope and Mr. Hope's friends enjoyed themselves as much as it was possible for humanity to enjoy itself in the middle of a sewage-farm. Mr. Hope drank the health of the Local Board, and the Local Board drank the health of Mr. Hope. They congratulated Mr. Hope upon the prosperity of the farm, and Mr. Hope congratulated himself. Mr. Hope, being a member of the Association of Scientific Surveyors, had issued pamphlets which he (Mr. Hawkins) had here (holding up a formidable bundle of papers). Let not the jury be afraid. He was not going to read all these, though he could if he liked. He was not going if he could help it, to let them in for another Tichborne case; yet, when Mr. Hope was before them, he would have to ask him whether he still adhered to the opinions he had expressed in his pamphlets and speeches. Well, Mr. Hope's first year at the sewage farm passed away and was succeeded by two as bad seasons as could very well have occurred for a sewage farm—two very wet ones—and then Mr. Hope was dissatisfied. One had heard that even the most unscientific, the kindest, the easiest tempered men in the world did grumble at the weather, wet or fine, but when they had got science as well as weather to militate against them it was enough to send them mad. Mr. Hope, unreasonably, as he (Mr. Hawkins) thought, began to write fault-finding letters; still the Romford Local Board went on spending money at his works, and, as his friend Mr. Prentice suggested in his ear, doing all sorts of things for him that could contribute to his happiness. The learned counsel quoted passages from Mr. Hope's letters, dwelling especially on one in which he stated that he bargained for the sewage of 6,000 inhabitants, and that in that regard he had been deceived. It was on this point, observed Mr. Hawkins, that Mr. Hope now alleged that the board fraudulently represented to him that which was untrue. It was a serious thing to say of a body of men that they wilfully tried to cheat him, and the charge was not borne out either by the advertisement he had read or by the lease itself. Let him read the plea on which this accusation was set forth. "After the making of the indenture, and during the term, and before the rent became due, the plaintiffs, without the consent and against the will of the defendant, wrongfully abstracted and converted to their own use a large portion of the premises—firstly, the demise—that is to say, they abstracted and converted to their own use all the sewage of the town of Romford, or such part thereof as should flow by gravitation into the outfall sewer, and evicted the defendant from the use and occupation thereof, and kept him so evicted thenceforth hitherto." Now that allegation could not be supported by fact. Mr. Hope had had every single portion, as far as the board could give it

to him, of all the sewage which flowed into the outfall sewer. They had not wrongfully abstracted and converted to their own use any portion of it. He was not aware that for any purpose at all they deprived him of any portion of the sewage for which he contracted to pay. If for any necessary purpose of the works—if for the purpose of enabling the works properly to act—any portion was abstracted or diverted from its proper channel, it was not with a view to convert it to their own use, but to give Mr. Hope all he was entitled to. Whether under any circumstances that would afford Mr. Hope a defence was a question of law for his lordship, but the question for the jury would be whether any portion had been unlawfully abstracted by the board, and if so, the further question would arise when it was abstracted and in what quantity, because it would be idle to say, if the board had abstracted 50 or 100 gallons in a quarter, that the defendant should pay nothing for the rest of the sewage he had had, and it would be even more absurd to consider that any abstraction in the quarter between March and June should absolve him from the payment of rent between June and December. Mr. Hawkins read other letters of Mr. Hope on the subject of the population and the quantity of sewage applied. Mr. Hope said he was led to believe that the board would force those householders who were not connected with the outfall sewer to become so connected, and upon this he based his price—6,000 persons at 2s. per head. According to some of Mr. Hope's speeches if he had paid three or four times this price for the sewage it would not have been too much. Mr. Hope further said that even the census of 1871 showed the population of Romford to be only 6,338, including the workhouse, Marshall's Park, and Pettit's-lane. That the population (Mr. Hope proceeded) should be so much smaller than he was led to believe by the board, of whose perfect good faith there could be no doubt, was his misfortune. *Careful enquirer.* The committee, he also said, had made a census of the town, and found that only 4,400 were connected with the sewer. The smaller the population, he added, the more essential it was that every house should be connected, and he expected that every inhabitant of Romford would faithfully discharge his duty towards him. Well, Mr. Hope declined friendly arbitration.

Mr. Murphy: Oh dear, no.

Mr. Hawkins: They tell me so.

Mr. Murphy: Then they tell you very wrong.

Mr. Hawkins: I am happy to be corrected by you with reference to the friendly arbitration, but certainly it was not one of our friends whom you proposed. In more than one letter, Mr. Hawkins said, Mr. Hope stated that the fault of which he complained was "not that of the board, who would regret it as much as he did, but that of two former surveyors in whose hands the board had the misfortune to be." What, then, of the charge of deliberate fraud now preferred? There was a perfect answer to that charge, too, in this way—

His Lordship: I wonder it was not demurred to.

Mr. Prentice: They spoke to me upon it, my lord, and I advised them that the plea of fraud could not be supported.

His Lordship: The plea is bad as it is. You cannot pretend that it is a good plea, Mr. Murphy.

Mr. Murphy: I felt that we could not rely upon it, my lord, because the contract had not been disapproved. It was a matter present to my mind long ago.

His Lordship: And the arbitration of two indifferent persons—how as to that? Nobody has applied, it seems, to have it enforced. At present, under the statute, if you had come to me at Chambers, I should have said you must, particularly when it is a matter more fit for private reference than for a jury.

Mr. Hawkins agreed that it was a case more fit for private reference, especially if the question of the condition of the farm was to be gone into.

His Lordship: The parties, moreover, agreed beforehand that that should be the mode of settling difficulties.

Mr. Murphy said Mr. Hawkins and himself exchanged views on the matter yesterday, and they both agreed that arbitration would be best.

Mr. Hawkins: If your lordship will permit Mr. Prentice to preside for a few minutes at a meeting of the Local Board, I think we shall come to some arrangement.

A consultation, in which several members of the Romford Board took part, was then held, and, as the result, the plea of

fraud was abandoned by Mr. Hope, and an arrangement was arrived at in the following terms :

Verdict for plaintiff in each action for damages in declarations, subject to special case in both actions, to be settled by Mr. F. M. White. In the event of judgment for plaintiffs in the first action, judgment to be for such sum as the court may direct. In the event of judgment for plaintiff in cross action, damages to be assessed by two arbitrators, one appointed by each party, and, if they cannot agree, by one umpire to be appointed by them. It being desirable to have one special case only, the parties agree that if it can be done by order of a judge, or by amendment of present writ, by making it an exchequer writ, or by issuing a new one from the exchequer

itself or otherwise, one special case in the exchequer shall be stated so as to raise all questions involved in both actions. In that case, one special case to be stated, giving the parties their rights in the respective actions. All other usual terms. Costs of special juries to be costs in causes. If any difference arise in drawing up or carrying out these terms, such difference to be determined by Mr. Hawkins and Mr. Murphy, or if they differ, by Mr. Justice Lush. No execution in either action until judgment in both and damages, if any, assessed. The parties to come before the arbitrators forthwith without drawing case. The plea of fraud in first action to be withdrawn.

THE HORRORS OF WAR AND THE FARMER.

The following Address from the Agricultural Society of Lombardy has been forwarded to Mr. Richard, M.P. :

DEAR SIR,—In this part of Italy, as in other provinces, the industrious class of agriculturists have heard, with enthusiasm, of the noble and eloquent words uttered by you in the English House of Commons, in promotion of the eminently humane principle of International Arbitration. No soil in the world has been more ensanguined by the horrid butchery of war than the classic plains of Lombardy; nor in any country has agriculture more cause sorrowfully to remember the terrible disasters inflicted by this scourge, which decimates the cultivators of the land, selects the best amongst them for the sword, arrests, by its waste of property, the progress of every agricultural interest, destroys the crops, and spreads desolation over the country. But your work, sir, perseveringly directed to the sublime aim of maintaining and diffusing peace amongst the nations, by the growing triumph of justice and reason, apart from the brutal arbitrament of arms, is eminently beneficent in its services to agriculture, because the very life of agriculture is peace. The undersigned, as the exponents and representatives of agriculture in Lombardy, congratulate you, sir, on the splendid victory which your apostolate has gained in the House of Commons; and they agree from it that the day is not very far distant when this holiest of principles, sustained with so much ardour by you,

shall no longer be regarded as Utopian, but shall be, and by all governments, as in the English Parliament, everywhere accepted as a recognised rule, and as such incorporated in the Law of Nations. You will, we trust, faithfully persevere in your propagandism, for it is the course of right for which you plead. But, inasmuch as your efforts are directed towards a most exalted aim, and one beset with difficulties and obstacles, it may be cheering to you to receive the support of those who have faith in the progress of humanity, and to learn that every day your noble principles are gaining adherents, amongst whom you may especially count upon the cultivators of the land, as ourselves, who now salute you on the success of your philanthropic initiative of a new era, and of a great victory for modern civilisation.—Signed, for the Agricultural Society of Lombardy (consisting of 545 landed proprietors and cultivators), EMANUEL BONZANINI (President).—Signed, for the Agricultural Commission of Milan (of 70 members), CARLO CAJO (President).—Signed, for the Agricultural Auxiliary of Milan (consisting of 435 landed proprietors and cultivators), GIROLAMO M. TURIGANO (President).—The following Agricultural Committees of various districts in Lombardy have also signed the above address, viz., those of—Mantua, Como (109 members), Varese (65 members), Voghera (220 members), Revere (50 members), Treviglio (44 members), Lugano (90 members), Mendisio, &c.

YORK CHAMBER OF AGRICULTURE.

A TENANT-RIGHT AGREEMENT.

At a general meeting held in Micklegate, York, Mr. W. J. Ware, Skirpenbeck, the President of the Chamber, in the chair.

Mr. LETT (Seampston) said that he had to bring under consideration the question of compensation for unexhausted improvements as applied more particularly to the East Riding. The landlord and tenants' agreement he had drawn up considered the benefit of three parties, the landlord, the on-coming tenant, and the out-going tenant. He considered that with a good Tenant-Right there were hundreds and thousands of acres of land which would be made to produce double the crop which they did at present. Tenant-Right was in point of fact a nation's right, and when duly carried out would tend to the benefit of every class of the people of England. On his farm he had a twenty years' lease—eleven of which had yet to run, and he had therefore a security for the capital he had invested. Other farmers who had not security could not safely cultivate well. He was in favour of compensation being given for unexhausted improvements. He then introduced his Landlord and Tenant's Agreement for the East Riding of Yorkshire, of which the following is an abstract :

1. The tenancy is to continue from year to year, but may be terminated any year on the 5th day of April by a year's notice in writing, either by landlord or tenant.

2. The custom of the country is to hold, where it is not otherwise provided.

3. The winged game is to belong to the landlord, and he reserves to himself and to persons authorised by him, the right to enter

upon the land for the purpose of taking ground and winged game and rabbits, and generally for the purpose of sporting. But the tenant is to have the concurrent right of taking hares by coursing, and rabbits by ferreting and digging. The tenant may place wire net, proof against rabbits, round or across any land in his occupation where he finds it necessary for the protection of his crops.

4. The landlord reserves mines, quarries, timbers, copices, with right to dig, work, cut, and carry away, paying reasonable damages.

5. The landlord reserves to himself and his agents the right of entering upon the said farm and premises, at a reasonable time, to view the state of the buildings and fences, the course of cropping, and the general cultivation of the farm.

6. The tenant is to preserve the fruit trees, and re-plant such as are worn out. He is not to fell or injure, or cause to be felled or injured, any timber or coppice wood, under the penalty of three times their value, to be taken as ascertained damages.

7. The tenant is to keep the farm and premises let to him in good tenantable repair (fire, lightning, tempest, and flood alone excepted), he being allowed by the landlord tiles, bricks, and lime at the kiln, and timber in the rough for repairs and gates. The tenant is to be allowed to get stone, if any on his farm, for repairs, making good damages.

8. The tenant is not to plough or break up any meadow or pasture land, without the consent of his landlord or his agent,

in writing, under a penalty of £20 an acres as ascertained damages.

9. The tenant is to forfeit to the landlord £5 for every ton of manure, hay, straw, fodder, turnips, or green crop removed from the farm without the consent of the landlord or his agent, in writing.

10. The tenant, the year he receives or gives notice to quit, is not to grow a white corn crop on more than one-half of his tillage. The year of his termination of the tenancy he shall be entitled to a following or off-growing crop, according to the custom of the country.

11. The off-going tenant, in addition to the customary payment for manure and seed bill, is to be paid by the on-coming tenant for one-third of the value of the cake, of good quality, approved by the valuers, bought and consumed on the farm during his last year of tenancy; but that quantity is not to exceed the average quantity used on the farm during the three years previous to the notice to quit, provided the tenancy shall have continued so long, and if not, then not exceeding the average used in the previous year or years of the tenancy. He is also to be entitled to one-sixth of the value of the cake consumed during the year previous to the notice to quit, provided it does not exceed the said average; but he must produce vouchers in both cases before being entitled to payment.

12. The off-going tenant, during the last year of his tenancy, shall allow the on-coming tenant or the landlord to enter upon the said farm on an after the 15th day of November, to plough any tillage land clear of crop upon which the following crop will not be taken, and shall also allow sufficient stabling for horses for that purpose, if practicable in the judgment of the valuers.

13. The tenant is not to underlet the farm, or any part thereof, or to assign his take or any part of it without the landlord's consent in writing.

14. Immediately on the tenant taking possession of the farm, valuers for both landlord and tenant are to go over the farm and note down the condition of the whole of the land (both arable and pasture), buildings, fences, gates, ditches, bridges, skyponds, and wells belonging to the said farm, and are to enter memoranda of their condition in two books, one of which is to be given to the landlord or his agent, and the

other to the tenant, to be kept as a record of the condition of the farm.

15. At the expiration of the tenancy, valuers are again to go over the farm. If in better condition, they are to award to the off-going tenant compensation for his improvements; if in the same condition there is to be neither compensation nor damages; but if the farm is in worse condition, then they shall award damages against the off-going tenant, which he is to pay to the on-coming tenant or the landlord, to such amount as the valuers shall determine.

16. The landlord or on-coming tenant is to allow the off-going tenant the then value, as ascertained by valuers, of any liming, claying, marling, or durable improvement; or of any draining, building, or permanent improvement, which the tenant may have made with the landlord's consent in writing, and for which he shall not have been previously compensated by a reduced rent, length of time, or otherwise.

17. If the off-going tenant shall have erected any buildings without the previous consent of the landlord or his agent, the landlord shall have the option of taking them at a valuation on the tenant's leaving; but if he decline to do so, then the off-going tenant shall have three months to remove the said buildings, and shall make good all damage caused by the erection and removal thereof.

18. Wherever the word valuer or valuation is referred to, it is to be understood that one valuer is to be named by either party, with power to appoint an umpire in case of disagreement, in the usual way.

19. The tenant is to have quiet enjoyment of the premises during the term, and to yield up possession at the end of his term in a quiet manner.

A conversation took place at the dinner on this agreement, the terms of which were generally approved.

The CHAIRMAN said that he had travelled a good deal through the country, and he found that different agreements prevailed in different districts. The agreement drawn up by Mr. Lett was no doubt applicable to the East Riding, but it might not be suitable to the other two ridings. He considered that the agreement contained many good features, but, owing to the variety of customs which existed, it could not be made to apply beneficially in all cases, and, therefore, it was better to leave the question open.

The proceedings terminated with votes of thanks to Mr. Lett and the Chairman.

THE CENSUS OF BENGAL.

At the fifth ordinary meeting of the Statistical Society held on Tuesday evening in St. James's-square, Dr. Farr in the chair,

Mr. HENRY BEVERLEY, M.A., Inspector-General of Registration in Bengal, read a paper on the Census of Bengal. The census of 1872, which was the first attempt at anything like a systematic enumeration of the people in that part of India, showed that the population of Bengal was 67 millions, or 15 millions more than had been supposed. In illustration of the utility and importance of the census, the paper referred to the terrible famine which had commenced in Bengal, to mitigate which the Indian Government was doing all it possibly could, although, notwithstanding these efforts, the mortality from want and disease must be severe. It was a very fortunate circumstance, however, that the Government of Bengal had before it the records of the late census, and was thus in a position to estimate the extent and possible severity of the disaster. By showing the true numbers of the people, and their distribution in different parts of the country, the census had enabled the Government to see where relief is needed and to what extent. The population of Behar was till last year put down at 11½ millions; the census showed it to be 19½ millions. Had there been no census, therefore, there would have been upwards of eight millions of souls in that province alone entirely ignored in all measures of relief. Moreover, the Government would have had little or no information to guide it in the selection of the proper sites for the storage of food and for the organisation of relief works. It was owing to its ignorance regarding the numbers and distribution of the people, as much as to anything, that the Government was unable to grapple

properly with the famine of 1866. It was owing to the complete information on these points which the census had placed at the disposal of the Government, as much as to anything, that the measures which had been taken to mitigate a similar calamity in 1874, would probably be attended with a fair amount of success. The five provinces subject to the rule of the Lieut.-Governor of Bengal had a total area of 248,231 square miles; with a population of 66,856,859 souls. The density of population varied considerably in the various districts and provinces. Except in a few outlying districts, the people were counted by means of a house-to-house visitation, and this was effected for the most part, by the people themselves, the most respectable residents in each village being selected as enumerators. The result was, consequently, most satisfactory. Everything was carried out with marvellously little opposition or excitement, and at a cost of only £21,500, or about one-fifteenth part of the cost of the late census for England and Wales, allowance being made for the difference in the number of the population. Sir G. Campbell estimated the food-producing area of country at not more than half-an-acre per head. Statistics on this point were not available in Bengal, but the statement was supported by a calculation made by Mr. Beverley. Such was the fertility of the soil that, notwithstanding its enormous population, Bengal exported large quantities of food grains (estimated in a good year at over 500,000 tons), while the area taken up by other crops was very considerable. With such abundance, therefore, in ordinary years the population went on multiplying its numbers without fear of transgressing the margin of subsistence. It was only when a year of scarcity intervened, or when epidemic disease committed its ravages, that any check whatever

was imposed on the natural increase of the people. After speaking of the density and distribution of the population, and the diversities of race and nationality which were found, Mr. Beverley said one of the most surprising facts established by the census was that the total number of Mohammedans in the Bengal provinces exceeded 20½ millions, or nearly one-third of the whole population; 17½ millions being found in Bengal proper. The number of persons professing the Christian religion was less than 100,000, of whom 20,000 were Europeans, and 24,000 of mixed European and native extraction. In Bengal the numbers of the sexes were very nearly equal, the females being in the proportion of 49.9 per cent. of the whole, and three-eighths of the population were under 12 years of age, as against less than three-tenths in England. The vast population was of an essentially rural character. The villages were closely studded and densely populated, but they had no pretensions to be designated towns. The main business of their inhabitants was agriculture. At least two-thirds of the people practised agriculture as their occupation. The whole number of manufacturers and artisans did not exceed 11 per cent. of the population, and the actual number of artisans, properly so called, was probably only about 5 per cent. of the adult male population. Having entered at great length into further details revealed by the census, Mr. Beverley, in conclusion, said that the results of the census could not but exercise a weighty and beneficial influence upon the administration of affairs in Bengal, especially in relation to the efforts being made by the Indian Government to cope with the terrible famine which now threatened a large part of the country.

The PRESIDENT said that one of the most important parts of the British dominions was India, which contained 196 millions of people who were British subjects out of the 235 millions. An immense problem was there presented for solution. It was necessary to feed a large portion of that popu-

lation in order to rescue them from the terrible danger of death by starvation, and upon that ground alone the census which had been carried out by Mr. Beverley was of the utmost value.

Sir G. BALFOUR, M.P., urged the necessity for accurate statistics relative to India. In 10 years' official reports the population of Bengal had been varied from 37 to 66 millions, and the whole population of India was now 40 or 50 millions more than had been given in previous official statistics. The statistics of cultivation when not altogether wanting were defective and unreliable. Having been an eye-witness of the horrors of one famine in India, he was exceedingly anxious that such statistics and information should be collected as would enable the Government to provide against the recurrence of such disasters; but he feared that in the present case Mr. Beverley's calculation that a few thousand lives would be lost would be very much below the terrible reality.

Dr. MORTAT was also afraid that the loss of life would be very great, especially among the large number of young children under 12 years of age. He regretted that the exportation of rice should have been looked upon from the point of view of political economy, and that foreign rice, which would be much more difficult to use for purposes of food, should have had to be imported to supply the deficiency caused by exports. He also thought that the distribution of food should have been conducted through the ordinary channels which supplied the country, instead of great centres of relief being organised. Had the produce of the country been quietly bought up by the Government and distributed through these channels, he believed they would have been in a better position to meet the impending calamity than they were at the present moment. At the same time he avowed his belief that the Government were doing all that was possible to mitigate the fearful distress that had commenced.

HIGH-PRICED POTATOES.

Now that the seed catalogues are beginning to be disseminated, it may be as well to put our readers on their guard against becoming unduly excited over new varieties of potatoes. The sudden popularity and rapid spread of the Early Rose, and the large sums of money made out of it during the period of its comparative scarcity, very naturally led cultivators of a speculative turn of mind to experiment with a view of originating other varieties, from which also a golden harvest might be reaped. The wish for success in this direction has, no doubt, been father to the thought, that success had really been achieved in some instances. But it is quite safe to say that so far no such acquisition as the Early Rose has been obtained, if we except the Late Rose, which would seem to be a sort of sub-variety or sport of the Early Rose. Again and again we have had potatoes announced earlier than the Early Rose, and better in quality, but none of them, so far as we know, have stood the test of a fair competition with that excellent variety. For the present, at any rate, we may be content to let well enough alone, so far as an early potato is concerned. For speedy maturity, size, flavour, healthfulness, and prolificacy, it certainly has no superior, and its introduction formed a sort of era in the history of our staple esculent. It were unwar-rantable to conclude that "we ne'er shall look upon its like again." There is great encouragement to continue experimenting upon new sorts, and the fact that the potato needs renewal periodically by growing fresh seed from the ball seems to necessitate this course being taken. But it is very undesirable that there should be anything like a potato mania, or that people should get into a fever over new candidates for public favour. If a potato really has good and substantial claims to popularity, as was the case with the Early Rose, it will soon be discovered, and a general demand will spring up for it. But it is wise and well, we think, to be chary of paying a dollar a pound for comparatively untried varieties, merely because extravagant things are said of them in a price-list, seed catalogue, or advertisement. These remarks have been suggested mainly by the perusal of a paragraph or two in a Canadian seed catalogue just issued, wherein the transcendent excellencies of a new potato are set forth in most glowing terms. Eight hundred and

twenty-six bushels per acre," and "thirteen bushels from one pound of tubers planted," are among the statements made concerning the wonderful productiveness of this novelty. Furthermore, we are told under this head that "yields from 12 to 20 pounds per hill are reported by the hundreds, and in one instance, 28½ pounds were dug from one hill." Generally speaking, the most prolific potatoes are not the choicest as to flavour, mealiness, and whiteness. But this new sort is declared to be an exception, and we are informed that "thousands have testified that they never ate a better potato." Its uniform mealiness of grain, combined with the purest flavour, and its snowy whiteness of flesh, which is not the least affected by its blue skin, cannot fail to make it highly valued as a family potato. "All very fine, Mr. Ferguson." We hope it is true, every word of it. No one would hail the new acquisition more cordially than we, if all these eulogies are deserved. It would beat the Early Rose hollow, and leave all other varieties far in the background. But we hardly think we shall invest a dollar a pound of these exordinary tubers, unless it be to test them for the special and exact information of the readers of this journal. We are rather sceptical about this novelty for several reasons. One is that the laudation is overdone. We are not prepared to deny that eight hundred and twenty-six bushels to the acre, or what is more likely, a small patch at that rate, may have been grown under peculiar conditions and highly favourable circumstances, but that it is the habit of this potato to yield at that rate under fair, ordinary cultivation, we certainly are not prepared to believe. Then, if such large yields per hill are, as we are told, "reported by the hundreds," and if thousands have testified "that they never ate a better potato," it must already have been diffused somewhat widely. Though the seedsman from whose catalogue we quote, say, "we now offer it to the public for the first time," others must have offered and sold it, more or less, and if the wonderful things already enumerated were true, the agricultural journals would have chronicled the advent and achievements of the novelty, and we should have known something about it from the perusal of our exchanges. A correspondent of *The Country Gentleman* says of it: "Though originating in this county, it is not introduced much, and all

we know of it is through Messrs. — (naming a prominent seed firm). The high price at which it was held, and our previous experience, has made us shy of investing in it." It is hardly credible that so superior a potato as this is represented to be, such a prodigy among tubers, could remain so unappreciated as to justify the remark, "it is not introduced much" in the very neighbourhood where it originated, and would be likely to be best known. Seedsmen, like auctioneers, are beginning to be looked upon as untrustworthy, from the extravagant and unscrupulous manner in which they eulogize

their wares. An immense amount of disappointment and loss result year by year from these over-fulsome advertisements. If seedsmen for the sake of a transient run of business will resort to this description of puffery the duty is devolved on the agricultural journalist of cautioning the public, though in so doing he may have to reflect on a class of people, who while in the main quite as honest as their neighbours, are equally liable to an over-keen pursuit of the "almighty dollar."—*The Canada Farmer.*

CONSULAR REPORTS UPON AGRICULTURE.

No. III.

THE TURKISH DOMINIONS.

Next to agriculture, sheep-farming forms the most important element of native industry, and its results constitute the second largest item in the local revenue in the consulate of Koordistan. But, unlike agriculture, its development has been progressive, and the pastorals have been enriched by the stimulus of foreign capital, which is imported directly for the purchase of animals for slaughter, wool, mohair, skins, and butter, by Syrian, Egyptian, Constantinople, and European traders, to the extent of £200,000 annually for the two vilayets comprising this consulate. It is entrained, too, by the unbridled rapacity of tax-farmers exacting dues in kind: an invariable animal tax of two piastres in cash—a tithe, in fact, calculating the yearly produce of the animal at twenty pias—being charged on every full-grown sheep. Sheep-farming by townspeople of Erzeroum is pursued under a variety of agreements—each one dependent upon the means of the owner—but all closely resembling the "mctairie" system of the South of France. Capitalists at a distance from the purely nomadic and pastoral ranges, generally adopt what is, in the locality, called the "Kome" system. On this system they are supposed to have purchased a pasture, affording ample grazing for 800 sheep in spring and summer, and yielding them a sufficiency of cut-dried fodder for winter, together with the rude mud buildings for housing animals in rigorous weather, and a cabin for the shepherd. The above number of sheep are under the charge of one shepherd, assisted by two boys paid by him, and four dogs to guard the flock. All labour connected with it, manufacturing the produce and rendering it fit for the market, is compulsory in the shepherd, who therefore tends and milks the sheep, churns, makes the cheese, washes, shears, and doctors the animals; but the grass necessary for winter use is cut and stored at the expense of the proprietor, who pays 1,500 pias (£13 12s. 6d.), or 1½ pias per day for each animal every season. Additional expenses defrayed by the latter annually are—for salt, medicines, 1 pias per head, and the usual tax. Besides occasional epidemics, rare, which in some years have destroyed 70 per cent. of the flocks, the other diseases to which sheep seem periodically liable are the strangles, mange, maggots in the head, and kargun, a malady more peculiar to goats, which begins by violent sneezing, after which the body swells, and the animal dies shortly after. The general average per-centage of mortality from all these diseases is 10 per cent. per annum—a low rate considering the total want of care animals are subject to, and entire ignorance of anything like veterinary skill on the part of the shepherd, who alone treats them when ill. Ewes are only kept till they have entered their fifth year, and have dropped three lambs, when they are called "kisser" or barren, and are fattened for sale. The shepherd receives no money wages, but derives certain perquisites in kind annually in the number of sheep in his charge. The pro-

portion of male and female births is three-fifths and two-fifths respectively. The latter are, of course, kept for breeding and produce; the former are fattened on dry lucerne, and sold in July or August, after completing their second or third year, for 10s. to 14s. 6d., according to age, to the butchers. The sheep get no other food than green grass during spring, summer, and autumn, and the same dried into coarse hay during winter. The proprietor then begins farming, with a capital of £600, with which he buys 800 sheep, with sixteen rams, and a pasture-ground sufficient for his flock. According to calculations given in accounts for three years by Consul Taylor, it results that a profit of £610 accrues for the three years' sheep-farming, or more than 25 per cent. per annum on the original capital, this exclusive of the value of the stock for further operations—namely, 584 four-year-old ewes; 202 three-year-old and 245 two-year-old. Sheep-farming in the Diarbekr districts is not so expensive as in the neighbourhood of Erzeroum, but the profits are less, owing to higher taxes, comparative distance from large markets, inferior quality of pasture, and greater heat of climate, which lessens and deteriorates the produce. There the Koords, inhabiting the chains and slopes of Mounts Taurus and Maisins, permit flocks of 1000 each to range at will in their localities, on the payment of a fee, for summer and autumn: during winter and spring they are pastured in the great Mesopotamian plains at the foot of the above mountains, subject to a trifling fee to the Arab chief of the district. The most productive farming in these districts is that of the Miraz goat, yielding mohair, on account of the greater value of and demand for its produce. The quality, although it cannot compare with that of the Angora or Castamouni goat, ranks next, while the demand for it is greater year by year, in spite of inferiority, from greater comparative cheapness. If kept entirely in the plains, each goat gives 300 drachms of hair yearly; if partly in the plain and partly in the mountain, 250 only; or, taking very low average seasons, 10 manuds or 16 lbs. 10 ozs. for every 100 goats—that is, 240 drachms per head. These animals, costing on an average 9s. 1d. each, require no more care than sheep, the only extra fodder supplied them being, if they remain during winter in the mountains, dried oak leaves, collected and stacked in several convenient localities about their walk by the shepherd, at no charge to the proprietor. It is stated, however, that the kargun disease causes great mortality occasionally among them. Consul Taylor enters thus fully into the particulars of these branches of native industry because they alone seem the sole real paying occupations adapted to Europeans in Armenia and Koordistan, the profits derived from them being, generally speaking, with ordinary care and attention, the steadiest and most lucrative; they are, therefore, best worthy the attention of small home capitalists. The scales of profit given are the results of the most primitive careless farming imaginable,

and no professional attempts have ever been made to alter it, or to improve breeds and consequently produce. A proper selection of animals, therefore, and the admixture of good foreign blood, coupled with the experience in such matters of Europeans practically acquainted with all the details of such occupations, would naturally materially increase the profits given, and result in articles more fitted than at present to the European market. The country best suited for proposed immigrants would be the highlands and slopes of Mount Taurus and Masino, between Saert Mardin and Jezireh, on the Tigris, and the edge of the great Mesopotamian plain that skirts their foot in that direction. The climate is salubrious and water abundant, nor are there any great hardships or privations to endure sufficient in themselves to prevent a sober, prudent man enjoying the same health there as in his native climate. The only drawbacks are the same that constitute the real obstacles existing to all commercial activity and foreign enterprise in these rich interior provinces. They arise, dismissing the subject of the roads, from the imperfect dilatory administration of law, and the total want of anything like social organisation among all classes of agricultural, pastoral, and nomade people, anyway removed from the provincial head centre. The foreign immigrant, therefore, would have to rely mainly upon himself, and gain the confidence of half-civilised people with whom he would come in contact, standing aloof entirely from all Government officials. Subsequent experience, tact, fair and generous dealing with the pastorals and nomades about him, would then surely, though by degrees, exact from them the amount of security requisite for the success of his undertaking, which the actual nominal ruling powers would never be able to guarantee him.

From the report made by Consul Stuart, we learn that a few years ago the agricultural stock and produce of Epirus were roughly valued at £1,600,000 a year; the contribution to the imperial chest, in round numbers, at £400,000, or 25 per cent. of the whole. The population was reckoned at 360,000, which figures were probably a fair approximation about fifteen years ago. Since then, however, the population has been constantly diminishing; and so far as private researches can be relied on it may be stated at about 313,750. But not only the population, the agricultural stock is also diminishing. In this country neither machinery nor the wheeled carriage is employed in aid of labour. The ox is used for ploughing, &c.; the pack-horse for transport. Both are falling off as well in quality as in number. During the British protection of the Ionian Isles, the farmers of Epirus used to obtain supplies of large powerful Vallaehian oxen through commissariat-contractor's droves. This they can no longer do. The Vallaehian ox has almost disappeared from Epirus, and all the ploughing is now done with the small country ox, which is small, light, and of feeble draught power. But even of these the breed is declining. When the English were in the islands, large numbers of them used to be fattened for the Ionian markets, which led to some attention to the breed, and consequently to some improvement. Now, however, that there is no such demand for them, they are bred without care or selection, and only in such numbers as are absolutely necessary for agricultural purposes. In 1861 it was calculated that there were 29,000 head of horned cattle in Epirus. A large subtraction must now be made from that number. The herds were, not many years ago, well thought of. Though small, they were hardy, strong, and active. Numbers of them used every year to be bought up for the Ionian Islands and Continental Greece, as well for the country work as for the saddle and light carriage. For the demands occasioned by the Crimean War, some thousands of the best were exported. The deficiency thus created has never been supplied, and from that time dates the deterioration of

the breed, which every year becomes more observable. Of the common run of horses now bred in the country, few would fetch £5 at a fair in England; perhaps not one, £10. In 1861 it was made out that there were 13,000 horses and 4,000 mules in Epirus. Well-informed persons are of opinion that both are now less numerous by at least a fourth. With a declining population, in which the female sex forms a large and relatively-increasing majority, and with a falling off in the animal power which is employed in aid of labour, it follows almost of necessity that there is a corresponding falling off in the produce of the country. For here no working farmer will burden himself with more land than he can make use of; and there is a conventional limit both of day and season work which is rarely exceeded by man or beast. Before proceeding further, notice may be taken of the flocks which form one of the staples of the country's wealth. Last year the tax on sheep and goats was 3 piastres a head, and it yielded, according to official statement, 5,720,000 piastres. It was levied directly, and the Government was careful to ascertain the number of the flocks. Judging, therefore, by the produce of the tax, there were in Epirus 1,907,000 sheep and goats collectively, of a year old and upwards. In 1860 the tax was 2 piastres a head, and sold by auction, it fetched 5,190,000 piastres, which would give 2,590,000 sheep and goats of a year old and upwards. But to this figure a considerable addition must be made; for the taxfarmer, in estimating the number for which he bids, always leaves a good margin for profit. Taking it, however, as the correct number, it still shows a declension of about a fourth in this branch of the country's resources. No means exist for procuring anything like correct information with respect to agricultural or industrial produce. No statistics are ever attempted; and as there are many motives for concealment, all inquiries on the subject are studiously evaded or misled. But though this is and always has been the case, certain general conclusions can be arrived at by observation and by the collection of such loose data as are currently known. As regards observation, it is obvious to everyone acquainted with the country that the breadth of land under tillage is from year to year becoming less; and as the mode of husbandry does not improve, it would follow that the amount of produce diminishes in proportion. The opinion is general that the produce of the country is diminishing, and in a ratio, too, which exceeds the decrease of the agricultural population. For in many places the hands are still there, but the means of tillage are wanting: no cattle, no seed, no money, no credit. The land-owners, who are sharing the general poverty, cannot, as in other times, make loans or advances to their villagers; and the money-lender, seeing their condition, avoids dealing with them. Under these circumstances the work of agriculture becomes impossible; and the villager, leaving his plot of land fallow, tries some other way of finding subsistence. He seeks employment as a shepherd; or if he has the good fortune to possess a few sheep or goats, he devotes all his care to them, in the hope of raising a flock numerous enough to support himself and family. But few, however, are in so favourable a position; and in many districts the peasants are reduced to great distress. It is credibly reported that in some places they are in want of bread, and are forced to live on wild herbs, roots, and other unwholesome and insufficient food. Hence an unusual mortality among them, and the appearance of new and strange diseases previously unknown in the country. Nevertheless, with all this, the Government bates nothing of its claim on the land, the tale of bricks is not diminished, and the attempt is rigorously made to exact not only current charges, but arrears extending back over many years. To those who cannot pay is applied the law made for those who can but will not—to wit, first, fifteen days' imprisonment, failing which,

seizure and sale by auction of the defaulters' personal chattels, agricultural implements excepted. If the proceeds of the sale do not cover the defalcation, the balance is held over to a future time, but remission is never made. This law is absolute: the exercise of it is often attended with circumstances of great hardship and oppression; and nothing is more dreaded by the villagers than the visits of policemen sent out to collect arrears of taxes. The present Governor-General, Sahfet Pasha, is said to be a very strict Mohammedan. He has a mosque fitted up in Government House, where he attends prayers regularly five times a day, and obliges all his officials to do the same, under pain of dismissal. He holds but little intercourse with the foreign Consuls in the place; and in his general deportment he is said to act, as nearly as present times will allow, the Turk of a bygone age. In all this his example is more or less imitated by the Mussulmans of every class in the community. They are more distant and reserved towards Christians than they used to be; and though sensible of their increasing poverty, they would still, in some way or other, maintain or assert the superiority accorded to them by their religion. As they seem to be incapable of retrieving their sinking state, one is tempted to believe that they are bent on obstructing all progress among the Christians, and thereby of keeping them as much and as long as possible in a condition of inferiority. If there is any such motive in the spirit and policy of the governing party, the continued decay of the country is inevitable.

Agriculture in the Island of Crete was in a depressed condition, according to the last report of Consul Dennis, not having recovered the effects of the recent disturbances. In many, even the most fertile districts, the land had lain fallow, simply from the want of cattle for the plough, the beasts having been destroyed during the contest, and the peasants not possessing the means of replacing them. Since then, however, wheat and barley had been extensively sown, and copious rains had assisted the cultivation. It never happens that the crop of cereals so much exceeds the quantity required for local consumption as to leave room for exportation. In the most favourable seasons the crop serves the island only for six months. Corn may sometimes appear among the exports, but it is invariably merely a shipment to some other part of the island where the crop has proved deficient. An average oil crop may be estimated at 12,500 tons, but in very abundant years the entire yield of the island will reach 2,000,000 mistatas, or 21,000 tons. The home consumption of oil is estimated at not less than 6,000 tons yearly—a calculation based on the fact that there are at least 50,000 families in the island, and on the assumption that each consumes not less than 8 okes of oil a month, 800 okes being equal to a ton. The crop of oil has been somewhat reduced of late by the destruction of the olive-trees during the insurrection, 15,000 trees having been burnt by the Turks in the province of Retimo, and 6,000 in Apokorona. As 150 trees will yield a ton of oil, the loss to those districts is considerable. The principal wine districts are those of Candia and Kissamos, which includes Canea. The greater part of the wine grown is consumed in the island; what little is exported is sent to Egypt and Barbary; but more often small importations are made from Santorin and Samos. The wine of Kissamos and Canea can be bought wholesale at the growers' stores at from 4d. to 7d. the gallon: that of Candia is somewhat dearer, especially that of Agios Myron, esteemed the best in Crete, which fetches 1s. to 1s. 6d. per gallon. Of course shipping prices are higher than these. No casks for exporting wine are to be had in the island. The wines of Crete are almost always red—seldom straw-coloured, like many of those of Smyrna and Santorin. They are both dry and sweet, with plenty of body, and ripen badly. Were they better known, and

were more care taken in the manufacture, there is reason to believe that the wines of Crete might compete with those of Xerez and Marsala in the markets of Europe and America, and become once more one of the chief exports of the island, as they were under the Venetian dominion; for this is a branch of agricultural industry which is capable of very great extension. The excellent quality of the Cretan wine has already attracted the attention of one of the leading wine houses on the Mediterranean, which entertains serious intentions of establishing a branch for the acquisition of wines suitable to the European market. By the purchase of land and the introduction of skilled labourers free from local prejudices, the value of Cretan wine would be fairly tested. At present it is injured for the foreign market by the admixture of gypsum, which is applied in a powdered state and trodden in with the grapes, under the impression that it imparts strength to the wine and tends to preserve it. A good silk crop will reach 30,000 lbs.—that is, if all the silk produced were spun off; but in consequence of the brisk demand from Syria for eggs, much of the yield has been spoilt for the sake of the moths. The best silk is produced in the district of Selino. Cotton is cultivated chiefly in the great plain of Messara, to the south of Monut Ida. The crop before the insurrection sometimes reached 2,000 cwt. Oranges and lemons are extensively grown in the plain of Canea, but few in other parts of Crete. Almonds are grown chiefly in the districts of Candia and Selina, and to a limited extent. Carobs are largely grown in the provinces of Candia and Retimo, and the crop, on an average, reaches 5,500 tons. The valonia oak is confined to the province of Retimo. The crop often reaches 1,000 tons. Tobacco was first introduced some eight or ten years since, and it is not grown in sufficient quantities for home consumption, although the cultivation is unrestricted. The quality, indeed, is inferior, in great part owing to unskilfulness in the preparation. Price about 4d. per lb. Cheese is produced in many parts of the island, but the best in Apokorona and Sphakia. Before the disturbances it was exported in considerable quantities to Turkey and Egypt; but the extraordinary recent demand has stopped its exportation, and raised its price from 4s. to 6s. per cwt. The quantity of honey produced has also been limited, although in 1868 it amounted to 7,500 cwt., with 750 cwt. of wax. Very little wool is produced in Crete, although, from the mountainous character of its surface and its vast tracts of waste land, it would admit of an almost indefinite extension of pastoral agriculture; but its flocks have been destroyed, and it is found necessary to have recourse to importation to people its pastures. The native wool is of excellent quality, and sells at 4d. per lb. The wages of agricultural labourers are generally from 1s. 4d. to 1s. 8d. a day, rising to 2s. when the demand is brisk. Sponges abound on the east coast, but the natives do not dive for them. This hazardous calling is pursued by Greeks from the islands of Symi, Calymno, and Khalki, who come yearly in numerous small craft, and purchase licences to fish for sponges. These duties are farmed, and the actual farmer is a Frenchman, who also fishes on his own account, and makes use of a small steamer and a diving-bell to facilitate his operations. In the Island of Cyprus the high prices of cotton have encouraged the peasantry to plant all available land with this valuable staple. A favourable circumstance for its cultivation is the destruction of the locusts, which have now nearly disappeared from the island, owing to the energetic measures taken by the Government for their extinction. Hitherto the season for sowing has been deferred, on account of that insect's depredations, till the middle of June, when the earth has already parted with much of its moisture. Now the seed can be sown early in May, and full time allowed for the plant to come to maturity.

It is to be deplored that the exotic seed which was introduced during the American war is rapidly deteriorating, owing to the carelessness of the farmers in allowing it to be mixed with the indigenous kind. While there has been a brisk demand for cotton at remunerative prices, the demand for madder roots has been limited, with a corresponding fall in prices. Some attribute this to the discovery of a mineral colour extracted from coal tar, which is expected to produce dye cheaper and as fast as that given by the madder root. The exportation of the carob tree, known in commerce as the locust bean, con-

tinues with a steady demand from Russia. This is a favourite crop with the peasantry, as it entails very little toil—merely ploughing round the roots of the trees, and the trouble of plucking the pods, which require no preparation for the market. The demand for England is limited, because, as it is only wrought into cattle-cakes, the manufacturers cannot afford to pay such prices as the Russian importer, who disposes of it for human consumption. There is nothing special to note respecting the other staple commodities of Cyprus—wine, wool, and salt.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, Wednesday, April 1.—Present : Mr. Holland, President, in the chair; the Duke of Bedford, Lord Chesham, Lord Kesteven, Sir Massey Lopes, Bart, M.P.; Sir A. K. Macdonald, Bart; Sir Watkin Wynn, Bart., M.P.; Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Dent, Mr. Edmonds, Mr. Evans, Mr. Brandreth Gibbs, Mr. Horusby, Mr. Horley, Mr. Bowen Jones, Colonel Kingscote, M.P.; Mr. McIntosh, Mr. Milward, Mr. Randell, Mr. Rigden, Mr. Riley, M.P.; Mr. G. Turner, Mr. W. Wells, Mr. Welby, M.P.; Mr. Whitehead, Mr. Jacob Wilson, and Dr. Voelcker.

The following members were elected :

Adamson, John, Colton Hall, Rugeley.
 Allwood Frederick, Walsworth, Hitchin.
 Bell, Charles William, Roche Court, Salisbury.
 Bowick, Thomas, Bedford.
 Cranfield, Thomas, Stanford Bury, Shefford, Beds.
 Day, Gerard James, Horsford House, Norwich.
 Eve, John Richard, Silsoe, Amptill, Beds.
 Farmer, John Edward, Felton, Ludlow.
 Finn, G. W., Preston, Faversham, Kent.
 Fowler-Butler, Captain Robert, Peideford Hall, Wolverhampton.
 Gardner, William Snazell, French Hall, Moulton, Newmarket.
 Gillett, Stephen George, Kilkenny, Faringdon.
 Godfrey, H. W., Bank House, Thorne, Doncaster.
 Gripper, Edward, West Wickham, Beckenham.
 Jefferies, John Robert, Orwell Works, Ipswich.
 Keayon, Charles Richard, Brynllwydwy, Machynlleth.
 Lamin, John, Bestwood Park, Nottingham.
 Laugdon, Maria, Flitton Burton, North Molton.
 Little, James L., The Plains, Littleport, Ely.
 Newman, Henry, Friars Court, Cranfield, Faringdon.
 Ransome, John, Wheatthamstead, Bury St. Alban's.
 Rogers, Alfred, Bromham, Bedford.
 Wain, George, The Rowney Farm, Market Drayton.
 Watson, J. G., East Hoathly, Ilwkhurst, Sussex.

FINANCES.—Colonel Kingscote, M.P., presented the report, from which it appeared that the Secretary's receipts during the past month had been duly examined by the committee and by Messrs. Quilter, Ball, & Co., the Society's accountants, and found correct. The balance in the hands of the bankers on March 31 was £1,120 4s. 7d., and £2,000 remained on deposit. The quarterly statement of subscriptions and arrears to March 31, and the quarterly cash account were laid on the table, the amount of arrears being £917. The committee recommended that the names of nine members whose addresses are not known be struck off the books.

JOURNAL.—Mr. J. Dent Dent (chairman) reported that the spring number of the *Journal* for 1874 had been published, and that it contained the report of the farm prize competition of last year. This report was adopted.

GENERAL BEDFORD.—Sir Watkin W. Wynn, Bart., reported that the Secretary of the Bedford Local Committee had undertaken to make inquiries in reference to a supply of cabs and omnibuses. It was also reported

that the committee recommended the letting of Refreshment Shed No. 1, provided that the secretary's inquiries produced a satisfactory result; that descriptive class placards be printed for fixing throughout the showyard; and that the Midland Railway Company be asked to run special trains from Leicester and London on Monday morning, July 13, to arrive at the showyard siding, near Bedford, at about 8.30 a.m. This report was adopted.

JUDGE'S SELECTION.—Mr. R. Milward (chairman) presented the report of the committee recommending the several gentlemen who should be invited to act as judges of implements and live stock at the Bedford meeting. This report was adopted.

CHEMICAL.—Mr. W. Wells (chairman) reported that the Committee recommended that the following additional correspondence in reference to the last quarterly report of the committee, which has already been published in the *Journal*, be published in the agricultural newspapers in the usual report of the meeting of the Council furnished by the secretary.

This correspondence referred to the secretary's attempted correspondence with the "Hull Pure Linseed-cake Association," by means of registered letters addressed to the chairman or secretary of that body, which were eventually returned to him, as described in the last quarterly report of the Chemical Committee :

Azov Buildings, 5, High-street, Hull, Feb. 19, 1874.

SIR,—My attention has this morning been called to a report of a meeting of the Royal Agricultural Society, whereat the Chairman read a correspondence which is published in the *Mark Lane Express* of the 9th inst., which has been carried on with reference to the Hull Pure Linseed-cake Association, and in the absence from home of the Chairman, I hasten to inform you that none of the letters referred to have ever reached him or myself, or, as far as we know, any official of the Association. I consider it, however, a matter of such grave importance that I shall call a meeting of the Committee at an early date, when the affair shall be most thoroughly investigated.

In the meantime I will thank you at once to send me the letters referred to, which the correspondence states have been returned to you.—I am, sir, your obedient servant,

H. W. CHAMBERS,
 Vice-Chairman to the Hull Pure
 Linseed-cake Association.

To the Secretary of the Royal Agricultural Society,
 P.S.—I send a copy of this letter to *The Mark Lane Express*.

The secretary replied as follows :

12, Hanover Square, W., Feb. 20, 1874.

SIR,—I beg to acknowledge the receipt of your letter dated yesterday in reference to extracts from a correspondence relating to the Hull Pure Linseed-cake Association which was read by the chairman of the Chemical Committee at the meeting of the Council of this Society on the 4th inst., and published with the other minutes of that meeting in *The Mark Lane Express* of the 9th.

You inform me that none of the letters thus referred to reached either the chairman of the Association, yourself as the

vice-chairman, or, so far as you know, any official of the Association; and you request me to send you the letters (as they have been returned to me) prior to a meeting of the committee of the Association, which you propose to summon for the purpose of considering them.

In reply to your letter, I beg to state that I have twice attempted to communicate directly with the Association by means of registered letters addressed to its chairman or secretary, and that I have been informed that at present there is no secretary, nor, it is believed, chairman of the Association, and even that it is a fine point whether the Association itself really does or does not exist.

These statements differ so greatly from those contained in your letter of yesterday, that I must request you to furnish me with a list of the members of the alleged Association, and the names of the chairman, the members of the committee, and other officers; also that you will inform me when and how the committee and officers were appointed, and by what authority you write on behalf of the Association.—I am, sir, your obedient servant, H. M. JENKINS, Secretary.

H. W. Chambers, Esq., Hull.

At the same time the secretary addressed the following letter to the firm who had given him the information published by the committee in their last quarterly report:

12, Hanover Square, W., Feb. 20, 1874.

GENTLEMEN,—With reference to our recent correspondence relating to the Hull Pure Linseed-cake Association, and to the sale by yourselves and another member of that Association of inferior Linseed-cake as "pure" linseed-cake to two members of this Society, notwithstanding that the members of the Hull Pure Linseed-cake Association had resolved that "no other cakes than pure linseed-cakes shall be sold or described as linseed-cake," I beg to call your attention to the enclosed copy of a letter* which I have received this morning.

In your letter to me of January 26 you informed me that "at present there is no secretary or, we believe, chairman of the Hull Pure Linseed-cake Association, or we would hand over the whole of the correspondence;" and in your letter of January 25 you state that, in your opinion, "it is a fine point if the Association really does or does not exist."

On the other hand, the writer of the letter, of which I enclose you a copy, states that the chairman is absent from home, signs himself as vice-chairman, and asserts his right to act on behalf of the Association by stating his intention of calling a meeting of the committee at an early date.

I am therefore directed to request that you will explain the apparent discrepancies in the two statements.—I remain, gentlemen, your obedient servant,

H. M. JENKINS, Secretary.

To this letter the following reply was received in due course:

Hull, Feb. 23, 1874.

DEAR SIR,—In reply to yours of the 20th, we would draw your attention to the following resolution passed by the Hull Pure Linseed-cake Association: "September 18, 1872. It was resolved that the officers be elected annually;" and on September 25, 1872, we have seen a minute in the book, "That meetings be held the first Monday in every month."

In confirmation of what we have previously stated, we know the secretary has resigned, for his letter of resignation bears date February 26, 1873, and the gentleman who occupied the position of chairman told us himself that he had resigned, and his letter of resignation, if we mistake not, bears date June 2, 1873.

And now, with regard to the Association itself, we may say, it has not elected its officers annually, it has not held its meetings the first Monday in every month, and, so far as we know, it has not held any meeting at all for twelve months; and this could not be for lack of business, because the chairman and secretary's written resignation had been sent in, and, if there was any management at all, surely it was somebody's duty to call a meeting to elect fresh officers. We may, moreover, state that the expenses incurred in the formation of the Association in August, 1872, amounting to about £14, have not yet been paid—this does not speak much of the financial department. After this explanation we think your Society will admit that

* Namely, that dated February 19, and signed H. W. Chambers, Vice-Chairman of the Hull Pure Linseed-cake Association."

we have previously written nothing but what is strictly the truth. We may add that we shall cease to use the badge of the Association; we never attached very much importance to it, and we do not wish it to be supposed we have ever done so with a view of deceiving our customers.

We are yours respectfully, *—

H. M. Jenkins, Esq., Secretary of the Royal Agricultural Society.

The following acknowledgment of the secretary's letter of February 20 was received the same day from Mr. Chambers:

Azov Buildings, 5, High-street, Hull, Feb. 23, 1874.

SIR,—I beg to acknowledge the receipt of your letter dated 20th inst. A committee of the Association have been called for Wednesday next, when your letter shall be officially attended to. I am, sir, your obedient servant,

H. W. CHAMBERS,
Vice-Chairman to the Hull Pure Linseed-cake Association.

H. M. Jenkins, Esq., Secretary of the Royal Agricultural Society.

The result of the meeting referred to is contained in the following letter, and accompanying resolutions:—

Hull Pure Linseed-cake Association, Hull, Robert Blyth, Hon. Sec. * * * Feb. 25, 1874.

SIR,—Your letter of February 20 has been placed before the committee of the Hull Pure Linseed-cake Association at a meeting held this day, and at foot we beg to hand you copy of the resolution passed in reference thereto.

Your registered letters dated January 1 and 20 appear to have been received by . . . and signed for by one of their clerks, and that they, on or about January 25, sent the same in a parcel to . . . of the firm of . . . an ex-secretary of the Association, but acting until the appointment of his successor, who, for reasons best known to himself, returned the same to you, without acquainting any member of the Association of his having done so, or of the existence of any such documents.

Until the appearance of the report in *The Mark Lane Express* no member of the committee was in any way acquainted with the matter referred to.

We remain your obedient servants,

H. H. AYRE, Chairman,
H. W. CHAMBERS, Vice-Chairman.
ROBERT BLYTH, Hon. Sec. (*pro tem.*)

H. M. Jenkins, Esq., Secretary of the Royal Agricultural Society.

[COPY OF RESOLUTIONS.]

Resolved:—"That the letter dated February 20, received from the secretary of the Royal Agricultural Society, addressed to the vice-chairman, be acknowledged, and that on the former's compliance with the latter's request, contained in his letter of the 19th inst.—viz., to send the correspondence referred to, the committee will furnish the secretary of the Royal Agricultural Society with the list of members of this association if still required."

Resolved:—"That the letter embodying the foregoing resolution be signed by the chairman, vice-chairman, and secretary."

The secretary replied as follows:

12, Hanover-square, Feb. 26, 1874.

SIR,—I beg to acknowledge the receipt of a letter dated the 25th inst., headed "Hull Pure Linseed-cake Association," and signed by yourself as chairman, Mr. H. W. Chambers as vice-chairman, and Mr. Robert Blyth as hon. sec. (*pro tem.*) of a body apparently using that title.

This communication refers to my letter of February 20th, addressed to Mr. H. W. Chambers, which was a reply to his request for my letters dated the 1st and 20th of January, addressed to the chairman or secretary of the Hull Pure Linseed-cake Association; that is to say, to his request for my attempted correspondence with an institution adopting precisely the same name as that at the head of the letter which I received this morning, but using a distinctive badge or emblem which is not stamped on the letter.

My letters of January 1 and 20, had, however, been returned to me with a statement, dated from the same address as the

* These and other names and some addresses have been omitted, as it is unnecessary to specify private individuals in this correspondence, which refers to the alleged existence of the Hull Pure Linseed-cake Association.

letter received this morning, to the effect that there was no secretary of the Association, it was believed that there was no chairman, and, in fact, it was a fine point whether there was any Association.

Under these circumstances, and to enable me to bring officially before the Chemical Committee of the Society the letter received this morning and the accompanying resolutions, I must renew my request for the information asked for in my letter of the 19th, addressed to Mr. Chambers, together with a copy of the rules of the Association, so that the Chemical Committee may assure itself that the body which is now styled the "Hull Pure Linseed-cake Association" is the same body as that with which I unsuccessfully attempted to correspond on January 1.

I am, sir, your obedient servant,

H. H. Ayre, Esq. H. M. JENKINS, Secretary.

To this letter the following reply and copy of resolutions were received from Mr. Blyth :

Hull Pure Linseed-cake Association, 23, High-street, Hull, March 4, 1874.

SIR,—I beg to acknowledge receipt of your letter of February 25, addressed to the chairman of this Association, and in reply beg to hand you subjoined extract from the minutes and copy of resolutions passed at a meeting of the committee held this day.

I may just mention that the office of the Association is at the Chamber of Commerce rooms in the Hull Exchange, and that a brass plate about 20 inches by 10 inches, with the name of the Association, has since its formation been affixed to the entrance. The former secretary had, as a matter of convenience, letters addressed to his office—, hence the address given hereon. Members of the Association and no others are entitled to use the badge you refer to.

I am, sir, your obedient servant,

ROBERT BLYTH, Hon. Sec. (*pro tem*).
[COPY OF RESOLUTIONS.]

A letter from the secretary of the Royal Agricultural Society, declining to forward the letters alleged to have been addressed by him to this Association, but which he states were returned to him without reaching it, having been read, it was resolved :

"That it appearing evident to this committee that the Secretary of the Royal Agricultural Society now wishes to withhold from this Association the letters above referred to, this committee declines further correspondence upon the subject."

"That the secretary be instructed to forward to the secretary of the Royal Agricultural Society an extract from the minutes of this meeting embodying the foregoing resolutions."

The secretary acknowledged the receipt of this communication as follows :

12, Hanover-square, W., March 5, 1874.

SIR,—I beg to acknowledge the receipt of your letter of yesterday's date and the accompanying resolutions, which I will submit to the Chemical Committee of the Society, together with the remainder of the correspondence, of which they form the conclusion, with a view to their publication as the sequel to the last quarterly report of the committee.

I am, sir, your obedient servant,

Robert Blyth, Esq. H. M. JENKINS, Secretary.

Of the two registered letters referred to in the above "Copy of Resolutions" as having been purposely withheld, the first, dated January 1, was, as will have been gathered from the preceding correspondence, delivered to a firm in the linseed-cake trade, one of whose clerks signed the receipt for it. That firm, on ascertaining that the letter was not intended for them, did not, however, return it to the secretary of the Royal Agricultural Society, or communicate with him in reference to it at the time. A second registered letter similarly addressed by the Secretary on January 20 was delivered to the same firm, and apparently opened by them. On January 21st it is alleged that they addressed to him a communication, of which the following is an extract :

"We received your communication of the 1st January and also of the 20th, addressed to the Secretary of the Hull Pure Linseed-cake Association, and will endeavour to find out who occupies that position so that we can hand him documents.

"We do not know anything of the constitution of this Association, or whether it exists only in name, but we do know that cakes are being sent out branded 'pure' that ought not to be so branded, proving to our minds that the only means for the consumer, who, in order to be certain that he gets justice done, should connect himself with people whom he knows to be respectable, and not begrudge a proper price for a good article."

This communication did not reach the secretary; but a copy of it, said to have been intended for another person, reached him through the post more than a month afterwards, on February 25th, having been posted in Hull the previous day. The writer of the letter, on being asked for an explanation, stated that it was "Evidently a mis-carriage of the 'post,' to the officials of which we have written for an investigation and on receipt of their reply we will further communicate with you."

Since the publication of the *Journal*, the secretary had received a further communication from this firm, enclosing a letter from the secretary of the Post-office, informing them that the search for the missing letter had proved unsuccessful.

The committee again direct attention to the practice of manure dealers, of selling under the name of dissolved bones, manures which, in point of fact, are mineral superphosphates mixed with a small proportion of bone-dust. A case in point has been brought under the notice of the committee by a member of the Society, who sent to Dr. Voelcker a sample of manure which he bought as dissolved bones, at £5 15s. a ton.

The following are the results of Dr. Voelcker's analysis :

Moisture.....	18.33
* Organic matter and water of combination ...	12.48
Mono-phosphate of lime	11.81
Equal to tritensis phosphate of lime rendered soluble by acid	(18.50)
Fusible phosphates	12.61
Sulphate of lime and alkaline salts	38.94
Fusible siliceous matter.....	5.83
	<hr/>
	100.00
	<hr/>
* Containing nitrogen .....	.19
Equal to ammonia .....	.23

It will be seen that this so-called dissolved bone manure contained hardly any nitrogen, and could not therefore have been made of any appreciable quantity of bone.

In the printed circular of the vendors an analysis of dissolved bones is given, in which the percentage of soluble phosphate is stated to be 25.20, and that of nitrogen .98, equal to 1.20 of ammonia, which is much higher than the proportion of those constituents actually supplied to the purchaser.

Pure dissolved bones should be made from nothing but bone and acid; they cannot possibly be produced at less than £7 a-ton, and it is therefore difficult to understand how the vendors should be able to sell dissolved bones at £5 15s. a-ton. This report was adopted.

POTATO DISEASE.—Mr. C. Whitehead (chairman) reported that a circular had been sent to the members of Council asking them to give the names of large potato growers in their respective districts, who would be able to give the results of their experience in potato growing. In answer to this circular the committee had obtained the names of good men in most of the large potato-growing districts, and had prepared a schedule of questions which will be sent to them directly, desiring information upon the conditions of soil, climate, aspect, method of cultivation, varieties of potato planted, kinds of manure used, the dates of appearance of the disease, and other important details. The committee hoped that a large amount of most valuable information would thus shortly be in the hands of the committee for collation,

and subsequent publication in the *Journal* of the Society, if thought desirable. It was further reported that a judge for Scotland had not yet been appointed, but that the committee were in communication with a gentleman upon the subject. It was recommended that all expenses should be paid to the judges and that a maximum fee, not exceeding one guinea, be paid, if required, to each of the judges, not officially connected with the Society, for each day spent from home in the service of the Society. This report was adopted.

SHOW-YARD CONTRACTS.—Mr. Randell (chairman) reported that Mr. Penny, the contractor, had taken possession of the Show-yard at Bedford on March 25, and that he had commenced the works there. The local committee had nearly completed the necessary works of levelling ground and removal of fences; they had also advertised for tenders for constructing the roads required, which they promised should be commenced at once. The committee recommended that a third ring for judging horses be provided, and that it be removed after the first day of the show. The following recommendations were also made: 1. That the entrance to the horse-ring stand be at the back, and the exits at each end; 2. That an office for the engineers be provided as heretofore; 3. That the platform at the entrances be lowered and reduced in extent, and be level or sloped from the turnstiles to the show-yard; 4. That seats not exceeding 1,000 feet be provided and placed in such situations as the honorary director may select; that the several boards bearing the names of the different offices, &c., be repainted where required. This report was adopted.

EDUCATION.—The Duke of Bedford (chairman) reported that the committee had had an interview with the sub-committee of head-masters of middle-class schools, and had considered the draft of their proposed regulations for scholarships to be held by the pupils of such schools. The committee were of opinion that the proposed scheme of examinations was not sufficiently technical to enable them to recommend its adoption by the Council; they therefore requested the sub-committee of head-masters to consider an alternative scheme which had been drawn up by direction of the committee, and to forward their suggested modifications to the secretary in writing for consideration by the committee at their next meeting. This report was adopted, and the usual examiners were appointed for the ensuing examination for the Society's prizes and certificates.

A memorial was received from the authorities of Taunton inviting the Society to hold their country meeting for 1875 in that locality.

Mr. Jacob Wilson moved a resolution in reference to the annual offer of prizes for the best-managed farms, having for its object the publication of the scheme not later than August in each year. This resolution was seconded by Mr. Bowly and supported by Mr. G. Turner. Some objections to the original resolution were made by Mr. Randell, who moved the following as an amendment: "That it is desirable that the prizes to be offered annually for the best-managed farms, with the conditions upon which such prizes are offered, whether by individuals or by the Society, be made known immediately after the July Council in each year, and that the Journal Committee be requested to consider a scheme of prizes and conditions to be submitted to the Council at such July meeting." This amendment was seconded by Mr. Dent Dent, accepted by Mr. Jacob Wilson and Mr. Bowly, and carried unanimously.

An application from the Devon County Agricultural Association for engineering assistance in carrying out their proposed steam-plough trials to be held at Barustaple this year was agreed to.

Applications for the temporary loan of certain of the

Society's testing instruments, on terms suggested by the consulting engineers, were also complied with.

Two letters from Colonel Maitland, in reference to "Quarter Evil," were referred to the consulting veterinary surgeon of the Society.

BATH AND WEST OF ENGLAND SOCIETY AND SOUTHERN COUNTIES ASSOCIATION.

The Council Meeting was held at the White Lion Hotel Bristol, on Tuesday, March 31, under the presidency of Sir M. Lopes, Bart., M.P. There were also present Sir J. T. Duckworth, Bart., Messrs. R. Bremridge, Jonathan Gray, R. K. M. King, J. C. Moore Stevens, H. G. Moysey, E. Archer, J. T. Boscawen, H. A. F. Luttrell, J. D. Allen, H. Badcock, Clement Bush, R. H. Bush, W. Crabbe, Thomas Dinger, J. Tanner Davy, R. R. M. Daw, Thomas Dyke, F. W. Dymond, Charles Edwards, Henry Fookes, Arthur Grenfell, John Hallett, J. D. Hancock, H. M. Hoosworth, James Hole, J. E. Knollys, H. St. John Maule, Henry Mayo, James Pitt Pitts, James Quarterly, George Radmore, George Simpson, Henry Spackman, R. Trood, C. A. W. Troyte, W. H. Walron, and R. Wippell.

Colonel GILBERT, of the Priory, Bodmin, was elected a member of the Council, to supply a vacancy occurring in that body.

The Bye-law Revision Committee brought up their report, which, with certain modifications and amendments, was approved and confirmed.

The Bristol Meeting: The secretary reported, as to the entries for implements, that a miscellaneous department, chargeable with double fees, had been established.

New Members: Messrs. Vipan and Healdy, Leicester; E. H. Pennell, Cheriton Bishop, Exeter; J. Hennessy, Conygre House, Filton, Bristol; T. F. Bissicks, Temple-street, Bristol; R. Fookes, Milton Brewery, Blandford; J. W. Rankin, Northwick-villa, Clifton, Bristol.—[Much of the matter in these reports is simply advertisement.]

WHICH IS WHICH?—Early in March a deputation from the Central Chamber of Agriculture waited on the Chancellor of the Exchequer with the object of urging the repeal of the Malt-tax, when only two members of the House of Commons attended on the deputation, Messrs. Joshua Fielden and G. Storer. During the last week in March another deputation from the Central Chamber of Agriculture waited on the Premier with the view of urging the re-adjustment of Local Taxation, when, amongst others, there were present the Hon. G. W. Milles, M.P.; Sir John H. Kennaway, Bart., M.P.; Sir Baldwyn Leighton, Bart.; the Hon. E. Stanhope, M.P.; Mr. R. Neville-Grenville, M.P.; Mr. T. Eades Walker, M.P.; Mr. A. L. Goddard, M.P.; Lord Henry F. Thynne, M.P.; Mr. George Storer, M.P.; Colonel E. Corbett, M.P.; Mr. Richard Bright, M.P.; Sir Edward Lacom, M.P.; Mr. W. U. Heygate, M.P.; the Hon. Wilbraham Egerton, M.P.; Colonel S. B. R. Brise, M.P.; Sir H. Drummond Wolff, M.P.; Colonel R. H. Paget, M.P.; Mr. W. B. Beach, M.P.; Major D. P. Peplow, M.P.; Mr. E. Pateshall, M.P.; Mr. Lewis R. Starker, M.P.; Sir C. H. Mills, Bart., M.P.; Sir C. Russell, Bart., M.P.; Viscount Folkestone, M.P.; Mr. John Jones, M.P.; Colonel J. S. North, M.P.; Lord Henniker; Mr. P. Phipps, M.P.; and Mr. W. Spencer Stanhope, M.P. Which is which here—that is, which the farmer's and which the landlord's interest? It seems to us that these comparative lists go far to answer the question.

THE HIGHLAND AND AGRICULTURAL SOCIETY.

The monthly meeting of the directors of this Society was held, on Wednesday, April 1, in the chambers of the Society, 3, George IV. Bridge, Edinburgh, Captain Tod, of Howden, in the chair.

The Board approved of the letters to the convenors of the counties connected with the Inverness show and the appointment of local committees, which are arranged thus: Inverness 14, Elgin 10, Nairn 4, Ross and Cromarty 12, Caithness 8, Sutherland 8, Orkney 2, Shetland 2.

The annual public examination of candidates for the Society's veterinary certificate was fixed to take place in the Society's hall, on the 14th and 15th inst. Candidates must enter their names with the secretary on or before the 9th instant.

The SECRETARY read the following report on the resolutions adopted by the meeting of members, held at Glasgow on the 14th of January, 1874:

Note.—In the following report the resolutions of the Glasgow meeting are given *seriatim*, followed by the remarks by the committee on each:

Resolution 1.—“That this meeting is of opinion that, considering the great increase in the value of agricultural stock and implements, the additional cost of exhibiting (from high wages and other causes), and the scale of premiums offered by other less important associations, the Highland and Agricultural Society should reconstruct its premium list on much more liberal terms, among other changes giving in many cases substantial money premiums instead of the paltry silver medals awarded as 3rd and 4th prizes.” The committee have to observe in answer to this, that the premium list for the show to be held at Inverness in July next was arranged some weeks before the meeting at Glasgow. On referring to it, it will be found that the number of the money premiums has been increased from 335 at Stirling to 437 at Inverness, and that the amount offered—£2,030 16s.—exceeds what was offered at Stirling by £170 11s., and is £730 more than the sum offered at Inverness in 1865, while the medium and minor silver medals have been withdrawn. The scale of premiums for the Glasgow show in 1875 will be fixed in November next; and as the directors have sanctioned what is considered a very liberal list for Inverness, they will be prepared to submit to a meeting of members, to be held at Glasgow in December, a list worthy of the important counties embraced in the western district.

Resolution 2.—That no change will be satisfactory, or merit the approval or support of exhibitors, which do not include a reconstruction of the board of directors, so as to give it a nationally representative character, the western district having been especially neglected in this respect hitherto.” The committee believe that the directors are always glad to receive any suggestions from members in regard to the management of the Society. Since the show was last in Glasgow, in 1867, the Society has had from time to time the benefit of the assistance and advice of the following noblemen and gentlemen connected with the western counties who have acted as officers: The Duke of Montrose; the late Earl of Glasgow; the late Lord Belhaven; Lord Blantyre; Sir Edward Colebrooke, Bart., M.P.; Mr. Boyle, of Shewalton; Mr. Malcolm, of Poltalloch; Sir Michael Shaw Stewart, Bart.; Sir William Stirling-Maxwell, Bart.; the Right Hon. Sir James Ferguson, Bart.; the late Mr. Speirs, of Elderslie; Mr. Hozier, jr., of Maudslie; Colonel Mure, of Caldwell; Mr. Graham Somervell, of Sorn; Colonel Campbell, of Blythswood; Mr. Ord MacKenzie, of Dolphinton; Mr. Young, Keir Mauns; Mr. Newton, of Linnbank; Mr. Baird, of Cambusdoon; Sir Henry J. Seton, Stewart, Bart.; the late Sir Jas. Colquhoun, Bart.; Mr. Smollett, of Bonhill; Mr. Graham Speirs, of Culcreuch; Mr. Pettigrew Wilson, of Polquhairn. Next year, the show being at Glasgow, the whole of the vice-presidents and extraordinary directors will probably be selected from the Glasgow district, in addition to which, as has generally been the custom, it is likely that several of the ordinary directors will be taken from the same district. The directors propose to carry through a new bye-law, giving the members a power to suggest to the directors names from whom may be selected those to be recommended to the general meeting.

Resolution 3.—“That this meeting, while recognising the improvements in accommodation for stock introduced of late years, more especially at the recent show at Stirling, would urge the necessity of a further advance in the same direction, suggesting the adoption of several of the improvements carried out at some of the English shows.” It has ever been the anxious wish of the directors and committee in charge of the general shows to consider the convenience of the attendants on stock as well as the comfort of the animals exhibited. The directors are glad that the meeting at Glasgow have recognised the improvements in the accommodation for stock made of late years, particularly in the late show at Stirling; and before the Glasgow meeting was held, it had been resolved, as far as possible, to improve on what was done at Stirling, especially in reference to erecting bothies for the attendants on stock, and a refreshment-room for their sole benefit.

The directors unanimously approved of the answers by the committee on the resolutions adopted at the meeting held at Glasgow on the 14th of January last. They are aware that the special committee appointed to consider these resolutions have given the subject their fullest consideration, and they embrace this opportunity of assuring the members connected with the western counties of their earnest desire to meet their wishes where they can do so, keeping in view the usefulness of the Society and the advancement of agriculture.

The SECRETARY reported that the sub-committee appointed to draw up a circular on the subject of aiding the cause of humane education had adopted the following letter, which had been sent to the chairman of above 970 school boards in Scotland:

3, George IV. Bridge, Edinburgh,
31st March, 1874.

SIR,—The attention of the Highland and Agricultural Society of Scotland has been called to the advantages which might arise from its influence being exerted towards the encouragement of the humane treatment of animals. The material benefit which all concerned in agricultural pursuits derive from proper care being bestowed on the animals in their possessions, or under their charge, seems, independently of other considerations, a sufficient reason why this society should take a special interest in this subject. It has accordingly been resolved that both in the premiums offered by the society and in its examinations for its agricultural diploma and veterinary certificate, there should be a distinct recognition of the importance attached to the humane and judicious treatment of horses and other live stock. And if other public bodies can be induced to use their influence in the same direction, it is confidently hoped that an improvement may be effected in the feelings and conduct of those classes of the community on whom it is desirable that an impression should be made. None have so much power in this respect as the school boards throughout the country. Cruelty towards the lower animals often originates in ignorance or thoughtlessness on the part of young persons who are in various ways brought in contact with them, and if opportunities were taken in primary schools systematically to inculcate on the children lessons of humanity very beneficial results might be expected to follow. The directors of this society in whose name I address you venture to bring the matter under your notice, and that of your Board, in the hope that the objects they have in view, and which they consider of national importance, may meet with your approval, and that the best means of promoting that object in the schools under your charge may receive your favourable consideration. They would, therefore, suggest that humanity to the lower animals should be recognised as a necessary element of education.—I am, sir, your obedient servant,

F. N. MENZIES, Secretary.

Some other business was transacted.

TENANT-RIGHT.—It is said that the O'Donoghue is about to bring in an English Tenant-Right, framed on that of Mr. James Howard as approved by the Farmers' Club.

NEWCASTLE-ON-TYNE FARMERS' CLUB.

LOCAL TAXATION AND LOCAL GOVERNMENT.

At the March meeting, a paper on this subject was read by Mr. Thomas P. Dods, land agent and valuer, of Anick Grange, Hexham; Mr. Wallis, Old Ridley, in the chair.

Mr. Dods said: The indifference with which these subjects were long looked upon is, we hope, beginning to pass away; but though both Liberals and Conservatives, through their leaders, are pledged to take up and settle them, we shall still, I fear, have to wait for some time ere these pledges are fulfilled by the passing of a comprehensive and satisfactory measure, unless more pressure is brought to bear upon our legislators; and, as a small contribution to that object, I consented, at the request of your secretary, to write this paper. There is too much apathy in the country generally—too many vested interests which must be more or less interfered with, and, in spite of numerous committees, both of Lords and Commons, too much ignorance at head-quarters, both of the practical working of the various boards having charge of assessments, and of the extraordinary anomalies and inequalities in assessing those hereditaments subject to local rates, to give any hope of a large and satisfactory measure until the present system of local taxation and local government is thoroughly sifted, not by a committee of either House of Parliament, but by royal commission, with full powers to investigate the whole question. Much valuable information has, no doubt, been collected both by Parliamentary committees and by Mr. Goschen, when president of the Poor-law Board, but all seems to have been insufficient to enable the authorities to produce any practical or workable measures. All the recent attempts at legislation tended only to make confusion worse confounded; and, after reading Mr. Goschen's report, and comparing it with the voluminous tables contained in the appendix, one is utterly astounded at the conclusions he draws from them; and the bills he introduced as founded upon them were certainly a most "lame and impotent conclusion." The positions maintained by those taking an interest in the question of local taxation and local government are:

1st. That real property bears an undue share of taxation.

2nd. That under the present law of rating there exist great anomalies.

3rd. That in assessing rateable hereditaments for local taxation there exist great inequalities.

4th. That the machinery at present existing for assessing, levying, and disbursing local taxes is cumbrous, expensive, and inefficient.

To the proof of these propositions I shall now address myself: 1st. That real property bears an undue share of taxation. The very fact that if two sons are left by their father, say £5,000 each, and the one buys land, and the other buys into the funds, the latter has the security of the nation that he will have his 3 per cent. (or rather more at present prices) paid regularly, without a penny of expense; while the former will have to buy well to get his 3 per cent.; and out of that he will have, in addition to income-tax like his brother, the expense of collecting his rents, of maintaining his buildings, and local taxes to the amount of £20 or £25 per annum to pay for objects in which the fund-holder is as much concerned as the landholder, is sufficient of itself to establish our position, had we no stronger proof to bring. Then, again, landowners and farmers are often taunted with not laying out sufficient capital for the improvement of their estates and farms; but, when we remember that if either landowner or farmer lays out £1,000 in improving his estate or farm, the interest of that £1,000—which would have got off with payment of income-tax while in the funds or lent on mortgage—is no sooner invested in the soil than it is liable, not only to all the national taxes it bore before, but for local taxation in addition. There is certainly not much encouragement here to improve land; and we believe that the increased and increasing amount of local taxation is quite as great a hindrance to improvement as want of security of capital. The fact is, real property is a nice ready thing on which to saddle any new demand. Seldom a session of Parliament passes that something new is not placed upon it: now it is police, now education, now militia stores, and again sanitary purposes. It began in the time of Elizabeth with the maintenance of the poor, and now I would not undertake to enu-

merate all the various items for which it is taxed. In 1776 the amount of local taxation was £1,720,000, and in 1853 the amount was £16,220,000. It is surely time that full inquiry is made into the matter. Those who for years have been demanding such an inquiry were, prior to 1870, told both by Mr. Gladstone and Mr. Goschen that they might get more inquiry than they bargained for, and that inquiry would prove that real property was under-taxed in comparison with other property. Since that date, when the result of Mr. Goschen's inquiry was published, we have heard less of such statements, though, in this very year, the Financial Reform Association tells the landowners that they are "somewhat imprudent in disregarding Mr. Cobden's warning not to put the people upon inquiry into taxation, lest they should discover how they have been robbed and bamboozled for ages by the aristocracy." Had new taxes been placed upon the cotton lords, as they have been upon the owners and occupiers of real property, every Chamber of Commerce would have been up in arms, and the country would have rung with it from Land's End to John-o'-Groat's. Mr. Goschen in his report labours hard, in good faith, I fully believe, to make good his former statement that real property is under-taxed. In this I think he utterly fails. He gives in his tables attached to his report the amount of taxes paid by real property, but he claims, as paid by "other property," all the taxes not paid by real property." Now, is any one so ignorant as not to know that by far the largest proportion of these taxes is not paid by property at all, either real or personal, but by articles of consumption, to the hindrance of Mr. Bright's "free breakfast table," and of John Bull's free beer? Again, Mr. Goschen attempts to sail off on a side issue, viz.—that urban property bears a much larger share of local taxation than rural; and, to prove this, he addresses a large portion of his report. Now this is a proposition I by no means admit, for a large portion of those burdens which Mr. Goschen sets down as rates, are, to use his own words (though he says "may be looked on as" not *are*), "investments, not rates." This is certainly true, for what is done in towns with the sewerage, general district, and other rates collectively, is done by the rural owners and occupiers individually; and their outlay for draining, fencing, and other improvements are quite as much *rates* as those levied upon the urban owner and occupier for similar purposes. But, as I have already said, this is a mere side issue, under cover of which the main question is passed over. Those who have urged, and advocated inquiry into, and a settlement of the question of local taxation, have never desired that the inquiry should be anything but full, and the settlement just and fair; and if such inquiry shall show that urban property is more heavily burdened than rural, then by all means let it be relieved. The advocates of inquiry have said that real property—urban and rural—is bearing more than its fair share of the taxation of the country, and Mr. Goschen's tables show that they are right, as I shall endeavour to prove, and, in doing so, I shall take my figures from Mr. Goschen's tables in as far as these tables give them. The amount of real property in England and Wales assessed for Income-tax:

Tax under Schedule A, in 1868, amounted to	£143,872,588
To this add amount excused on properties between £100 and £200 per annum...	4,700,000
And value of properties of less than £100 per annum	29,100,000
Total annual value of real property...	£177,672,588
The amount of personal income assessed under Schedules B, C, D, and E, for the same year amounted to	£223,400,000
To this add unreturned income, estimated by the Commissioners of Luland Revenue at	17,000,000
The amount excused on incomes between £100 and £200	13,300,000
Incomes under £100, estimated at	81,300,000
Total of personal income ...	£335,000,000

The revenue, national and local, of England and Wales is given as follows, viz.:

1st. National, but exclusive of miscellaneous receipts, such as the gross receipts from Post Office, Crown Lands, &c.	£19,527,001
2nd. Local, including all rates, dues, tolls, fees, &c.	21,066,383
Total taxation	£70,593,384

The balance of the £230,519,223 which Mr. Goschen includes in the local taxes, is made up of Government subventions, receipts from property, loans, and miscellaneous receipts, which while showing the magnitude of the trust committed to the local authorities, can in no sense whatever be classed as *taxes*. This, then, shows the national taxation to be rather over 13½ per cent. on the national income were the whole derived from direct taxation, but as the customs, excise, assessed taxes, and net receipts from the post-office yield £32,187,984 of taxes on expenditure, there remains only £38,405,400 derived from income, or rather under 7½ per cent. Now, admitting, as I willingly do, that real property should bear a larger share of taxation than personality and industrial incomes—a proportion which Mr. Dudley Baxter estimates at one-fifth—let us see how, according to Mr. Goschen's tables, matters really stands. He states

The national taxes falling upon real property at.....	£7,050,337
The local at.....	16,703,000
Total.....	£23,753,337

or rather over 13½ per cent. on the *gross* value of the real property in England and Wales.

In stating the amount of the taxes falling upon personal property alone, I cannot follow Mr. Goschen, for, as I have already said, he makes no distinction between those borne by personal property and taxes on expenditure. I continue, however, to use his figures, and if any other taxes than the following can be fairly shown to be paid by personality I shall willingly admit them—viz.:

1st.—National:	
Proportion of stamps, including legacy and probate duty.....	£5,125,851
Income-tax, less assessment falling on real property	4,862,829
	£10,288,680
2nd.—Local:	
Dues, tolls, fees, &c.....	4,363,314

Total taxes falling on personal property £14,651,994

or less than 5 per cent. on the £335,000,000 of personal property, even if the whole of the dues, tolls, and fees were paid by personality, which they are not. But, as part of the incidence of the rates falls on the occupier, I allow them to stand as paid by personal income.

If, however, we add to the.....	£335,000,000
The incomes derived from manual labour, and which certainly bear a portion of the above taxes, and which may be reasonably estimated at.....	256,000,000

We have £591,000,000

of personal, industrial, and manual incomes, bearing not quite 2½ per cent. of national taxes, as against 13½ per cent. borne by real property. Mr. Goschen has himself abundantly established our first proposition, and we beg to tender him our hearty thanks. A Mr. Butterworth, dating from Rochdale, in reply to a letter addressed by me some years ago to the *Daily News*, boldly asserts that "real property, as such, is not liable for payment of rates," that "it is only when land or other realised property are occupied that rates accrue;" and that "it is time we were rid of the idea that land, houses, shops, or other forms of realised property paid poor rates!" This has at least the merit of novelty, if savouring somewhat of ignorance. But does Mr. Butterworth mean to tell us that when purposing to take a shop or warehouse, having calculated the amount of rent he can afford to pay, he gives the landlord the full amount, and pays the rates over and above? If he does, he is simpler, I take it, than his shrewd fellow-townsmen generally get credit for. But even if it were true that it is only "when

land, &c., are occupied that rates accrue," it does not answer the question "Why is the occupier of real property taxed at a greatly higher ratio than the occupier in the funds?" But it is not true that occupation alone makes amenable to the rates. If Mr. Butterworth buys a piece of land, and neither lets it nor occupies it himself, but leaves it to grow briars or thistles as nature pleases, the demands of the Property and Land-tax collector, and of the overseer, will perhaps awaken from his dream that occupation alone makes it liable to taxation. And here again, personality has the advantage, for if Mr. Butterworth, instead of buying land and leaving it to nature, locks his money in his safe, where it will be equally profitable, he will undoubtedly escape all demand for taxes upon it. It is quite true that a portion of the local rates is incident to the occupier—a portion which those well able to judge compute at one-fourth as regards land, and one-third as regard houses. Some of our opponents go the length of saying that we have no grievance at all, as the rates are not a tax, but a rent charge. Into this, your time will not permit me to enter, but those who desire to see a thorough exposure of its absurdity, I refer to Mr. Baxter's "Taxation of the United Kingdom," chapter xi., and proceed to our next proposition.

2nd. That under the present law of rating there exists great anomalies. These I need scarcely point out to you, and shall only notice a few of the most glaring. Because the Act 43 Elizabeth, chap. ii., which is the foundation on which all our rating laws is built, specially mentions "Saleable underwoods," it has been held that land-growing timber is exempt from rates; so that if, as in cases I have met with, a landlord takes a field of, say ten acres off a farm and plants it, the value of the field is at once deducted from the rate. There are, however, several large landowners, both in Northumberland and Durham, who are so convinced of the injustice of this, that they consent to their land bearing wood being rated—notably in this district, the Duke of Northumberland, the Earl of Durham, and Lord Ravensworth. Again, if a landlord retains his land in his own hands, it is to be rated at its full value, irrespective of the stock he puts upon it; but if he lets the land, and lets it at a rent less than it would bring had the occupier the whole produce, on account of the landlord retaining the right of sporting over it, and also a part of its produce for the maintenance of game, the occupier is rated only upon what it is worth to him, and the owner is not rated at all. Again, because "coal mines" only are mentioned in the Act of Elizabeth, all other mines of whatever nature, are held to be exempt; and even fire-clay, so frequently found along with coal, and so valuable an adjunct to a colliery, is, if wrought by shaft, exempt; and so freestone, ironstone, &c., if wrought by shaft, are reckoned as mines and so exempt, but if wrought to the day are quarries, and are rateable. Until the recent decision in the Court of Queen's Bench in the case of "Guest v. East Dean," even the building and the land occupied by waste heaps, &c., connected with mines were not rated; and Government property is still exempt from rates.

3rd. In assessing rateable hereditaments for local taxes great inequalities exist. For the inequalities existing in the rating of railways, mines, machinery, mansion houses, &c., I refer you to a letter on the subject, addressed to Mr. Gladstone by Mr. T. F. Hedley, of Sanderland, than whom no one is more fully acquainted with the subject, or more competent to give an opinion, and in which he says: "I venture to assert that at the present time there are rateable hereditaments which are either undervalued or wholly omitted from the parochial assessments, of the annual value of several millions sterling, and that if the laws for regulating parochial assessments throughout England and Wales be amended so that all property which is now by law rateable be fully and fairly rated and assessed, the effect will be a more direct and satisfactory relief to those persons who complain of the increased and increasing burden of local taxation than any division of the local rates and taxes between the owner and the occupier, or altering the incidence of such taxation by including in the parochial assessments personal property, stock in trade, and shipping." Regarding the assessment of land under the present system, rent is almost invariably taken as the basis. Now, anyone who knows how land is let, and who takes the trouble to examine the valuation list of any township with which he is acquainted, must see that even where the rents are fairly given, which is by no means always the case, that the result is a very unequal assessment. On some estates the farms are

held for a long series of years, at moderate rents, in some cases descending from generation to generation with slight change, while on other estates the farms are let at rack rents. Are these, then, both to be rated at their rents? The words of the Assessment Act, 1862, sec. 15, are "The gross estimated rental for the purpose of the schedule of this Act shall be the rent at which the hereditament might reasonably be expected to let from year to year, free of all usual tenants' rates and taxes, and title commutation rent charge, if any." That is neither the utmost rack rent on the one hand or the very low rent on the other. If a hereditament is occupied at a low rent, there may be many reasons why the owner should not raise the rent. The occupier may have held the premises all his life, and perhaps his father before him, or by expenditure of his own capital and energies, he may have made the hereditament worth what it is, but these form no reason why he should not pay his full quota of the taxes. My opinion, that great inequality and much hardship exists under the present system of assessment has not been formed hastily, or on mere theory, but is the result of ten years' experience as chairman of the Hexham Union Assessment Committee, and of facts coming before me in various unions when valuing for rating purposes. The following are a few of the cases coming under my notice recently: A farm not a hundred miles from Newcastle was rated at 15s. per acre, or just half its value. A farm of over 500 acres, and valued at £180, is entered in the rate-book as 107 acres and £90 rent. In a neighbouring township, upwards of 8,000 acres, standing at 3d. per acre—a farm of 2,480 acres, whereof 280 acres are in-field pasture and the remainder fell—let at 1s. 3d. per acre. Another in the same township of 1,500 acres, with a fair amount of good grass within a mile of a town, and the remainder poor grass, and fell standing at 2s. 6d. per acre. Of 5,787 in one township, less than 1,000 appear in the rate-book—one farm in the township being entered as 170 acres—rent £313 13s. 4d., and the 170 acres would be cheap at that money, but there is, in addition, a capital allotment of 350 acres, and grazing for 800 sheep on the Fell. Another grazing for 1,720 sheep entered at £59 14s., or 8d. per sheep. In the north of this county, two farms, which all the neighbourhood know are of nearly equal value, stand in the rate-book at values of some £400 difference. I could multiply instances, but these may suffice to convince you of the many and gross inequalities existing under the present system. A fruitful source of inequality is the deductions allowed for repairs, insurance, &c., varying, as they do in country Unions, from five per cent. in some unions to 35½ in others. That is to say, a property worth £1,000 gross estimated rental would in the one union be rated on £950, and in the other on only £643 6s. 8d.—a difference of £306 13s. 4d. Within the Metropolitan district these deductions vary from 6½ per cent. to 33 per cent. Well may Mr. Dudley Baxter say, "Probably there are not two parishes in England where the local rates are identical, and the differences are frequently enormous.

4th. The machinery for the assessing, levying, and disbursing the local taxes is embroussed, expensive, and inefficient. Under the present law the assessing and levying of the local taxes is under the charge of a multitude of different authorities, acting separately and independently one of another. In the Hexham Union there are 72 poor-law townships, in each of which the overseers act separately and independently of each other, making their poor-rates at and for different periods of the year; 105 highway townships, in each of which the surveyors make and spend their rates separately and independently of each other, and the Hexham Local Board, levying and spending the general district highway, and other rates. We have then, 177 separate and independent rating authorities; and, in addition to these we have the Commissioners of Inland Revenue levying and collecting the house duty, land tax, and property and income tax.

Then look at the size of area over which these separate authorities act. In the county of Northumberland there are 546 poor-law and 631 highway townships (exclusive of corporations and local boards of health). Of these townships there are two with no inhabited houses, 11 with only one house in each, 51 with more than one but under five houses, and 61 with five and under ten houses. There are thus 124 of the poor-law townships having less than ten inhabited houses. How is it possible that these 1,200 authorities, with such multiplicity of interests, and such limited areas, can work harmoniously or efficiently? The Select Committee of the

House of Commons in 1868 reported that "this confused state of things manifestly entails upon the local officers who have to undertake the duty of making or collecting rates a great deal of unnecessary trouble and expense, which your committee think might be obviated by a more comprehensive and complete system." Now what is the system at present pursued in assessing and levying the rates—say, for poor-law purposes? And bear in mind that out of this rate are paid not only the poor, but the county and police rates, the vaccination and registration fees, maintenance of pauper lunatics, and expenses attending registration of Parliamentary voters. In the smaller townships the duty of framing the valuation lists, making and collecting the rate, is undertaken personally by the overseers, who are not often chosen for their fitness for the office, but very often the reverse. In the larger townships assistant-overseers are paid to do the work, but from the limited area of the townships, their pay is insufficient, and they are almost invariably engaged in other business, and their work as assistant-overseers very perfunctorily and inefficiently performed. Most of us are old enough to remember the state of chaos in which township valuations were prior to the introduction of Union Rating and Assessment Committees. Since the passing of the Union Assessment Act, 1862, the valuation lists have to be allowed by the Assessment Committee before a rate can be made, and those who have been members of Assessment Committees know how difficult it frequently is to ascertain the real value of the various hereditaments within the union. The Committee is very much dependent on the information of the overseers, who frequently cannot assist them, and just as frequently will not, for fear of giving offence to a neighbour, who may be overseer next year. And if, finding it impossible to get correct information, the Committee is compelled to seek the assistance of a valuer, it must first get the consent of the Guardians, each of whom must have sufficient notice of the meeting, where it is probable enough the Committee may be opposed by the very parties most requiring the services of the valuer. But if consent is given, and a valuer employed, inasmuch as a man employed only casually requires higher pay than one constantly employed, it is in the end a more expensive way of getting the work done than having a county valuer, as after noticed. Supposing the rating within the union is made equal, which, from the examples I have already given, you will see it rarely ever is, there are no means of securing equality between unions. Upon the ratepayers themselves the present system entails unnecessary trouble, annoyance, and expense. When the valuation lists are published an aggrieved party naturally goes first to the overseers who frame the list, who at once refer him to the Assessment Committee, and on going there he may be told he must come on the appeal day, when the overseers of his township will be present; and then if his appeal is sustained, and his grievance redressed, he has still the Surveyor of Highways, the Surveyor of Taxes, and if within a town, the Corporation or Local Board authorities to satisfy, and between these different authorities he is kept knocking about till he spends an amount of time worth ten times the amount of the rate, at which he feels aggrieved, besides undergoing a large amount of irritation and annoyance. I have, I think, shown the truth of the four propositions with which I set out, and you may fairly say "yes, but you have only shown the evils of the present system; what do you propose as an improvement?" 1st. As to the relief of real property from a portion of its undue burden of taxation. I cannot see my way, as some of our friends do, to rate personal property for local purposes. This has always been found impracticable where attempted. The late Sir G. Cornwall Lewis, an authority we may safely follow, says: "I never heard of any mode by which it would be practicable to levy a parochial rate on personal property," and again: "as far as I am informed of the details of rates made upon personal property, I doubt whether any such rate could be sustained on appeal." In Scotland, where it was fairly tried, under the provisions of 8 and 9 Vic. c. 73, it has been abandoned as unworkable, as was anticipated by the Board of Supervision in their first annual report. I would make a clean sweep of the whole of the present Assessment Acts, as they have been patched and repatched till, with Acts, and Amendment Acts, and Acts amending Amendment Acts, and decisions in the Courts of Law, it is almost impossible to tell where we are, and in their place pass one new Act showing clearly what is to be rated, and upon what principle, and also what burdens

are to fall on the local rates. By that Act I would bring under Local Taxation the Inhabited House Duty, which is strictly a local tax, and which, being most productive in urban Unions, would remove the inequality said to exist between them and the rural unions. I would also remove from the local rates and pay from the national taxes, all charges which are strictly national, and in which personal property is as much concerned as real. This was recommended by a committee of the House of Lords so long ago as 1850. Montesquieu says: "The public revenues are a portion that each subject gives of his property, in order to secure and enjoy the remainder." Now surely the owner of personal property is as much bound to give a portion of "his property in order to secure and enjoy the remainder" as the owner of real property. Yet, towards the County, Borough, and Police Rates, which are expended almost wholly for the security of property, he does not contribute a shilling. Can any one say that really is more concerned than personalty in the general health and education of the community? Why, then, should real property pay the fees of vaccination and registration, of sanitary inspection, and of education? Is not personalty as much interested in the registration of Parliamentary voters as realty; and also in the maintenance of good roads and bridges on which to convey persons and merchandise? Yet all these, with the maintenance of pauper lunatics, amounting in the aggregate to upwards of four millions—exclusive of education and sanitary rates, of the amount of which we can as yet form only a vague idea—are all paid by real property, but ought to be paid out of the national exchequer, by which means they would fall on real and personal property, and on taxes on expenditure alike. The proposal to put the expenses of the elections of members of Parliament upon the rates I consider to be most unjust. The vote of a man paying a few shillings,—it may be a few pence of rates, or of the lodger paying none, is of as much weight in the ballot box as his who is paying £100. At the same time, I do not think the candidates should be called upon to pay more than their own personal expenses of advertising their addresses and committee rooms (and they ought to have no other). The returning officers' official expenses for ballot boxes, ballot papers, clerks, &c., should be paid by a stamp on the ballot papers. If a voter does not think his privilege of voting worth the 3d., or 6d., or 1s., as the case may be, which his ballot paper would cost, and who cannot find his way to his polling place at his own cost, is not worthy of having the privilege. 2nd. As to the removal of anomalies in the rating of real property, I would, by the same Act, make every hereditament from which profit is, or may be derived, rateable, not exempting Government or any other property. All mines should be rated on the same principle as coal mines are now rateable. Land bearing wood at the rate at which it would be worth to let if no wood were there. Game I would not rate as game, any more than I would rate sheep, or any other stock with which the land may be grazed; but I would rate all land at the value of its producing power, whether for tillage, grazing, building, or rights of sporting. If a landlord chooses to let a farm at a reduced rent, reserving to himself rights of sporting over it, along with a part of its produce for maintaining game, it is no more a reason why the land should be rated at a lower amount than land of equal value where such rights are not reserved, than his reserving a right to graze so many sheep or cattle would be. I cannot see how you can rate a thing that is here to-day, and away to-morrow, and I believe that it is the not making this distinction between game which cannot be valued, and the right of sporting, which can, that has in a large measure prevented a settlement. The remedy for the third and fourth heads of grievance may be taken together. In the first place, I would abolish the divisions of township and parish, and with them the office of overseer, making for all local occasion and local government purposes the poor-law unions the unit. They are large enough to secure efficiency, and not too large for proper control. The boundaries, where necessary, might be rectified, so that as far as possible no union should extend into two counties. I would also make highway districts compulsory, continuous with the unions, and with a district rate, if they are still to remain a local burden. The unions I would divide into electoral districts, containing say 1,000 inhabitants each, to elect guardians and members of the Highway Board, though I see no difficulty in the same body performing both duties by the appointment of committees. The powers and duties of the

assessment committees I would extend, making them financial committees, the members of which to hold a higher qualification than that required for guardians, and with the financial committee should rest the whole responsibility of framing, subject to the supervision of the county assessor, the valuation lists, making and collecting the whole rates required for every purpose by any authority within the union. To this financial committee the guardians, Highway Board, corporation, local board, and every local authority within the union should, previous to a certain date, send a statement of the sum required by them for the year. It would then be the duty of the finance committee to make a rate, sufficient to cover the whole amount, showing the amount required for each separate purpose, and the time and place of payment. For this purpose the finance committee would require an efficient officer, whose duty would be to frame the lists, and make and collect the rates under direction of the committee, paying the amounts as received to the accounts of the different authorities. In large unions, where the work may be more than one man can efficiently overtake, a clerk or clerks may be allowed him, but I would retain the responsibility in one person. The consolidated rate and demand note were recommended by the Select Committee of the House of Commons in 1868. The committee of 1870 recommended that, on administrative ground, the rates should be paid half by the owners and half by the occupiers; and that the owners be represented at the boards directly, and not as at present by the magistrates resident in the Union sitting *ex officio*; and in this I think the committee is right, as it would give the owners a more direct interest in the administration, and where leases exist it would throw the half of the burden of new rates, and of the increase of existing ones, upon the owners. Some parties have advocated the collection of all the direct taxes by this committee, but I must say I think it better that the national taxes should be collected by officers appointed by, and responsible to, the Government. I would, however, make the valuation lists, as settled by the finance committee, the basis of all direct taxation—national and local. For the purpose of framing these valuation lists, the committee should have all the powers which the County Rate committees now have, and also, when required, the assistance of the county valuer. I should also abolish all deductions for repairs, insurance, &c., which, as I have shown, act so unequally, and rate on the gross estimated rental. Regarding the county expenditure, while I do not think that the appointment of county financial boards will lessen its amount, as I believe the magistrates are as careful as financial boards are likely to be, yet, as it is right that they who pay should have a voice in the disbursing, I do not see how county financial boards can be objected to. They would consist, first, of members appointed by Government, if those items of expenditure to which I have alluded are paid from the national funds; second, of members appointed by the owners; and third, of members, representing the occupiers, who might be the chairman and vice-chairman of the union financial committees. The county financial boards should be empowered to appoint a county valuer, who would act as clerk to the board, and make all valuations required for rating purposes within the county, and generally to see that the valuation lists are properly attended to. The duties of the board itself would be to superintend the expenditure for county and police purposes, for the maintenance of pauper lunatics, and those other purposes mentioned at pages 17 and 18; to hear and determine all appeals from the unions within the county. One of the members appointed by the Government might be a barrister with a salary, who would keep the board right on points of law, and in addition act as stipendiary magistrate. The County Finance Board thus constituted, where appeals from the unions could be heard with or without the intervention of lawyers, would, I am convinced, be a much more satisfactory Court of Appeal than that we have at present. From its decisions there would of course still remain an appeal to the Court of Queen's Bench on questions of law, a privilege which would, I expect, be but seldom exercised. In conclusion, I feel confident that if the suggestions I have made are adopted, the result will be a uniformity of assessment hitherto unattained; a large contribution to the local taxes from property hitherto untaxed; a large saving of expense, and the removal of the cause of many complaints, and of much irritation and annoyance. Since writing this paper my attention has been called to an article in *The Atlantic Monthly* for January last, on the "Theory and Practice of Local Taxation in the United States,"

in which the difficulties of taxing personal property for local purposes is shown, and that the growing tendency of the decisions of the Supreme Court is to put a stop to it. Of course in America the separate State Governments not only increase the difficulties, but make the question one of more importance than it is here. The writer sets out by saying: "It is known to all who have examined the subject that a hundred years ago, or less, the law makers of England entertained very generally the same opinion in regard to the theory of local taxation which is yet popularly received in the United States, namely, that in order to secure exact justice and equality it is essential to attempt to subject all property of the tax-payer—real and personal, tangible and intangible, visible and invisible—to one uniform rate of valuation and assessment. And although it must then, as now, have been evident to every one, on reflection, that in order to do this it would be necessary to endow the assessors with more than mortal powers of perception, so as to enable them to see what was invisible and measure what was intangible, and incorporeal (debts and credits for example), and that, in default thereof, this practical application of the theory must result in absurdity and injustice; yet it is curious to note that the change in English taxation, when it came about, was not due to any such process of reasoning on the part of the people, or to any positive enactment on the part of the State, but rather to a series of legal decisions by its courts, which gradually undermined the

whole system of British local assessment, until it tumbled down, as it were, imperceptibly, and gradually became replaced from necessity by a theory which approximated more closely to the principle of political economy and the dictates of common sense."

The CHAIRMAN said the paper was so exhaustive that he thought the meeting would not have any remarks to make. There was in a condensed form everything that could be said and known about local taxation, and not only as to the inequalities which exist, but also very sensible reasons for their being altered.

Mr. WILLIAM BELL (Harlow Hill) moved that the paper be printed, and copies forwarded to each member, and that it afterwards be discussed. It contained information of a very valuable description.

Mr. GEORGE HEDLEY (Newcastle) seconded the motion and it was carried unanimously.

Mr. STEPHENSON (Throokley) had very great pleasure in moving a vote of thanks to their friend Mr. Dods for his able paper.

Mr. ROBERT BELL (Newcastle) seconded the motion. He had been very much pleased with the paper, and he thought its general tenor would commend itself to the members. He thought the subject should be taken up by the Legislature, and all the Acts upon it brought into one.

The motion was carried by acclamation.

PENRITH FARMERS' CLUB.

THE LABOUR MARKET.

At the last meeting, Mr. James Mitchell, of Howgill Castle, read a paper on "The Labour Market, and how to deal with it," Mr. W. Heskett, Plumpton Hall, in the chair.

Mr. MITCHELL did not anticipate any dissent from this—that the labour market was one of great importance to all employers of labour, and of late it had become a market that excited their serious and grave attention, pregnant as its future seemed to be with a scarcity of the raw material—bone and sinew. As yet there had only been peaceful agitation; he hoped that the waters of the turbulent Atlantic had been *arched* over, and that the agricultural labourers of Great Britain, Ireland, Canada, and America would for ever afterwards be placed in the same market. He did not think that any person would wish to return to the good old times, when the agricultural labourers were ill and inadequately remunerated for their labour; and the less so when the farmer was getting better value for his produce, especially for his live-stock. One thing only could bring about such a reaction in the labour market, and that was a complete change in the money value of agricultural produce, and a reduction of something like 50 per cent. in the price of coal and material. His experience of the world was that the man who wanted Naaman's wealth must take Naaman's leprosy along with it; and if we would have high prices for our produce, we must be prepared to pay liberally for the labour necessary to its production, remembering the high Authority who said, "The labourer is worthy of his hire." In making these remarks he wished to guard himself against misconception; he was not bidding for vulgar popularity; he was not pandering to a vitiated taste or a disorganised state of things; and he could assure them that while he was in favour of justice to the labourer he held with equal tenacity that the employer was entitled to the faithful, conscientious services of his workmen, and that proper care should be taken of the employer's property as if it belonged to the workman himself. He was sorry to think that in this last particular many of our farm-servants were greatly deficient; and he commented strongly on their conduct in often meeting together, seemingly for the only purpose of excelling in the most childish, cowardly, and wanton—he had almost said devilish—destruction of the property of some unoffending neighbour. But it was to be hoped that now the schoolmaster was abroad, and for the future it was to be treated as criminal for any youth over 13 years of age to be found ignorant, this vice would be overcome and peace and quiet regain their sway. Mr. Mitchell next adverted to emigration schemes. As a resident for many years in Australia he spoke upon this point with some authority, and he

said half the emigrants who left their country and then returned disconsolate had made a grand mistake in ever going away at all. Before setting out they had not realised the difficulties awaiting the emigrant, and so they were not prepared to meet them. To all intending emigrants he had to say, "You must make up your mind for roughing it; you must prepare yourself to fight life's battle manfully, and that in a very primitive and patriarchal fashion, with a tent for a covering—if you fortunately possess such—and a log of wood or a stone for a pillow." On the whole, he differed with those who objected to Mr. Arch's scheme of free emigration, on the principle that free trade in one thing, free trade in all things. If hundreds of emigrants were coming home, he said let Mr. Arch's thousands go out. Let the scheme alone; already it was working its own remedy. Besides, if it was founded on a rock nothing could prevail against it; if founded on sand it would speedily totter and fall. Returning to the home labour market, he said that while he did not think the scarcity would diminish, he did not believe it would increase; nor did he look for any change in prices either up or down for some time to come. Therefore he adjured brother-employers not to vex themselves about what they could not mend; but let them go forward like men determined to meet difficulties with the facilities at command. And this brought him to the question—How was the work of the farmer to be profitably carried on under existing circumstances? But first he wished to explain as to an increase of wages among some of their local brethren, whose farms were close to the Settle and Carlisle line, that the increase was solely owing to the demand for labour in the completion of that line; but he was of opinion that even when the line was completed, rates would not recede to their original price, though with the enlarged facilities the railway afforded they would then be in a position to get a labourer from whatever distance they wanted him. Returning to the broad question, Mr. Mitchell recommended that one way of meeting the difficulties occasioned by the scarcity in the labour market was putting into requisition the most improved implements of husbandry; and he then proceeded to make some practical observations upon the use of several of these implements. He also suggested that it was a matter of importance to farmers, in the conduct of their farms, that their middensteads should be closed in; and he also held that well-arranged and comfortably-arranged buildings for the stock were a *sine quâ non* to successful farming. Attention to these matters—to the food and comfort of the stock—along with the outlay of further capital by farmers, he considered would work most satisfactory results, bring in handsome returns, and

more than meet the enhanced rates in the labour market.

The Rev. J. BRUNSKILL generally endorsed the views contained in the paper just read, but he strongly advocated an extension of the cottage and allotment systems, as inducements to agricultural labourers. He would have each labourer in possession of a cottage, and three or four acres of land on which he could keep a cow and pig or two, and in the management of which he could utilise the labour of his wife and family, and any spare time he might have. He feared the depletion of the agricultural labour market was going on more rapidly than we had imagined, and he did not see any prospect of a return to the old employment of the hands now leaving it. Another complication was hire. Husbandry was not a branch of industry into which you could import men: they must, as it were, be grown to it. This was an additional argument in favour of the allotment system, for it was necessary that something should be done to bind more closely the labourers to their present avocation. He looked upon the allotments made rather in the light of savings' banks for their extra labour. When agriculturists turned their attention to other pursuits, it was not so much the increased wages they obtained as the increased comforts they experienced that made them remain in them. If a man were allowed to have three or four acres of land to cultivate, it would be a sort of savings' bank, and bind both himself and family to the soil, and the quality of labour would be improved instead of depreciated. In many instances the agricultural labourers were the most thankless and careless class we had. Only a short time ago a farmer told him that a careless boy had cost him £50 in one year, through the great loss he had sustained by the abuse of his horses and other animals. Now, nothing but training with the animals they had to attend would teach lads to have a feeling for them.

Mr. JAMESON asked how it was that the supply of agricultural labourers had been so small, and was becoming still smaller, notwithstanding that there was an increase in the population.

Mr. MITCHELL: There can only be one answer to the question, and that is, that there is a higher remuneration for their labour elsewhere.

Mr. C. J. SMITH said it was a remarkable fact at the present day that not only farmers, but others in various branches of trade, experienced great difficulty in procuring a sufficient number of hands, as well as in managing those whom they did employ. He believed that although every man ought to have for his labour sufficient remuneration to enable him to live comfortably, as a rule, shorter hours of labour and an increase on the rate of wages they had at present would be a curse instead of a blessing to the working classes. It seemed to him that the men now wanted to be masters: they wanted to go upon the principle of the Americans, who declared that all men upon the face of the earth were equal, except niggers. In fact, in England they appeared to be carrying that principle a good deal further; for they said, in effect, that men were not only equal, but that Jack was as good as his master, and a deuced sight better. He feared that the plan proposed by Mr. Brunskill, to give every farm labourer a cottage and some three or four acres of land, would hardly succeed, because if a labourer possessed so much land, its thorough cultivation would require a great portion of his time, and he would have very little to devote to his master. Now, he believed that the wages of the agricultural labourer in the North were very much higher than they were in the South of England; and he thought that something might be done in the way of equalising labour and its remuneration if there was a meeting of deputations from agricultural societies such as that to consider the whole question. They might then be able to compete with Mr. Arch himself, who was sending English agricultural labourers over the water to America. By a more equal distribution of labour, they would increase its value in one part of the country where it was too low, and reduce it in another part where it was too high. It had been said that the agricultural labourers of the South were not equal to those in the North, but he believed that experience had proved that such was not the case. Some people were sanguine enough to believe that education would prove the great antidote for the settlement of the labour question; but he believed that they might educate the labouring classes to such an extent as to place them above the work they would otherwise perform. He believed, too, that for the ploughman who knew his busi-

ness thoroughly well to be able to read and write and cast up accounts was all the education that was necessary for his position; and he was convinced that such a man would go to his work far more happily and efficiently than if his mind was stored with a knowledge of botany or geology. Education was a very excellent thing, but, like many other excellent things, it may become an evil. Over-education would never conduce to the happiness of those who are engaged in low-class manual labour. The labourer of the present day—at least in many instances—was not the man he ought to be. He reminded him of what was written by Beaumont and Fletcher in one of their plays:

For I would live in a good house,
And have a good master too;
And I would eat and drink of the best,
And no work would I do.

Although men generally get a good day's wages for their work, he hardly thought that in many cases they did a good day's work for their wages. With regard to the disposal of the increased wages, the Inland Revenue account showed that the large increase in the general receipts was derived almost entirely from the sale of spirits and beer. The duty upon these commodities had been increased last year by £1,174,947. How many millions more did that represent as the increase in the amount expended in drink? The sum must be enormous, and by far the greater portion of it came out of the pockets of the working classes, with their large wages and shorter hours of labour. So far as they were able to judge from these returns, increased wages did not contribute to the morality of the working classes.

Mr. LAZONBY said there could be no doubt that labour was growing dearer, but look at the increased prices which the farmer was obtaining for his beef and mutton, and the "fancy prices" at which the farmers' wives and daughters sold their butter and eggs. The settlement of the labour question would, to a great extent, depend upon supply and demand; but he saw no reason why a labourer should not sell his services in the best market. Some men talked as though the labouring man had no right to ask for sufficient wages to support himself and his wife and family decently. He had such a right; but it was apart from his duty to support men who thought they ought to get a living, not by working like their fellows, but in going about the country organising unions and such like. No one could say the men were wrong in combining to improve their position. During the increased demand for labour labouring men had had the advantage of it—they had a better market for their services; but as labour became more abundant these things would be regulated accordingly. He had seen a good deal of the cottage system, and of the allotment system, and he could not concur with Mr. Brunskill. Give a labourer four or five acres to attend to, and he would have enough to keep him employed. The farmer would find him come sauntering up to his work about the middle of the day, with the excuse that the donkey or the pig had been ill. His whole interest would be centred in his pig and donkey, and he would not care anything for the interests of the farmer. He thought that the high prices of labour and its scarcity were inconveniences that would shortly adjust themselves. Farmers must at present bear with these things. Never mind labourers' unions, and such like, and matters would presently find their level. There were two consequences he noted from existing affairs—the one, that farmers would employ their own children on the farms more than they had been wont to do; and the other, that many small farmers, unable to bear the prices, would give up their farms, and themselves and their families become labourers. This would tend in time to reduce the pressure on the labour market.

Mr. BRUNSKILL asked Mr. Lazonby how a labourer in a cottage, with no ground allotted to him, could economise the labour of his wife and family?

Mr. LAZONBY said he was sure that the farmer who employed the labourer could find employment for his family as well.

Mr. JAMESON ascribed the present high price of labour to an excess of capital in the country, and the keen competition among employes of labour—farmers were employers of labour. The labourer knew that the employer could not get on without him, and therefore he stuck up for high wages, and there was no option but to give them. How were these wages to come down? He must confess that he did not see much prospect

of a reduction at present, and he looked forward to a time when the farmer would find that the advanced prices he got for his produce would not compensate him for the increased wages he had to pay. Then he would not be able to pay his rent, and there would be a general break up. This was a gloomy picture, but it was what he thought. To his mind there was little chance of a change in the price of labour till there was less competition among capital, and less capital employed in the purchase of labour.

Mr. LAXONBY said he should be sorry to see the labourer getting less wages than he did now.

Mr. JAMESON moved a vote of thanks to Mr. Mitchell for his paper, which was seconded, and unanimously adopted.

Mr. MITCHELL, replying, said he thought there was some misunderstanding about this cottage and the allotment system. Mr. Brunskill argued that if this allotment system was carried out the children of the labourer would be reared on this bit

of ground to follow in the footsteps of their parents; but he thought they might be equally so reared by being employed upon the farm where their parents were located. Many farmers were tenants at will; they had no leases; and that being so it was evident that the tenancy of any allotment of land they might make to their labourer would be still more precarious than their own. Then the labourer could not be expected to have any capital, and how could he work his bit of land profitably to himself?

Mr. C. J. SMITH, in moving a vote of thanks to the chairman, said he could only hope that they would have a little new life infused into the Club. The two last papers that had been read, and by tenant-farmers too, were the best he had heard. If, therefore, certain individuals did not choose to attend the Club, because they thought it was not a farmers' club, it was their fault, and not the fault of the Club.

T H E I 2 T H C L A U S E .

At a meeting of the Herefordshire Chamber of Agriculture, the President, Mr. J. Pulley, in the chair, the attendance was very small.

The PRESIDENT drew the attention of the meeting to the first notice upon the agenda paper, which was "To renew discussion upon the subject of compensation for unexhausted improvements." He said he should be very glad to hear the opinion of any member of the Chamber with respect to the 12th clause of the Landlord and Tenant Bill, which appeared to be the clause which had the greatest influence upon the question before them, and it seemed to him that it made the whole character of the bill. The wording of the clause was as follows: "Any contract made by a tenant after the passing of this Act by virtue of which he is deprived of his right to make any claim which he would otherwise be entitled to make under this Act shall, so far as relates to such claim, be void both at law and in equity." The President also said that he could not help thinking that property had its duties as well as its rights, and that the clause which he had just quoted was one which would give the tenant encouragement to perform those duties which the landlord might neglect. The clause appeared to him to be clear, concise, and straightforward, and when such a clause existed he could not see why any amendment to it should be proposed, or why, in other words, they should attempt to do by a side wind what could be done by plain sailing. He thought that besides looking at the interests of landlords and tenants, and at agricultural interests generally, they were also bound to look at the interest of the country; and that all these questions connected with the improvement of agriculture affected the community at large, inasmuch as they had much influence upon the increase of the produce of the country. In legislating upon the subject it must be remembered that they were not legislating for the benefit of a class, but for the public good; and he thought that it would be to the interest of all to secure the legislation of any measure calculated to increase the produce of the country, so as to make us less dependent upon foreign supplies. The Earl of Derby, who was at present Foreign Minister, in a speech made in September, 1871, said he believed it was possible that the produce of wheat by this country could be doubled. This statement was confirmed by Lord Lancaster, who was perhaps as thorough an agriculturist as Lord Derby was a politician, and was supported by the last report of Mr. Caird upon the state of agriculture in the country. In the face of this he held that it was to the general interest to support such a clause as would encourage the landlord and tenant to develop the cultivation of the soil, and give due security for any improvements which might be made to that end. It had always struck him as a curious fact (and he had no doubt that the inhabitants of this county would be able to appreciate his feelings) that, though we had got our live stock generally to a most perfect state, we had not developed our land in a similar way. The reason that our live stock was in this condition was that it could be done without interference from the landlords; while, on the other hand, though we might develop our land, we knew all the while that it might be that we were doing it for the benefit of other people. But this clause would enable us to develop it for our own

benefit, and he should like to ask the opinion of the meeting whether it was desirable that it should remain a portion of the new bill or not. He regretted that Mr. Read had joined the Government, as he thought he would have been likely to have served the agriculturists better as an independent member than in that capacity. Mr. Read and Mr. Howard had prepared the bill together. Both were practical agriculturists, and the president did not think that they would have been likely to have introduced the clause unless they were satisfied that it was to the interest of the community at large to do so.

Mr. CARPENTER, in rising to move a resolution upon the subject, said he was sorry that he could not congratulate the president upon having a larger attendance on that occasion, though he could most sincerely do so upon the lucid manner in which he had dealt with the question before them. He had prepared a resolution to propose for their adoption; but he was dubious whether he should not have couched it in stronger terms had he first heard the pointed remarks of the chairman. Circumstances differed, and, though there were landlords who would be ready to subscribe to the 12th clause as freely as the chairman, there were many (those whose land was heavily mortgaged, for example) who would not be so ready to entertain the subject in such liberal views. With respect to the comparison which the president had made between the produce from live stock and from the crops, he (Mr. Carpenter) felt assured that if the same protection was given for the one as for the other, and if the bill before them could be passed in its integrity, there would be no lack of agriculturists ready to embark their capital in improving the soil, and they would not hesitate to do so. To illustrate the disadvantages under which they now laboured, he might state that a case had recently come under his notice in this county in which a farmer whose family had occupied his holding for three generations had been stimulated by his landlord to invest money in improvements in the land, and when, in the course of two years, he had sunk some £500 in this way his landlord gave him notice to quit, failing his submission to a half-guinea rise. He thereupon quitted the farm in disgust, and it was subsequently let to another farmer at a rise of only 2s. 6d. per acre more than he had been paying. However, had the bill before them been in operation, he would have had this capital of £500 returned to him to set up with in another farm, and in view of this principle, and also of the undesirability of arbitration in the matter of improvements when there was a dispute (his experience being that the arbitrators generally sided with the landlords), he begged to move the adoption of the following resolution: "That this Chamber is of opinion (1) that compensation for unexhausted improvements is just and right to a tenant, whilst upon the other hand compensation for dilapidations and deteriorations should be secured to the landlord from a defaulting tenant; (2) That Legislative enactment should give both landlord and tenant the above-named security."

Mr. J. MORRIS seconded the resolution, which was carried unanimously.

The PRESIDENT, with a few comments upon them, suggested, in view of the smallness of the attendance the post-

ponement of any discussion upon the other subjects noticed upon the agenda—"The appointment of a Minister of Agriculture and Commerce," "Highway Legislation," and

"Locomotives on Common Roads." This suggestion was acted upon, and a vote of thanks having been passed to the President for presiding, the meeting adjourned.

THE GRASSES AND FODDER PLANTS OF AUSTRALIA.

(HIS EXCELLENCY THE GOVERNOR HAS DIRECTED THE PUBLICATION OF THE FOLLOWING PAPER, READ BY DR. SCHOMBURGK, DIRECTOR OF THE BOTANIC GARDENS, BEFORE THE CHAMBER OF MANUFACTURES):

No doubt you will agree with me that in the Household of Nature there is not a more important tribe of plants than that of the grasses, as upon the seeds of the cereal division more than two-thirds of the population of the globe subsists. The same remark is also applicable in regard of the animal world. To the graminivorous animals, which are the most numerous amongst the mammalia, the value of grasses as fodder is hardly second to that of corn for human food, and a considerable portion of the feathered tribe live also upon the seeds of grasses. Without wheat, rye, barley, oats, maize, Guinea corn, rice, what would become of us? It is said that rice alone forms the food of three-fourths of the human race; in other words, of between six and seven hundred millions of the population of the world. As nothing can be uninteresting which is connected with the habits of a tribe of such vast importance to man and beast, I will, before proceeding to the real object of this evening's lecture, mention a few more illustrative facts. Professor Lindley says in his work, "The Vegetable Kingdom," the use of this most important tribe of plants for food, fodder, clothing, &c., requires little illustration. The abundance of wholesome fecula contained in their seeds renders them peculiarly well adapted for the sustenance of man; and if the cereal grasses only, such as wheat, barley, rye, oats, maize, Guinea corn, rice, are the kinds commonly employed, it is because of the large size of their grain compared with that of older grasses, for none are unwholesome in their natural state, only one kind being known amongst the whole tribe, namely, the drake (*Lolium temulentum*—Lin.), the effects of which are undoubtedly deleterious. Sugar is a general product of grasses. For economical purposes grasses are often of much importance. I will only mention the bamboo, which in some parts of the world, especially in Asia, is employed as timber and cordage. Plants of a grass, called in South America "Taqnarussa," are living fountains. They grow from thirty to forty feet high, with a diameter of six inches, form thorny impenetrable thickets, and are exceedingly grateful to travellers and hunters; for on cutting such a reed below a joint, the skin of the younger shoots is found to be full of a cool liquid, which quenches the most burning thirst. To this I can testify, as, during our travels in South America, we hailed with delight such a copse of reeds to quench our thirst. Besides these properties of the grasses I may also mention their use for paper, cordage, straw plating, &c. In fact, the value of this order to mankind is boundless, and I should trespass too much on your patience if I ventured to tell you all of the economical purposes to which the products of the different grasses are applied. Besides these properties of the graminaceæ their inorganic products are also remarkable. The cuticle contains a large proportion of siliceous matter, as is proved, according to Professor Lindley, by its hardness and by masses of vitrified matter being found whenever a haystack or heap of corn is accidentally consumed by fire. With the exception of the genus *bambusa* (bamboo) Nature has not lavished on the representatives of this most important and interesting order of the vegetable world much outward beauty, nor has the enthusiasm of ancient and modern bards been excited by them, as is the case so frequently in praise of other plants, which have been endowed by Nature with every beauty to please the eye, but without the slightest use to mankind. I think we all, indeed, are apt to look on the grasses with too much indifference, considering that they constitute in a great degree the staff of our life. Professor Lindley says further: "The great mass of herbage known by the name of sedges and grasses constitutes perhaps a twelfth part of the described species of flowering plants, and at least nine-tenths of the number of individuals composing the vegetation of the world; for it is the chief source of that verdure which covers the earth, especially of northern countries, with a gay carpet during the year." I extract the following account of the geographical

distribution of grasses by Professor Shaw: "The family is very numerous. In the system of Roemer and Schables there are 1,500; and since this work, everly brought to a conclusion, would probably contain 40,000 in all, it may be assumed that the grasses form a twenty-second part. It is more than probable, however, that in future the grasses will increase in a larger ratio than the other phanerozoic plants, and that perhaps the just proportion will be as one to twenty, or as one to sixteen." Greater still will be their promotion to vegetation in general when the number of individuals is taken into account, for in this respect most, if not all, of the classes are inferior. With regard to locality in such a large family, very little can be advanced. There are, however, both land and water grasses, but no marine plants. They occur in every soil, in society with others and alone; the last to such a degree as entirely to occupy considerable districts. Sand appears to be less favourable to this class; but even this has species nearly peculiar to itself. Grasses exist under the equator, on the mountains of the south of Europe, where they ascend almost to the snow line and on the Andes. The greatest difference between tropical and extra-tropical grasses appears to be the following: The tropical grasses acquire a much greater height, and occasionally assume the appearance of trees. Some species of *bambusa* are from fifty to sixty feet high. The leaves of the tropical grasses are broader, and approach more in form those of other families of plants. Separate sexes are more frequent in the tropical grasses: the flowers are softer—more downy and elegant. The extra-tropical grasses, on the contrary, far surpass the tropical in respect of the number of individuals. That compact, grassy turf which, especially in the colder parts of the temperate zones, in spring and summer composes the green meadows and pastures, is almost entirely wanting in the torrid zones. The grasses there do not grow crowded together, but, like other plants, more dispersed. The contribution of the cultivated grasses is one of the most interesting of all subjects, and I beg you will indulge, and not grudge me if I go into lengthened details of this interesting point. It is determined not merely by climate, but depends on the cultivation, industry, and traffic of the people, and often on historical events. Within the northern polar circle, agriculture is found only in a few places. In Siberia grain reaches, at the utmost, only to 60 degs., in the eastern parts scarcely 55 degs., and in Kamtschatka there is no agriculture even in the most southern parts (51 degs.). The polar limit of agriculture on the north-west coast of America appears to be somewhat higher, for in the more southern Russian possessions (57 to 52 degs.) barley and rye come to maturity. On the east coast of America it is scarcely above 50 or 52 degs. Only in Europe, namely in Lapland, does the polar limit an unusually high latitude—70 degs. Beyond this, dried fish, and here and there potatoes, supply the place of grain. The grains which extend furthest to the north in Europe are barley and oats. These, which in the milder climates are not used for bread, afford to the inhabitants of the northern parts of Norway and Sweden, of a part of Siberia and Scotland their chief vegetable nourishment. Rye is the next, which is substituted for the inferior kinds of grain. This is the prevailing grain in a great part of the northern temperate zone, namely, in the south of Sweden and Norway, Denmark, and in all the lands bordering on the Baltic, the North of Germany, and part of Siberia. It is a very remarkable circumstance that the native country of wheat, oats, barley, and rye should be entirely unknown; for, although oats and barley were found by Colonel Chesney apparently wild on the banks of the Euphrates, it is doubtful whether they were not the remains of cultivation. This has led to an opinion on the part of some persons that all our cereal grasses are artificial productions, obtained accidentally, but retaining their habits, which have become fixed in the course of ages.

Having attempted to impress on your minds the importance of this most valuable and interesting order of the vegetable world, upon which the existence of the human race mainly depends, I will now go over to the subject of this evening's lecture, namely, "The grasses and fodder plants which may be beneficial to the squatter and agriculturist in South Australia." No doubt you will agree with me that there are few circumstances to which the agriculturist and squatter of this colony have been so inattentive as to the nature and produce of their pasture lands, namely, the grass and fodder plants. It is also true that the cultivation of artificial grasses and fodder plants will, and never can be, so general here as at home on account of the large extent of pasture land in the possession of the squatter, and on account of the insuperable difficulty arising from climate and the droughts to which some parts of the colony are often subjected, which is against the cultivation of most of the artificial grasses; and there are not many European and foreign grasses which would live throughout the year, and renew themselves annually. I will say first a few words regarding our native grasses, of which I am sorry to say so many species have already died out from cultivation and depasturing since possession has been taken by Europeans. It is an historical fact, whenever man settles in a new country he exercises a potent influence over the indigenous vegetation and animals, especially if the intruders are of an agricultural and pastoral pursuit. The plough, the axe, the herds are enemies to vegetation, and, as cultivation advances, one representative after the other succumbs to the foreign influence. The herbage suffers first, the native animals second, and even man succumbs, of which many countries, especially America, have given us examples. But the plough, the axe, the herds are not the sole destroyers of the native herbage—no. With cultivation are introduced noxious weeds of other countries, which, if they have taken ground, spread with alarming rapidity, and become possessors of the ground, growing often more luxuriantly in their new abode. As an example, I will call your attention only to seven such noxious intruders in South Australia—viz., the so-called dandelion (*Cryptostemma calendulaceo*, R. Br.), the cockspar (*Centaurea meliöensis*, Lin.), the Scotch thistles (*Carduus marianus*, Lin., and *Onopordum acanthium*, Lin.), the Bathurst burr (*Xanthium spinosum*, Lin.), the French catclaw (*Silene gallica*, Lin.), and the stinkaster (*Anthemis cotula*, Lin.), natives of the Cape and Europe, which already cover large tracks of pasture land, and will extend further and further to the destruction of the native herbage. You will agree with me, especially the squatter, of the seeming failure of the native grasses, and that the feeding properties of our native pastures have seriously declined of late years. Many close observers will have missed already several kinds of herbage, especially annuals or summer grasses, in our neighbourhood, and the representatives of other kinds are becoming less every year. But this is not alone the case with the annual, but also with the perennial herbage. I will only call your attention to the well-known and so useful kangaroo grass (*Anthistria ciliata*, Lin., fil), which in the early days of the colony we found everywhere, and formed a great part of the pasture grass. It has now disappeared even from localities which it formerly almost monopolised. It has been relished so much by the stock that it has been fairly eaten out of the ground, and I fear will soon disappear entirely; and a good many other grasses will follow. But not alone in South Australia, but also in South Africa, vegetation changes are going on through the introduction of sheep. In a paper by Mr. J. Shaw, of South Africa, read the other day by Professor T. Dyer before the Royal Botanical Society, London, Mr. Shaw remarks: "Civilization and sheep have introduced the Bathurst burr. In Orange State wool has become so filled with these burrs that its value has been deteriorated nearly 50 per cent, and the Government have legislated for its compulsory destruction. The sheep in connection with the overstocking of farms are doing very serious injury directly to the vegetation by eating down the better and more agreeable plants, giving range to poisonous and bitter ones. Since sheep have been introduced the grasses have very fast disappeared; the ground, by the hurried march of the sheep for food amongst a scattered bush, has become beaten and hardened, and the seasonable rains, which do come occasionally during the summer, are accordingly allowed to run off the surface without soaking in the ground to the extent formerly the case. The grasses and herbage disappear, the country is drying up, and becoming a

semi-desert." The author further refers to the great increase of poisonous and bitter herbage, so that it was dangerous to have stock on many farms which formerly were free from any injurious herbs. We see from the above that the South African squatters have the same cause of complaint regarding the introduction of noxious and poisonous and the extirpating of the indigenous nutritious plants as the South Australian squatters have. You will ask "What is the cause of this?" Nothing is more easily answered—the constant pasturing on the runs throughout the year. The grasses and other herbs are prevented ensuring their reproduction from seed, and as the sheep crop very closely, the plants soon succumb, having no chance whatever of being reproduced from seed. From this fact and from those relating to the disappearance of choice grasses, it is known that especially the sheep devote their attention to kinds of grasses which they most like and leave the inferior grasses untouched. Most of our better kinds of native grasses have no tendency to form a close turf, and growing mostly tussocky, are more easily eaten by the sheep out of the ground and destroyed. The perennial grasses suffer also from the constant trampling upon them by the stock. I saw, the other day, a letter in one of the volumes of the *Farm and Garden*, which will illustrate to you the state in which the native grasses were found here in the first days of the colony. The writer of the letter, who signs himself "Mualinga," says: "The first surveyors coming down to Yankalilla pitched their tents in a fine open valley or plain, where they found the grass so luxuriant and tall that it could be tied over a horse's back. This they mowed and made into hay, and from the circumstance of the stacks being accidentally burnt, they call the place 'Hay Flat.' This name," the writer says further, "it has continued to bear undeservedly up to the present time; although I think it high time for it to be altered to a less pretending one, for its present aspect reminds one no more of the above narrative than does a fairy tale or ghost story of real life. Indeed a modern explorer visiting the spot now would call it rush or stony valley." As I have mentioned before, I fear very few artificial grasses can be grown with profit and advantage on the runs, and so the squatters must be dependent upon the native grasses. The only resource will be to encourage the growth of these. No doubt, if properly cultivated, native grasses would be the most suitable for pasturage on the runs. Their seeds should be collected, and care should be taken to procure those sorts of which sheep and cattle are fondest, and on which they thrive best. Of such grasses several acres should be sown in well-prepared soil, and fenced in for the sake of procuring annually a quantity of seed, which should be sown on such spots which are deficient of herbage. Those spots should be ploughed and the seed properly sown and harrowed in. No doubt these seeds, sown before the rains set in, will grow afterwards without any further trouble. Or the runs should be divided into subdivisions. Annually one of these divisions should not be grazed, for the purpose of replacing the pasturage. The grasses should grow unmolested, flower, ripen, and scatter their seeds, so as to ensure their reproduction. Undoubtedly such a system of rotation would be very beneficial, and improve the growth of the pasture materially. I think we all know, and especially the farmer, that to farm profitably grazing should go hand in hand with corn growing, and that the farmer as well as the squatter will find it advantageous to have a paddock of artificial grasses near his homestead, in some suitable and confined spot, for the purpose of keeping stock which requires to be kept in good condition during the summer months, but to keep such a paddock during this time in a growing condition, I fear some difficulty will be found in South Australia. Even with irrigation, we could not expect to produce such a fine turf as that with which we were so familiar at home; and every farmer will agree with me that it is not only raised by manuring and irrigation, but by the humid climate and the mild summer showers that fall at home. But with our dry climate, the thermometer ranging frequently from 80 to 100 degrees at this season of summer, I think it improbable that we ever will realise that fine turf which a humid climate will produce. I have found that there are not many kinds of foreign grasses which will stand our arid droughts. My seven years' experience and experiments with the acclimatisation of grasses from all parts of the globe have, I am sorry to say, not resulted with such favourable success as I should have wished. I have sown every year sixty or eighty kinds of grasses, which during the winter months have mostly

grown luxuriantly, but, as soon as the dry weather set in, began to suffer and perish. I will give you now the results of my experiments, not alone with grasses, but also other fodder plants, and will call to your attention those kinds which for years have stood well the test of our arid climate; and I am confident that they are permanent in their duration, and well worthy a trial, if only a little care and attention is paid to their culture; but it is generally thought that any treatment will do for grasses. With the exception of lucerne, I think very little trouble has yet been bestowed on the culture of artificial grasses by the farmer and the squatter, because, as the phrase goes, "they will not pay for the trouble," but I think, instead of moralising on this theme, I will bring facts before you. I shall only dwell at any length on those grasses and fodder plants which from my own practical experience I have found suited to our climate, and which, as before mentioned, most of them I have cultivated for the last seven years, in the experimental ground in the Botanic Garden. I must remark at the same time that I have bestowed on them not the slightest care in regard to watering during the summer, only that they have been kept clear from weeds, and the soil has been yearly dug once. I will begin with the famous bunch grass of British Columbia (*Elymus condensatus*, Presl.) of which His Excellency the Governor speaks so highly from his own experience. Before going into a description of this esteemed grass I must remark that my attention to this plant was called by an English agricultural paper, the *Farmer*. I resolved immediately to introduce this grass, and succeeded in receiving from my friend in Edinburgh—Mr. J. Anderson Henry—a little seed, which was sown in a seed-pan. The young seedlings were planted July last in the experimental ground. From the samples before you, you will observe the progress the plant has made. I must observe that they have not been watered; and I am glad to assure you that the last week's unusually hot and dry weather has had not the slightest effect on the plants; and I am hopeful that the bunch grass will stand our climate, and that it will become one of our best artificial grasses. I will read now the interesting extract from the *Farmer*, to show you how highly the bunch grass is thought of at home, especially in Scotland. Mr. Robert Brown, collector for the British Columbia Botanical Association, Edinburgh, was enabled in 1863 to send home a supply of seeds of the bunch grass, and thus first introduced it into Britain. To most of the members of this Association, grass seeds, however, present little or no attraction, and with the exception of what fell to the share of the Botanic Gardens and J. Anderson Henry, Esq., Hay Lodge, together with a few plants in our own collection, the bunch grass of British Columbia was so utterly neglected that it might have been lost to the country, notwithstanding that its merits, both as early forage and an abundantly productive hay grass, are likely yet to secure for it a highly prominent place among the cultivated agricultural plants of Britain. With us the bunch grass has gone on increasing annually in stature, and although grown in the past dry summer on rather poor unmanured soil, a plant was nearly eight feet three inches in height. It surpassed in bulk of crop the grass then growing in the neighbouring famed sewage-irrigated meadows of Edinburgh. So that as a highly-productive early-cutting grass it ranks far before any other known kind. In cultivating the British Columbia bunch grass we would recommend sowing it in drills or beds, allowing it to grow there for at least one season, and then transplanting it in well-cleared land at a distance of twelve to fifteen inches apart. The seedlings make but little growth, and never run to seed in the first season. Hoeing or weeding will therefore be required throughout the first summer and autumn after transplantation, but afterwards the plants will be sufficiently strong to overpower most kinds of weeds, and they will seemingly grow on in full vigour for a long series of years. Subsequent to our forementioned notice of this bunch grass, we have received the following particulars regarding it in its native habitat. In a paper on the Flora of Alaska, formerly known as Russian America, Dr. Rothrock states that the high grounds in the vicinity of Fort St. James (lat. 51-1 N.) afford the bunch grass of the packers. So nutritious is this that, even when apparently dead and dry, stock will become fat on it, and remain so under hard work for long periods if this be plentifully supplied. In a recent California newspaper a correspondent mentions that in the vicinity of the Boise Basin, in Idaho Territory, "the blue top bunch grass" covers the hills, and is as good as hay, some even con-

sidering it as approaching in its nutritive qualities to grain. There may, however, be some doubt whether one of the other bunch grasses, and not the *Elymus condensatus*, may be that here noticed. But the most recent reliable and important information regarding it is contained in the following letter to Mr. Robert Brown, of the British Columbian Botanical Expedition, from a friend who lived for several years in the bunch grass country:

Lyneal, Ellsmere, Sept. 2, 1839.—Dear sir: You ask my opinion of the bunch grass of the central plateau, or table lands of British Columbia—*Elymus condensatus*, as I believe you botanists call it. After a five years' experience of that country, I can bear testimony to the nutritious and fattening properties of this grass, far surpassing, I believe, those of any other known herb. A few facts will abundantly illustrate this. In the early years of the colony, before oats or barley had been imported, this bunch grass was the only (as it still is the principal) food of the trains of mules and horses which, heavily laden with provisions and goods, followed the gold-diggers into the mines, over the roughest possible trails. I have ridden hundreds of miles on horses whose sole support was this bunch grass. Turned loose at sunset, when the camping-ground was reached, to feed, they were found next morning as fresh and gay as ever. Indeed, on such a journey, if not ridden too hard, they would rather gain flesh than lose it. In my Essay on British Columbia, page 49, I have spoken of the marvellous increase of stock in that part of the country—an increase owing, I believe, mainly to the amount of vital energy imparted by this grass. Then, as you are aware, the droves of cattle which supplied beef to the mines of Cariboo had been driven 600 miles from Oregon, yet they were in excellent condition on their arrival, owing to the excellent pasturage which refreshed them each night after the journey of the day. Finally, both horses and cattle used to survive winters of great severity; so long as there was not too much snow for them to push aside, they would subsist on what tufts of bunch grass they could reach. It must have been hard times for them, but they managed to survive. I am rejoiced to hear that the experiment of trying this grass near Edinburgh has succeeded so admirably, and I trust agriculturists may be induced to try on a large scale, as I am convinced farmers and cattle-breeders would soon learn to appreciate its muscle-making and fattening properties.—Believe me, dear sir, R. C. LUNDIE BROWN, Vicar of Lyneal, Salop.

The second grass on my list is the so famous Guinea grass—(*Panicum maximum*, Jacq.) a native of tropical Africa, from whence it has been introduced to South America and the West Indies. His Excellency the Governor on several occasions has spoken highly of this valuable grass, in regard to its nutritious qualities, having become acquainted with it during his stay in the West Indies. My personal observations of a few years' residence in South America confirm His Excellency's experience in every respect. I can assure you in Demerara I have seen it attain a height of six to eight feet. One acre of Guinea grass will keep two cows or a horse throughout the year, as it will give under cultivation at least four or five crops a year. I have seen people cutting from one acre every day so much as they wanted for their horse or cows, and when they came to the end of the acre, the first portion cut had grown sufficient to cut again, and could be repeated four or five times throughout the year. It is not to be expected that we could do the same thing here, as the growth in South Australia can never be compared with that of South America. If it is cut there four or five times a year we can scarcely expect that it can be done more than twice here. I believe the Guinea grass will be a useful paying grass with us, especially in favourable localities; it requires a deep moist soil. According to my five years' observation on the plants in the Garden, it is capable of enduring during the summer, when it grows most rapidly, a degree of heat and drought which has proved destructive to almost any other kind of grass growing in the experimental ground. But I must remind all who intend to plant, and will secure a luxuriant growth of Guinea grass, that it must not be thought, as it is generally the case, that any treatment will do for grasses. It must be planted on prepared ground, the plants eighteen or twenty inches apart, and the land kept clear from weeds. I will also mention that it will not bear being fed down nor trampled upon by cattle or sheep, but must be cut. The next grass is the well-known grass prairie grass (*Bromus villosus*, Humboldt), a native of Central America, which I think has been so early

as 1858 introduced into the colony. Notwithstanding that it has turned out one of the best and nutritious fodder grasses, which is little affected by our dry seasons, it has not received that attention from the farmers which it deserves. I consider the prairie grass one of our best acquisitions of the foreign grasses, and it deserves to take the lead as one of the most permanent and paying. I find there is no grass better suited for green fodder, and none is superior to any grass for haymaking than the prairie grass. It thrives just as well on the plains as in the hills. It surpasses any grass in regard to seed-bearing qualities. Mr. T. Goode, Goolwa, who is an extensive grower of the prairie grass, and who commenced growing it from a few seeds which he received from the Garden, has assured me that he has raised as much as twenty bushels of seed per acre, and he finds it also superior to any grass for haymaking. There is not the slightest doubt, if early sown, say April, about fifty to sixty pounds seed to the acre, it will give two or three crops. It is one of the most productive grasses during the winter. The result of often mowing is that the plants spread more and grow thicker than if allowed to go to seeding. But there is one fault to be mentioned—it will not bear feeding off. Cattle and sheep are so fond of the grass that they will eat the roots out of the ground, which is facilitated by their peculiar growth. Thus a good many plants are destroyed by the cattle. Notwithstanding, I would recommend every farmer to give this valuable grass a fair trial. In confirmation of what I have said of the prairie grass I will read Mr. Goode's letter treating on the subject :

Goolwa, December 12, 1873.—Dear Sir,—As I see by the papers you are about to give a lecture on grasses, and being in receipt of your telegram inquiring about prairie grass, I thought probably a few facts detailing my experience with that grass might be acceptable. If it is of the slightest interest to you, I shall be pleased to have rendered ever so slight a return for the many acts of kindness I have received at your hands. In the first place I would observe that of all the many seeds I have received from you, prairie grass is the only one that has really done well on my sandy soil. Of the seeds of this grass, which I got from you some years since, only few germinated. The following year (1868) I had a place in my garden, and 1869 I had a larger one, and some roots outside. I now have a few bushels of seed again, and intend to plant it properly. I should now state that I am living on a sandy hill; my house has a foundation of seventeen feet of sand, and the seed I grow this year was on sand from six to nine feet deep. If I have an opportunity I will forward you one of the tussocks from which this year's seed has been cut, which, though as coarse as wheat-straw, the cattle and horses will eat to the very root, for the sake of the green blade springing up in it. It is now the only green grass I have. I should not have so far lost it, but my manager took it into his head to leave me and go up north in the end of 1871, and my own state of health preventing my looking after my farming, and not meeting with a man capable of managing with farms, accounts for such bad results. In 1870 the man I now have in my employ planted about two acres in a small paddock, from which I got about forty bushels prime seed and a nice stack of hay. The hay not being thoroughly reaped, I cut it into chaff; and there being so much seed in it, we used it partly as corn to improve other chaff. I had a fine aftermath coming on; but hearing such bad accounts of the destructive powers of the locusts travelling south, and expecting them to reach me, I turned all my stock (four horses and two cows) in, and grazed it very short. Consequently, in '71, having sold all my good seed, I had a very poor crop, and saved no seed, but threw the grass to the cattle, hoping they would carry the seed about the land; but very little of it grew. In '72 I found my paddock of prairie grass completely smothered with the barley grass, and only saved a few bunches in my garden for seed. This seed I threw about last spring amongst sown barley, and have had a fine crop in 1873. From my experience I am convinced it is the best grass I have tried, and even the locusts has suffered this summer here. My opinion is it should be managed here much as red clover or Italian rye-grass is in England; then I can make sure of a profitable crop. I beg to subscribe myself, dear sir, yours very truly, THOS. GOODE.

For the introduction of the following splendid summer grass we have to thank Mr. H. W. Phillips, North Adelaide.

No doubt it is a rival of the prairie grass, and stands our summer better than any other kind. It is also a panic grass (*Panicum spectabile*, Nees?). Mr. Phillips has kindly given me the following notes regarding this most valuable grass, which I will now read :

"This grass came up in my garden near the aviary, and no doubt came with the canaryseed which I bought from Messrs. Hackett. It is very prolific, seeding abundantly; it can also be propagated from the large couch roots, which run a great distance under ground, any joint of which will grow. The seed should be gathered as it ripened, for it sheds easily. It will grow in the driest places; one plant came up between the wood and cement at the end of the verandah, which is so covered with passion-flowers that it never got any water; still it grows notwithstanding all the traffic. The growth is very luxuriant, shooting vigorously about October, and continues to do so until the cold wet weather sets in; it grows three or four feet high, with tall spikes of seeds, which are very pretty, and the roots are often a yard long, and as large as a little finger. Instead of feeling the late extremely hot weather, I noticed it had grown much during the week. It is very sweet and succulent, and cattle eat it greedily; but it must not be sown in arable land, as it would be difficult to eradicate it. It would be useful on runs, not only for feed, but also for stopping bush fires. If a plough was run across and across the run, and either seed or roots planted, it would form a belt of green no fire would pass; or if eaten down, which is most likely would be, there would be a bare space to stop the fire. A single line would soon spread a yard wide. A seedling will cover a square foot the first year, and the roots can be taken up and planted without any fear of clearing the ground. It will come up again quite thickly, every root-let growing. The roots also mat together, so that it is useful to plant to prevent watercourses washing away the soil, for which purpose I have given a large quantity of roots to Mr. Mais for the waterworks. In stony places, if a stone is raised and a joint of root placed under it, it will shoot up all round, and never wants re-sowing. You will be able to give the best information about time and mode of sowing; if too early the slugs eat it off, and I think it should be pretty deep or the ants and birds eat it; it will sometimes lay two or three years in the ground. I have circulated the seed far and wide. I have distributed more than 1,000 packets. Through Mr. Todd, it has been sent to every telegraph station between Port Augusta and Port Darwin; a friend going home overland took nearly 100 packets for distribution on the route; another friend who travelled through Western Australia distributed and planted it wherever he went; and I am now sending a parcel to the Cape. I gave half the original plant, when about four years old, to a sheep-farmer. It filled a cornsack, and the man had to make two trips to carry it away. It does not thrive so well in the hills; for, although it will grow, it is never so luxuriant as on the warmer plains."

The catstail grass (*Phleum pratense*, Lin.)—A native of Europe. Probably bearing this name from the seed panicle, which has some resemblance to a cat's tail. This is a first-class grass, and one of the best and most valuable of all perennial fodder grasses. It stands our climate well, and seems not particular regarding the soil, as it thrives well in sandy or heavy soils. It is worthy of recommendation, especially for pasture. Oat grass (*Avena elatior*, Lin.)—Also of European origin. This is an excellent grass. It is nutritious, and seems to grow and produce well on every kind of soil. This valuable grass suffers little from the droughts, and can be recommended as a superior grass for hay. Great recommendation deserve the two falling awn grasses (*Piptatherum Thomasii*, Kunth., and *Piptatherum multiflorum*, Beauv.). The first is a native of Corsica, the second from the southern parts of Europe. Both are first-class grasses, and these kinds are some of my first importations, and have stood their ground well. They bear our climate uncommonly well, and will pay the cultivation, as they are throughout the year in a growing state; and I can recommend them as some of the best of the collection. Cattle are very fond of both. The next grass, called the millet grass (*Milium multiflorum*, Cav.), a native of Europe. This grass is also worth cultivation for summer and winter fodder. It stands our droughts well, and could be also used for hay. The produce of the millet grass is superior to many kinds of grasses. It flourishes, I may say, in every soil if not too poor, and the cattle like it very much. I introduce now to you

three other kinds of panic grasses—namely, *Panicum lomentosum*, Roxb.; *Panicum teneriffie*, R. Br., a native of the Canary Islands; and *Panicum crus galli*, Linn.). Nearly all the panicum species, of which are known nearly 300 kinds, are nutritious and fattening grasses, and worth the cultivation. They are chiefly tropical and sub-tropical, and endure the influence of our scorching heats and droughts well. All three are worth the recommendation. *Panicum teneriffie* is only an annual or summer grass, but well worth the cultivation, as it thrives well in sandy and poor soil. The following grass is the Pennisetum grass (*Pennisetum villosum*, R. Br.), a native of Abyssinia. It is not a tall-growing grass, but a capital grass pasture. I bring now to your notice the fescue grass (*Festuca duriuscula*, Linn.), of European origin, and well adapted for permanent pasture. It thrives even well on sandy soil, and resists the drought. Cattle are very fond of it. There are some other kinds of fescue grasses—namely, *Festuca elatior* and *F. ovina*, which are all worth recommendation for rural purposes. The next grass is called the cocksfoot (*Dactylis glomerata*, Linn.), a native of Europe. This is also a valuable grass, adapted as well to dry as to moist soils. Its yield of fodder is abundant, so also its nutritious qualities. It endures our droughts well. The buffalo grass (*Stenotaphrum glabrum*, Trin.), a native of the warmer countries of America, which I cannot sufficiently recommend. It is a perennial, and every farmer and squatter should not be without some of this valuable grass. It is a creeping grass like the couch or dub grass, and is capable of standing any drought. Its fattening qualities I think are not so great as the before-mentioned grasses; but the cattle and sheep like it very much. It thrives well on sandy soil, and is easily propagated from cuttings, as every little piece will grow, and after taking root it spreads very rapidly. It is also well adapted for binding river banks or sandy spots. It can advantageously be used for permanent pasture. The buffalo grass is entitled to a general introduction to our pasture. It is also very suitable for garden lawns. Everyone who has visited Sydney no doubt has been struck with the fine lawns, especially those of the Botanic Gardens. Since the last two years I have used it also for this purpose instead of the couch grass. The buffalo grass keeps its verdant freshness winter and summer—a great contrast regarding the dulness of the colour which the couch grass has during the winter. Notwithstanding, as already mentioned, that in appearance the buffalo grass seems to be coarse, cattle readily feed on it. The couch grass (*Cynodon Dactylon*, Pers.), which has been introduced, it is said, from India to Sydney, deserves also mentioning. It possesses all the qualities of the buffalo grass, and I am told that the sheep are very fond of it. I know that the cattle, if they can get on the other grass, will not touch it; but if the green food becomes scarce they relish it also. The squatters would do well to introduce this grass on their runs, as it spreads as rapidly as the buffalo grass. Another grass which I can also recommend highly is a kind of Canary grass (*Phalaris americana*, Elliot). I received the seed from America, with the recommendation of its being a very useful fodder grass. I have had it only two years, but it seems to stand our climate, and promises to be a great acquisition. The love grass (*Eragrostis cylindrica*, Steud.), a native of China, seems to be also a good grass for pasture. The next grass is called the bent grass (*Agrostis capillaris*, Linn.); also this is a grass well worth a trial for pasture. The following two kinds of Job's tears (*Coix lacrymata*, Linn., and *Coix exaltata*, Jacq.) are worth a trial, especially the last. They stand the summer pretty well, and produce abundance of nutritious food. Not to tax your patience too much, I will only mention the names of the following grasses: the hair grass (*Aira caespitosa*, Linn.) and the blue Kentucky grass, which I consider both good for pasture. The rye-grasses (*Lolium perenne*, Linn., and *Lolium italicum*, A. Br.), although very good grasses for their nutritious powers, seem to maintain their ground with us only one or two years; after the plants die off, consequently they are not well suited for this country, where we require a more permanent pasture. It is also said when the plants begin seeding the cattle will not relish the grass, and neglect it. It appears that both kinds of rye-grass do not thrive so well with us as is the case in the neighbouring colonies, especially in Victoria, where they are spoken of most highly as good fodder and grazing grasses. All the seeds of the above-mentioned grasses should be sown in May or June, in well prepared ground. I will now go over to the fodder plants, of which I have not many on my list, and begin with the sheepsbush of the Cape

of Good Hope (*Pentzia virgata*, Less.), of which His Excellency has given us also such a good account. I received a small parcel of seed of this valuable shrub in 1869 from Dr. Hooker, Kew Gardens, of which he remarks that the plant is the most valuable sheep fodder for dry climates, and that the sheep at the Cape during the summer depend mostly upon this shrub. What the sheepsbush is to the South Australian squatter so the sheepsbush is to the Cape squatter. I raised about twenty plants, which have done remarkably well, and prove that our climate is well adapted for their growth. It is, as you see, a much branched rigid little bush one or two feet high. The leaves and branches contain an aromatic bitterness, which I understand is liked very much by sheep, which gives the mutton a very fine peculiar flavour. The plant is easily propagated from cuttings, of which every one will grow if planted when the first rains begin to fall. The next two fodder plants are known under the names of rib grass, or plantain (*Plantago major*, Linn., and *Plantago lanceolata*, Linn.), both natives of Europe. No doubt both excellent fodder plants; cattle and sheep are very fond of them. The plants thrive well on every soil all the year through if the season is not too severe. It seems the rib grass is not generally known, or it would have been more extensively grown. I recommend it as a great acquisition on pasture ground, especially for squatters, on the low lands of their runs, where it would supply a plentiful pasture. If once established it spreads rapidly, which I find in the experimental ground, where the seedling plants spring up everywhere. Another plant for sheep fodder to be recommended is the small Burnett (*Poterium sanguisorba*, Linn.), a perennial plant, which will grow in every soil, stands our drought, and is readily eaten by the sheep. As it is easily propagated from seeds and suckers the squatter should introduce it on his run. Not much attention, I think, has been paid yet to the different kinds of clovers, of which I find several do well in the Garden. *Melilotus alba*, Desz.; *M. officinalis*, Linn.; and *M. lupulina*, Lam., do well. The clovers are known as nutritious herbs. It is true many kinds of clovers die away in the second year, but the above-mentioned kinds seem to stand longer. I will also mention that clovers thrive best in damp soil, or on clay sub-soils, which retain the moisture, where they will spread very rapidly. Lucerne has been extensively cultivated, and therefore I find it not necessary to mention it more particularly here. I could mention several other fodder plants which flourish during the winter months, but as during this time the food is abundant, I think it not necessary to speak further of them. This, your Excellency and gentlemen, are the results of a seven years' trial regarding the capabilities of several foreign grasses and fodder plants in this colony. I preferred not coming earlier before the public with my experience until I had tested their durability. Thinking this period sufficient for such a test, the more so as the plants withstood the severest droughts we have had, I can recommend these grasses with confidence. It depends now on the farmer and squatter to give them a fair trial, and call at the same time to their mind the old saying, and a very true one it is, "that the man who makes two blades of grass grow where one grew before is a public benefactor." One remark more. It is now four years since I read in the same room a paper "On the Influence of Forests on the Climate," in which I pointed out the necessity for laying out forest reserves and planting trees on railways and main roads. The next year a report of mine on the same subject was laid before Parliament. I know my scheme was then criticised and ridiculed. Not minding this, on the contrary I persevered in giving a practical impulse to the scheme, by raising forest trees at the Garden for the purpose of planting roads and railways with. Mr. Mais, the Engineer-in-Chief, actuated by the same desire, and a similar enthusiast in the matter, used the trees for planting around the new and old reservoir and along the railways; so that the Government has since the last three years received 14,967 forest trees for the purpose, and for the next planting season my stock amounts to 12,000 more, for the purpose of planting the Burra railway. Mr. Krichauff, M.P., a well-known enthusiast of planting forest trees, with his laudable energy, has now called to life my favourite scheme, and so forest culture will be introduced into this colony, and it is now my sincerest wish that it may be carried out most practically. Should this evening's lecture be also the means of inducing the squatter and farmer to try the growth of artificial grasses, I shall feel gratified beyond my power to express.

THE LAW OF FARM BUILDINGS.

At the Wilts Lent Assizes, the following action was tried before Mr. Justice Keating.

MELSONE v. FANE.—A special jury case. Mr. Cole, Q.C., and Mr. Collins were for the plaintiff; Mr. Bowen and Mr. Charles for the defendants. The action was brought against the executors of the Rev. Prebendary Fane to recover a sum of about £300, money advanced some years ago for the improvement of certain farm buildings at Norton Bavant, near Warminster.

Mr. Cole, Q.C., proceeded to state the case to the jury. It was with feelings of regret, he said, that he did so, because the parties to the suit had been associated for many years, as landlord and tenant, on the most friendly terms. It was inevitable, however, on the part of the plaintiff to adopt the course he was now pursuing. Mr. Melsome had farmed largely for many years in this county, and was about as well known and highly respected as any person in his position could possibly be. The defendants were also well known and highly respected in the county. One of them, Mr. E. D. Fane, was a gentleman occupying a post in the Foreign Office; the other, Mr. Benett-Stanford, was a gentleman of large property, and was the popular member for the borough of Shaftesbury. They were sued as the executors of the late Rev. Arthur Fane for £300, money expended on the improvement of a farm-house now belonging to Mr. Benett-Stanford, many years ago. In 1842, the plaintiff became tenant of a large farm at Norton Bavant, near Warminster, of which the late Rev. Arthur Fane was at that time a trustee, under the will of the late Mr. John Benett, at one time a member for the southern division of the county. Under that will, Mr. Benett-Stanford became entitled to a farm of 900 acres, called the North Farm, which was then being rented under a lease for sixty years, at a rental of £1,200 a-year. In 1843, Mr. Melsome took, on a lease for eight years, another farm of 406 acres, of the Rev. Arthur Fane, in which Mr. Benett-Stanford had a life interest. At the expiration of his leases, Mr. Melsome continued to occupy the farms as a yearly tenant on the same terms as before. About Michaelmas, 1861, however, he called upon the Rev. Arthur Fane, who was then living at Boyton House, and had a conversation with him on the subject of a new lease. He told Mr. Fane that he was farming very highly, that he was using an immense quantity of oilcake and artificial manures, and that he did not feel justified in going on without a lease. At that time he was liable to a six months' notice to quit, without the chance of obtaining compensation for unexhausted improvements. Mr. Melsome would tell the jury—and this was the point to which he wished to call their especial attention—that at Michaelmas, 1861, Mr. Fane agreed to grant him a lease of the two farms for 12 years, at the then existing rental. At that time, Mr. Timothy Goodman, a solicitor at Warminster, was agent to Mr. Fane. Unfortunately, he was then a very dilatory man, and afterwards something worse. He was instructed to prepare a lease, but notwithstanding that the matter was allowed to stand over for several years it was never done. A draft appeared to have been drawn, but the deed was never prepared. In 1862, Mr. Robert Melsome, one of the plaintiff's sons, who had managed the South farm—separated from the North farm only by a road—was about to be married. At that time there was an old farmhouse on the South farm, which had become extremely dilapidated, and fitted only for occupation by labourers. There was, in fact, a labourer living in it; and the roof had got into such a state that it was neither wind nor water tight. The house was, however, capable of being put into tenable condition at a reasonable expense; and the plaintiff, on seeing the Rev. Arthur Fane a second time, suggested that it should be put into proper order, and converted into a residence for his son. Mr. Fane assented, and said "with regard to the roof, that must be done at once;" and it was arranged that a person named Trapp should be called in to assess the cost. Mr. Trapp put the amount at £120; and Mr. Melsome said "Then with regard to the rest of the house; it will require a considerable sum to make a decent place of it; but if you will allow me £200 I will undertake to effect all necessary repairs." Mr. Fane replied, "Very well, but we are badly off; we have two law-

suits in hand, and I am not at present prepared to advance the money." Mr. Melsome replied, "Don't let that be a difficulty in the way. I shall be very happy to advance the money, provided you will pay interest upon it, and repay the principal at the end of my term—sooner, of course, if you like." "I am quite content," said Mr. Fane, "let the work be done." It was accordingly proceeded with; but the Rev. Arthur Fane proposed to reduce the cost of the roof by supplying the timber himself. This was done, and it had the effect of reducing the cost of the roof from £120 to £96, and as regarded that £96 he (Mr. Cole) could not understand what defence there was to the action. On a half-year's rent becoming due, Mr. Melsome sent in an account of his "outs," as they were called. Mr. Fane said it would be inconvenient to pay the £96 at that moment. Would Mr. Melsome allow the thing to be arranged in the same way as the £200—interest to be paid at the rate of 4 per cent? Mr. Melsome, being a moulded man—one of the few successful farmers of the period, his success having been obtained by the exercise of great skill and experience—at once consented; in fact, he thought it as good an investment as the Bank of England. On the 7th July, 1872, the Rev. Arthur Fane wrote to his agent, Mr. Timothy Goodman, stating that the £96 had been "fairly laid out in necessary repairs, and that it was fairly chargeable as a necessary outlay. It was very inconvenient to him (Mr. Fane) to pay the amount just then, but he was willing to sanction its being added to the £200 which had been laid out by Mr. Melsome himself." And yet the defendants now object to pay a single penny of that amount! Well, in order to make a good job of the house, the plaintiff, instead of spending £296 spent £600 upon it; and was prepared to produce every voucher for the money so expended. He not only advanced £300 to his landlord, but he also spent £300 more upon his own account, in order that the house might be put into substantial repair for occupation by his son. Time went on, and unfortunately Mr. Goodman became a bankrupt and left the country. After that Mr. Benett-Stanford received his own rents, and down to the year 1865 the £12 a year interest was allowed without any question whatsoever. In December, 1865, the plaintiff, on paying his rent, asked Mr. Benett-Stanford to give him a note of hand for the £300—to be included in another which he had already given for £200 for feed supplied to his horses, &c. Mr. Benett-Stanford's reply was that as one was a trust matter, and the other a private debt, he could not accede to the request without first seeing Mr. Fane about it. Then there was a long correspondence (portions of which the learned counsel read), the result being a plea that 4 per cent. to the end of 12 years was to be the entire consideration for an advance of £300. This, the learned counsel said, was a most preposterous idea to put forward. If the interest had been at the rate of 10 per cent., he could have understood it; but to suggest that Mr. Melsome—a man of years and experience—was to sink £300 in 12 years at 4 per cent. was too ridiculous. No doubt the defendants would say that it was in consideration of the advance that the lease was granted; but Mr. Melsome would prove to the jury, most conclusively, that Mr. Fane had agreed to grant the lease months before. In March, 1866, Mr. Benett-Stanford intimated, by letter to the plaintiff, that he would have to give up his farms on the 29th September; but that he would have the first offer of them under a new valuation. The result was that Mr. Melsome consulted his solicitors as to the non-payment of the £300, and a bill was filed in Equity to compel the Rev. Arthur Fane to grant a case. Litigation went on, and an offer was eventually made to grant a lease if Mr. Melsome would consent to give up the £300. Mr. Melsome again and again offered to refer the question of the £300 to arbitration, but the offer was refused; and the only arrangement that could be come to was that a lease should be granted for eight years; but the Bill should be dismissed, that each of the parties should pay their own costs, but that the question of the £300 should stand over. Under these circumstances, Mr. Melsome could not stir a step for the recovery of the money, until his eight years' lease had expired. He then left the two farms, and the farmhouse on the restoration of which Mr. Melsome advanced his money was let, together with the farm, to a fresh tenant at a

largely increased rental. After Mr. Fane's death, and after the lease had expired, Mr. Melsome sent a cheque for his rent, less the £300, but Mr. Bennett-Stanford, in acknowledging its receipt on the 31st of October, 1873, said he knew nothing of any bill for £300, notwithstanding that he had been a party to a portion of the former correspondence. The real defence to be set up, as far as he could understand from one of Mr. Bennett-Stanford's letters, was that Mr. Melsome was to have the farm on a twelve years' lease at a reduced rent, in consideration of the outlay which he had made upon his son's house.

Mr. W. Melsome was then examined. He said he was now living at Codford St. Peter. He corroborated this counsel's statement, and produced this letter :

"July 7, 1862.

"My dear Goodman,—Mr. Melsome has been with me about the bill you told him to bring to me. The matter seems thus : The £96 is fairly laid out in necessary repairs on roof, &c., and this seems to be fairly chargeable as necessary outlay, but it is vastly inconvenient to us to pay the £96. I am willing to sanction this sum of £96, being added to the £200 to be laid out by Mr. Melsome himself, and if you will be so kind as to arrange in the lease that we agree to pay 4 per cent. on this sum, as interest upon the sum named, I shall be satisfied."

A good deal of correspondence was also read, among it a letter from Mr. Goodman, dated March 23rd, 1862, which stated that Mr. Fane had written to him to say that although he still held his original opinion in reference to the claim of £300, he would agree to pay it on the 29th September of that year, when the amount with interest came to about £358. The letter further stated that he would have notice to give up the farm about the 25th March, for it was proposed to have the farm revalued, and the first offer would be given to Mr. Melsome after the re-valuation.

Witness went on to state that he got notices to quit the farm in March, 1866, and that the result of that notice was a Chancery suit to compel Mr. Fane to grant a lease. Eventually, however, the bill was dismissed, each party paying his own costs, and the lease being granted. The matter of the £300 stood over till the end of his term. There were then six years' interest due to me, and I fully expected to have had a letter from Mr. Bennett-Stanford telling me to take the amount out of my rent. But I received no such letter, and I accordingly deducted £300 out of my rent, upon which a distress was put into my house and I had to pay it. After that I offered to leave the matter to any gentleman to say whether I was entitled to the £300 or not, but my proposals were not accepted, and I was compelled to bring the present action.

Cross-examined by Mr. Bowen : Did you not write to Mr. Bennett-Stanford in February, 1866, saying that you had found the money upon the promise of being paid 4 per cent., expecting to have the principal returned at Mr. Fane's convenience ?

Witness : I thought I was dealing with two gentlemen, father and son, and expected to have been fairly treated.

The Judge asked Mr. Melsome how, if he advanced the money upon the understanding that it was to be repaid, he could explain the letter of the 7th of July, from Mr. Arthur Fane to Mr. Goodman, in which Mr. Goodman was told to arrange about the lease without a single syllable being mentioned about the repayment of money.

Mr. Robert Melsome, son of the last witness, was then examined. He said he was now living at Compton Pouncefoot. For many years he had lived at the South Farm house, Norton Bavant. Prior to 1861 he occupied one bedroom in it. It was a wretched place, infested with rats, and with a roof which let the rain in every time it rained. I was about to be married, he said, and as I wanted a house to live in, it was agreed that the old farmhouse should be repaired. I remember Mr. Arthur Fane coming over to see it in January, 1862. He looked at the roof and said it was very bad indeed and must be done at once, and he agreed to allow £200 towards alterations in other parts of the house. I heard my father promise to advance the money on its being repaired when it was convenient. Four per cent. was fixed as the interest, and this was to be paid till the principal was paid off.

Mr. Bowen addressed the jury. He said the defendant in the action did not represent himself, for the action was not brought against him in his individual capacity. The action was brought to recover money from the estate of the late Mr.

Arthur Fane, and Mr. Bennett-Stanford was bound to defend it, because in the fortune of life he happened to be his father's executor. It was really a claim made against the trustee upon an alleged promise which the trustee was supposed to have made, that he or his son would be liable for the sum of £200. It was a pleasure that his learned friend on the other side had stated his case so moderately, and he (Mr. Bowen), as representing Mr. Bennett-Stanford, would make no remark which would be unkind to the plaintiff. The plaintiff was positive in his version of the case, but the defendant was at variance with him, not as to whether he was a good farmer, because he (Mr. Bowen) had no doubt he was an excellent farmer, but as to whether his recollection was accurate in regard to the conversations which took place ten or twelve years ago. He had no doubt that Mr. Melsome gave his evidence in a *bona fide* spirit, but it seemed to him that he had worked himself into the belief that the late Mr. Arthur Fane actually made the promise in dispute. He said advisedly that the defendant had brought himself to that belief. He thought they would see it was a clear case of an old tenant, beginning with a refusal from his landlord, but construing the refusal into something less positive; then he cherished the hope that his landlord would be more indulgent, and then the expectation became in time a hope and belief, and in the course of a few years Mr. Melsome persuaded himself that Mr. Fane promised exactly the opposite of which he really did. He would now draw the attention of the jury to the position of the trustee and Mr. Melsome at the time of the alleged promise. On the death of Mr. Bennett, in 1852, it was found that he had left his property by will, not to Mr. Arthur Fane, but to his grandson, the present defendant, subject to the life interest of another grandson, who died in infancy. In 1856, Mr. Bennett-Stanford, then about eighteen years old, found himself the tenant for life in possession of Pyt House, and his father about the same time became a trustee with Mr. Wyndham, who was then existing trustee under the will, Mr. Arthur Fane being added as second trustee, and from that time down to his death continued to be trustee for the Pyt House estate. Mr. Fane was well-known during his life as a clergyman of position in his profession, as well as a gentleman of large landed property. He was Vicar of Warmiuster, and a Prebendary of the Cathedral; he was also a good man of business, and it was, therefore, natural that he should be appointed trustee to his own son. The powers which, under the will, were possessed by Mr. Arthur Fane were very distinct; for the will said that so far from Mr. Arthur Fane having any large powers to deal with the estate, they were very limited indeed. He could not grant any lease without the consent of the tenant for life, so that if there were transactions on the estate between Mr. Arthur Fane and the tenant, he had to consult his own son about them. In dealing, therefore, with Mr. Melsome's narrative of the case, it behoved the jury to take that important point into consideration. In addition to that, they must also remember that Mr. Arthur Fane was tied down, because the estate was being administered under the Court of Chancery, in which Court a suit had been begun for the purpose of placing the estate under proper legal control, over the heads of the Trustees. The Court of Chancery accordingly assumed the control of the estate. From that time nothing could be done without a decree of the Court, and when Mr. Bennett-Stanford wanted to live at Pyt House permission to do so was given by an order of the Court—a process which could not by any means have been neglected or avoided by Mr. Arthur Fane; and so far from Mr. Fane having power himself to lend £200 to anybody who wanted it spent upon his farm, he could not, it was clear, do so without consulting his own son. He also knew perfectly well that, in the event of his making a grant of money, the Court of Chancery might have something to say about it afterwards. Mr. Melsome was, no doubt, a gentleman, and he was sure that he would do him (the learned counsel) the justice of saying that he had not uttered a single disrespectful word in regard to him. Mr. Bennett-Stanford entertained the highest respect for him, but still he felt it necessary to contest his case as a matter of principle, and on the strength of the facts upon which his defence was based. He urged the jury to consider the extreme improbability of Mr. Melsome's narrative, taken by itself, and without any reference to the proceedings in Chancery, prior to the death of Mr. Fane.

Mr. Bennett-Stanford was then sworn. He stated he resided at Pyt House, and was member for Shaftesbury. In 1865 he became tenant for life of the estate in question. He came of

age in 1860, and after that time took an interest in the management of the property. His father was the acting trustee after the death of Mr. Wyndham, who died, he thought, before 1861. His (Mr. Benett-Stanford's) father was in the habit of consulting him with reference to any changes of tenancy. No lease was legal without his (Mr. Benett-Stanford's) signature. He saw Mr. Melsome in December, 1865, at Norton Bavant House, at which time he was actively engaged in the management of the estate. It was after Mr. Goodman had left the country. He gave Mr. Melsome a note of hand for £200 for a private debt of his own. Mr. Melsome asked him to give him a note of hand for £300 in addition, but he was quite unaware up to that time to what he referred. He asked what it was for, and Mr. Melsome replied that it was for money laid out on the lower farm at Norton. He then told Mr. Melsome, as he had always told him, that the money was to be laid out by himself. He (Mr. Benett-Stanford) had been informed of the circumstances before frequently by his father. He replied to Mr. Melsome that he was certain his father would not, as trustee, have allowed money to be paid out of his rent, because it was a strict understanding that he had a lease of 12 years of the farm, at the old rent which he had been paying for twenty-five years, and that, in consideration of the 12 years' lease, he was to lay out the money in improving the house for his son's occupation. Previous to the interview, he had never heard a word from Mr. Melsome that the £300 was to be repaid at the end of his term. He considered Mr. Melsome to be a very good farmer—always in the same style; not a high farmer, but as good a farmer as any in

the neighbourhood. He himself went to see the repairs which were being done at the farm-house, and he found that a beautiful porch had been built; that there were two stone pillars; that a wire fencing had been erected on a stone wall; and that plate-glass windows had also been provided, making it altogether a very good farm-house. Such alterations were not necessary for the benefit of the estate; but as long as Mr. Melsome laid out money which he considered for the benefit of his son, he (Mr. Benett-Stanford) never interfered. He saw handsome paper on the walls, and handsome marble mantel-pieces; but he did not interfere, because he thought Mr. Melsome was laying out money for the benefit of his own family.

Cross-examined by Mr. Cole: It was now a very nice farm-house. The South Farm was now let as a separate farm to a gentleman who rented the shooting. No doubt, Wiltshire farmers lived in better houses than they used to do. The North Farm house was not very good, but he believed that the whole of Mr. Melsome's sons were born in it.—Mr. Melsome: I deny that; only five.—The witness, in continuation, said that the trustee had contributed towards the repairing of the roof. He himself did not pay a sixpence, but the trustees paid £56.

The jury, on Tuesday, returned a verdict for the plaintiff for £300; leave, however, being reserved to the defendants to move court above on certain points of law.

The judge said that, under the circumstances, defendants were justified in defending the action.

DORCHESTER FARMERS' CLUB.

EXPERIMENTS IN THE GROWTH OF CORN.

At the last meeting, the president of the Club, Mr. Richard Genge, Waterson, in the chair,

Professor BUCKMAN—whose address was illustrated by the aid of the blackboard and with specimens of cereals in ear, of different descriptions and qualities—said he should introduce to their notice a few hints for discussion, rather than present any paper on the topic: he should inform them of a few experiments which he had made in the growth of corn. He knew the term "experiment" was sometimes distasteful to the practical farmer; but he thought they would, on reflection, see that, after all, every good farmer—every farmer who observed and studied the results of anything he had done in agriculture, especially if he had not done it previously—was really experimenting. His own (Professor Buckman's) experiments extended over a period of twenty-five years, and were of two kinds—the first being direct, to prove points in natural history, not only with regard to corn, but also vegetable matters; while the second were indirect, in which variations in practice were tabulated as to results. The latter were just as much experiments as those which the chemist made in his laboratory; and, regarding them, he (Professor Buckman) would only advise that, where money was concerned in the matter, they should be conducted on a small scale at first, being followed up cautiously, and to a larger extent, according to circumstances. He had experimented on the cultivation of what he would call the corn plants in this country, viz., wheat, oats, and barley, respecting which he would now offer a few remarks, hoping the members of the Club would discuss the matter in that kindly spirit which they always displayed upon such occasions as the present, and he knew he should obtain some information from them if they derived none from him. Regarding all these corn crops, they had been termed cereals, the word being derived from Ceres, the ancient goddess of the corn and the harvest. He thought there was no doubt each of those crops had been derived, by the means of careful experiments, from wild plants growing in different parts of the world. He hoped to show this was the case with regard to two of them, at least, if not the third also. Respecting wheat, it had been called *Triticum*; and M. Fabre, of Agde, in the South of France, after a course of experiments with a grass grown on the shores of the Mediterranean, the *Egilops ovata*, succeeded in transforming it into our present wheat. Our wheats had been constantly changing. They had altered a great deal from what they were a century ago. Those found in the present day

were almost as different from some of the older sorts as wheat itself was different from the *Egilops*. The latter was cultivated for eight years by M. Fabre; and he (Professor Buckman) feeling thoroughly that our wheat must have been derived from some wilder plant—from some wild grass—was induced to obtain some of the genus *Egilops*, in order to cultivate it for myself. Professor Buckman, who repeated M. Fabre's experiment, here illustrated, on the black board, the horizontal growth of the grass, and said that he was enabled to get in the course of a few years some seeds which made a very respectable wheat indeed. It was only in consequence of his leaving a garden to which he was attached that he was unable now to show the Club some respectable wheat derived from this *Egilops*. With regard to the conditions of growth there was, he pointed out, a considerable difference between the seeds he sowed and those which grew on the shores of the Mediterranean. Hence the superiority of the *Egilops* which he obtained in the wheat that he cultivated from the grass. He had to collect his own seeds, whereas those on the shores of the Mediterranean were not collected, and then he had also the manifest advantages of sowing them in his own selected season, putting them in prepared ground, and observing regularity of distances and intervals. These processes, he urged, must have had great influences on the plant. By their means he got, he said, a sort of pedigree *Egilops*. Professor Buckman then proceeded to comment on the difference in the varieties of wheat, speaking of the long horn or bearded and the chaff scaled descriptions. He said while some specimens, like many men—who, by the bye, could not cultivate the hirsute ornament however much they tried to do so—had no beards at all, others were remarkable for the possession of beards. But there was no evidence, he thought, of distinct origins for the different forms of wheat—bearded and unbearded—nor yet any evidence that the wheat originally given to us was at first a cultivated plant; he considered rather that the cultivated plants had arrived at their perfection simply through the fostering care of man. If the latter was the case where were they to stop in regard to the excellence attained? By the observance of certain laws they might develop still further improvements, cultivating better wheat than had ever been grown before. He viewed wheat altogether as a derivative plant—derived from a wilder kind of grass. They found it was liable to constant alteration, that if grown for a long series of years on the same spot it had a propensity to revert to

its original condition; the quality of the crops become inferior. Hence it was absolutely necessary to make a change of seed. Wheat being itself a derivative crop—derived by care and cultivation from a wilder grass—the nearer they approach in its cultivation to its wild nature, the nearer they would get it back to its original condition. If they sowed some without any sort of selection, or let it sow itself, they would find it would yield so wild a crop as not to be worth gathering. It was by the cultivated processes, by care and cultivation, that they had got corn to the perfection in which it was at present found. He was convinced the best seeds were as essential in securing excellence in plants as were the best stock for the production of good animals, and care and attention bestowed in the former case were just as likely to lead to a degree of perfection as in the latter case. Dwelling on the subject of the best seeds for reproduction, the learned professor stated the results of some interesting experiments which he had made. Determining to sow the largest grains of wheat he could get, he separated the larger from the smaller. He adopted the same plan with regard to vetches, the result in this case being that when he sowed small seeds he might get the measure, but he never got the crop he should otherwise have. He sowed some Nursery wheat, the larger seeds in the proportion of two bushels to the acre, and the result was that the large seeds produced double the crop yielded by the smaller seeds. Choice of seeds was of great importance, and they should be sown, not in the proportion some persons adopted, but upon those principles which were admitted to produce the very best results. If the smaller seeds were used because of their cheapness or because of the measure, disappointment would probably be the issue. The Professor illustrated on the blackboard the difference between thin and thick sowing, arguing strongly in favour of thin sowing with good seed. He exhibited a specimen of wheat grown by Major Hallett on the plan of thin seeding with the very best seeds he could collect. The seed in this instance was, he said, put in the ground six inches apart, the distance of a foot dividing the rows, and the produce of a single seed, cut off by himself (Professor Buckman), was now on the table. [The specimen appeared remarkably fine and bulky—a splendid yield.] A specimen of wheat produced on an opposite farm was shown by way of contrast. [This specimen was of a marked inferior character.] The soil in both cases was, he said, of a chalky nature, not worth more than 25s. per acre. In one case they had before them the produce of thin seeding with selection, and in the other the produce of thick seeding without selection. Again—observed the lecturer—thick sowing without making choice of good seed resulted in the blight of wheat. Various experiments, he knew, were resorted to in order to prevent this blight—sulphate of copper, chloride of lime, &c., being used in dressing the seed before sowing it. But blight was one of those things he himself had seen very little of indeed, especially that bad description known as bunt. The other day he could not find one single instance of this. He never used pickles for wheat, for he believed they penetrated the seed, destroying the germ. It was the same with wheat as with the human species—a poor, unfortunate, emaciated parent seed produced a bad progeny. If he (Professor Buckman) chose the best samples for seeding purposes he did not require pickles; he selected wheat of the best size, and had no blight. Pickles, therefore, were of no use at all. He had planted eighty acres with wheat this year, with no pickling of any description; he had sown exceedingly thin, and the seeds were the best sample in the market. He hoped to be able to show good results. If bunt could be found in his corn as the result of his not pickling, he might be induced to alter his system. He would rather spend his money in the best samples—although they cost a little more—than in the poorer and smaller seeds. According to his present views he should in future sow the best seed he could procure, and this was the plan he recommended to the club. Passing on to another part of his subject, Professor Buckman said it was more than a quarter of a century since he first became attached to oats. He dared say some present would now observe, "Well, perhaps he had not sown all his wild oats then." The wildest oats, however, to which he was at that time attached were those in the fields. He remembered that when in Worcestershire he saw oats growing in the corn fields to a considerable extent. He on one occasion accompanied a friend of his to church, and was anxious on the way there to get a specimen of the wild oats, some of which he accordingly put into his hat. They then resumed their walk

to church, he having put on his hat again, after the most approved method. When in the sacred edifice he put his hat under the seat in a very reverential manner, and on their coming out his farmer friend said to him, "Mr. Buckman, I am surprised at you." Asking what was the matter, he (Professor Buckman) received this reply: "Why what is the use of your going to church if you don't leave your wild oats behind you?" Well, he (the Professor) preserved those wild oats; he did not leave them behind him. He was anxious to get them for the express purpose of proving the truth of what the farmers asserted respecting them, they having told him over and over again that in the clay districts they could not cultivate oats properly because they degenerated into wild oats. The learned professor drew on the blackboard an outline of these wild oats, which were of large size, having a sort of twisted horn; and, inasmuch as they resembled a fly in *elcvomis*, they were used by the rustics for catching fish. From top to bottom they were covered over with hairs. He sowed them. He collected the seed until the spring came, when he put it in rows in the same manner that oats were drilled in the field. They sprang up, some being very tall, specimens of which were shown by the lecturer; others were not quite so tall; some had very thin seeds, which would not weigh anything like twelve pounds to the bushel. He continued the cultivation, carefully observing every plant, and he selected the biggest seeds. As a result of the first year's experiments he found the wilder the oats the more bearded they were. He seized upon all the fatter ones, thinking they would get on better, and season after season carried on the experiment for eight years, at the end of which period he had a very nice oat indeed—he regretted he could not on the present occasion produce a specimen. Where the specimens had got he could not tell. However, as he had just intimated, he had some respectable oats—some of the best that could be seen in the county of Dorset. He had some that were 50lb. to the bushel, and others 35lbs. and 30lbs. to the bushel. If he sowed the selected, the larger seeds, he got oats 50lbs to the bushel—as plump as possible. He remarked that if they examined one of the black oats—those weighing 35lbs. to the bushel—they would see that remnant of barbarism—a number of hairs at the base. But in the case of the white oat there was no hair at the base. In the course of eight years, from the oats that weighed originally twelve pounds to the bushel, he (Professor Buckman) got those that were 40lbs. to the bushel—in point of fact, by the system of selection he got oats that exceeded the latter weight. By cultivated processes a great change was effected upon the wild grass, which was considered the most noxious weed possessed. The thicker he sowed the seed the less crop he got, and he never sowed more than two bushels to the acre. A neighbour, talking to him about his crop of oats, remarked, "I don't know how it is; but I think yours are better than mine." After examination he (Professor Buckman) replied "You have sown too much to an acre"—and that was the explanation of the difference. The thicker sowing was productive of mischief; in that was to be found the reason why one specimen was like a crow-quill and the other like a goose-quill. As a plea for thick sowing it was argued "Oh, if you don't put it in the ground you cannot expect to get it out." But he could not admit the logic or the force of that reasoning, and he enforced the importance of regulating the proportions in seeding in accordance with the observations made. His own experience was in favour of thin seeding. From the experiments he had made he was convinced the cultivated oat, if left to itself, reverted to the condition of the wild oat, and that in proportion as they got the poor black oat they got the hairs. He was convinced the cultivated oat could be produced from the wild oat, and that it could, by intention and care—*sans*, allowing it to grow according to Nature's laws entirely, revert to the wild oat. Having thus lucidly dealt with the subject of the wild oat (*avena fatua*) the lecturer proceeded to dwell on the last head of his address—barley. There prevailed, he said, a great deal of doubt as to the origin of barley, and a number of botanists had tried to settle the matter. It was still very doubtful as to what it was derived from. Personally he had not the slightest doubt that barley, like other grain, had been derived through processes of cultivation. It was probably one of the most ancient of the grains cultivated, and perhaps its origin had been lost. There was a grass belonging to the genus *Hordeum*, a wild grass, growing in Mesopotamia, and to that its origin no

doubt might be attributed. Like other cereals, barley had been derived from some wilder grass. The professor here exhibited various specimens of barley, proceeding to observe that when on one occasion he visited his children at Brighton he inspected the results of Major Hallett's farming in that locality. Going a walk with his children on the side of the downs, he perceived some crops different from everybody else's in the mode of cultivation, and at once concluded they belonged to his friend. From the first workman he inquired where Major Hallett resided, and he was directed to a part close at hand. Thus he (Professor Buckman) had traced Major Hallett by his pedigree barley. The whole of it was sown nine inches apart in the rows. Cutting a stalk at random he found it had as many as forty-eight ears. Thus Major Hallett had a yield that was double of what he (Professor Buckman) could get on his own farm, although he (the professor) was a tolerably thin seeder. It might here be said Major Hallett had perhaps much better land; but that was not so, for while his was a chalky down, for which perhaps 25s. or so was paid; he (Professor Buckman) paid £2. Thus the difference was to be accounted for, not by the nature of the soil, but by the mode of cultivation. The lecturer illustrated on the blackboard the difference in the results of thin and thick sowing. In the latter case, as with over-crowded children, there was smothering, degeneracy being the result, whereas with abundant air, light, and space the grain grew tall and strong, and flourished. Although he (Professor Buckman) might be considered theoretical, he was an old-fashioned practical farmer. He mentioned that when he entered upon his farm at Bradford Abbas he determined to look around him and see what his neighbours were doing. He found they were sowing no less than six bushels of barley to the acre; without jumping blindly at a conclusion on the matter, he experimented with smaller proportions. His neighbours said, "If you don't put in plenty you cannot expect to get plenty out." Well, he did not expect to get it out. But he always had a little corner of his own for experiments, and the results—which were not those of mere theory—demonstrated the advantage of thin-sowing. He sowed now five and six pecks instead of the proportion which had been adopted by his neighbours—six bushels to the acre. Here he would observe he fully appreciated the situation of some persons who could not perhaps, like Major Hallett, get wonderful crops from small seedings. They could not always do what they wanted or what they ought to do. At the same time they could act upon the general principles which he (Professor Buckman) had laid down. Let farmers experiment and observe for themselves, and adopt the advice of Captain Cuttle, "When found make a note of." He (the professor) would refer them to even some better authority than that, but the advice was to the same effect; let them "Hold fast that which is good." Let them study laws and principles, as far as practicable acting thereon, and their experience would be that "Knowledge is power." They would find it a power which would enable them, as it had enabled himself, to cope with difficulties. With a reference to the benefits accruing from the habit of observation, the professor concluded his lecture.

Mr. T. H. SAUNDERS said while concurring generally in the remarks of the learned professor there was one point upon which he differed. Professor Buckman had recommended them to sow the best corn, but when he (Mr. Saunders) had sown good samples he found the next year he had not much success with respect to the yield. He could not agree with some persons as to the alleged benefits from changing with regard to the places where the seed was obtained. His own experience rather showed that to be disadvantageous. He always found the best crop from the best land in a good season. Sowing in moderate proportion he regarded as the best. He concluded from his own experience that good crops depended upon the ground, and not so much on the sample of seed sown. At the same time he admitted the advantage of occasionally selecting the seed. He could not quite follow the professor as to the cultivation of the wild oat.

Mr. R. DAMEN in order to show the lecturer was not a mere theoretical farmer, did him the justice of mentioning he had received several sacks of wheat and barley from him and his neighbours, and the professor had supplied him with the best corn to be obtained in the district.

Mr. J. G. HOMER was extremely obliged to the professor, whose experiments he considered had been of a successful

character. Would, however, the same practical results as those experienced by the lecturer be derived in all climates? With regard to thin sowing, the speaker directed attention to the peculiar character of Dorset land—high and thin—and pointed out that the ranker the wheat from a thin plant, the more it was subject to blight. The professor had selected large wheat for his experiments in seeding, and that appeared to be perfectly right, provided they only had the soil for the cultivation. The latter, of course, depended upon the situation of their farms. His (Mr. Homer's) experience was that the smaller wheats, especially the Nursery wheats, were not so luxuriant in straw, and were less susceptible to blight than others. He considered change of land more than change of seed was productive of good crops. He had not one word to say against thin sowing, provided the land was suitable. Much depended upon the seasons and atmospheric influences.

Mr. LOCK (Kingston) spoke of the reduction which had taken place in the proportionate application to seed, for as the land got in a higher state of cultivation they could reduce the proportion of seed.

Dr. ALDRIDGE had been highly interested in the very instructive and scientific lecture. He considered the principles laid down were perfectly consistent with science and observation. While concurring as to the feasibility of cultivating oats and barley from the origins stated, he took exception to the remarks as to the derivation of wheat from the grass *Egilops*, which he held to be a different genus altogether. The professor seemed to accept the Darwinian theory, and in that he (the doctor) could not agree with him. There was no grain in the grass *Egilops*; how this grass could by any amount of cultivation be brought to the perfection of wheat he could not conceive. According to Darwin, men all came from monkeys; but the date they lost their tails was not quite certain. This principle of Darwin, as endorsed by the lecturer with regard to wheat, he (Dr. Aldridge) could never understand; he could not acknowledge it to be correct. It was opposed to the Bible, and therefore interfered with their religious feelings. A principle of that kind should not, unless there were good grounds, be initiated, for it might lead to a great deal of error. In other respects he concurred in the observations of the learned lecturer, to whom they were much indebted. The subject was highly interesting, deserving a great deal of thought.

The VICE-PRESIDENT, Mr. G. Wood Homer, said the chief arguments advanced by the Professor were that they should use good seed of every description, and that they should sow thin. The examples given of thin and thick sowing showed the correct distances at which grain should be sown. He (Mr. Wood Homer) had been much interested by a correspondence he had lately held with a German gentleman with respect to the system of manuring corn as adopted on the Continent. The grain of corn was by some process passed through manure, thereby accumulating on its shell a certain portion of the manure, which adhered to it. Then when it was dry it was passed through manure again until it arrived at the size of a bean, and thus it was sown in proportions according to the nature of the land. He was asked whether such a system could not be advantageously introduced into this country. With regard to the manure itself, he was inclined to think its application in the proportion thus indicated would not be so beneficial, but the protection it would afford to the grain might be advantageous. For instance, the ravages of rooks and grubs would be prevented. He had offered the gentleman to sow some, and he hoped to have the opportunity of proving the experiment. The plan, he understood, was very generally adopted in Germany. With regard to thick and thin sowing, his experience was rather in favour of tolerably thick sowing. Wheat he sowed in the proportion of two and a quarter bushels to the acre. In thin wheats in this county there was great liability to blight, and his experience was that with thin corn well hoed there sprung up considerably more weeds than with a thick piece of corn where there had been no hoeing. With respect to the pickling of wheat and the consequent destruction of a sort of parasite which destroyed the ear, he mentioned that a few years ago he had wheat which he never dressed in any way and there were no bad results. But one season he found there was considerable smut in the corn, and since then he had limed it. There had hardly been on the farm a case of smut since then. With regard to the small wheats, he had found the yield from the mummy quite equal to that from the red.

Professor BUCKMAN here explained his experiments had simply gone to show that where he had sowed the smaller samples he did not get half the crop yielded by the larger.

Mr. HOMER agreed it was more advisable to sow good healthy corn than immature samples; and said he had simply been mentioning the result of his own observations with regard to corn growing. Respecting the thin sowing of oats, the professor's remarks reminded him of the old Dorsetshire saying:

As many bushels as you sow,
So many quarters you shall grow.

This, however, was perhaps rather said for the beauty of the rhyme than the truth of the sentiment. With regard to Major Hallett's experiments in the thin sowing of barley, he considered them useless, unless the whole position of affairs was before the Club. He (Mr. Wood Homer) had walked over Major Hallett's land, which he should call thin and poor. The question was at what expense Major Hallett grew his crops—did he cultivate them regardless of expense? If by any means they put their land in high condition they might sow almost as thin as they liked to grow. What, however, they must get at was the way to grow most profitably. They must make the most of what they could get. He did not think barley sown as thinly as recommended by the Professor would generally answer. He had found three bushels per acre after wheat, and two and three-quarters bushels per acre after roots as suitable to this county. He had been growing better barley of late, which he attributed rather to the seeds. Mr. Wood Homer dwelt on the advantage of steam cultivation, speaking also on several other points.

Mr. DOWDEN, (Roke) had thought the lecturer, instead of going back to the origin of the several cereals, would have stated more as to the manures that should be applied to corn. The dressings of the farms became at times very expensive on account of the distances the manures had to be conveyed. Perhaps, however, the professor would on some other occasion state his views on the subject and the results of any experiments he had made in that direction. To a considerable extent he quite agreed with the lecturer with regard to the advantages of thin sowing. With respect to wheat, he began with a bushel to the acre, ending with a bushel and a-half; and regarding barley, he began with two bushels and ended with two bushels. Respecting oats, last year he broke up a 50-acre piece of sainfoin, applying dung and dissolved bone with nitrate of soda; he sowed eight inches apart, and the seed ran to about two bushels of oats instead of three as expected. He never wished a better crop. Generally speaking he sowed three bushels to the acre, but many persons saved five or six bushels. For the first time for 35 years he differed with Mr. Tom Saunders, and that was with respect to the advantage of changing in regard to seed. He had been in the habit of changing his seed every year, generally getting it

from up country—from the strongest land; he never used vitriol or lime or anything of the sort as a dressing, and he rarely ever got any smut, the reason being, he believed, the practice of changing his seed.

Mr. T. H. SAUNDERS had generally applied vitriol to his wheat; whenever he missed doing so he invariably had smut.

The PRESIDENT briefly summed up. He thought the result of the conclusions they might draw was that the mean was the best, he thought either extremely thick or extremely thin sowing was undesirable. Extremely rich land was not always necessary for the production of corn, and he did not think the suggestion as to the unlimited application of manure would come to much. With respect to the dressing of wheat, 18 years ago he bought a sample of wheat from a poorer farm than his own; it costs him 11s. per bushel, and the produce of that was full of smut. He had never sown any since then without dressing, and he had never had any smut since then. Ten years ago Mr. Harding and himself purchased some seed of a seedsman. He (Mr. Genge) dressed his, but Mr. Harding was so disgusted with the quality that he would not do so. He (Mr. Genge) had no smut in the produce, while Mr. Harding had some. In conclusion the president congratulated the Club on the instructive evening they had spent.

Professor BUCKMAN said the subject had been very suggestive to himself and personally he was much obliged for the remarks made and the instruction given to him. His object in coming there was not to teach them, but to point out principles as far as he could make them out by experiments and experience. He was quite aware there was a great deal of difference in soils and climates, but at the same time principles were questions of truth. Let them act on settled principles; then they would be more likely to succeed and get rid of prejudices. There was, he considered, a great advantage in meetings of this character, where men engaged in the same pursuits could discuss matters of that kind in the commendable spirit displayed that evening. A much appreciated medical gentleman had referred during the discussion to the Darwinian theory, which he (Professor Buckman), while pointing out that wheat was derived from the *Egilops*, had not thought of discussing. In matters connected with corn he (the learned professor) should not think of discussing the evolution theory. According to their medical friend men could not be monkeys because they had no tails; yet there were people who had tails left still. Whether that was in favour of the evolution theory he would not argue. He did not wish to discuss any theory. He had simply stated the result of his experiments. He took notes of what was done by his neighbours, comparing it with what he did himself; he was one of those who proved all things and held fast that which was good.

On the motion of Mr. J. Homer, seconded by Dr. Aldridge, the lecturer was thanked, and this concluded the proceedings.

HIGHWAY LEGISLATION.

At a meeting of the Monmouthshire Chamber of Agriculture held at Chepstow, the Hon. F. C. Morgan, M.P., in the chair,

Mr. PARSONS read a paper on the subject of highway legislation which, he said, embraced a great deal; still, he thought, that if they were to consider the matter at all, they should consider the whole system from its commencement. About eight years since, it became law that the old system of the management of the bye-roads should cease, that those roads should in future be managed by a duly-appointed highway board, with its clerk, treasurer, surveyor, &c., and that the cost of the maintenance thereof should be supplied from the poor-rates. This mode continued to the present time, and it must be admitted that the condition of the roads was much improved, and, he thought he might add, the general working of the system satisfactory. There were, however, some alterations and improvements which should be effected. A portion of these could only be granted by the Legislature, such as power in reference to cutting hedges, altering the hanging of roadside gates, and other small matters; but the needed amendment chiefly had reference to the financial yearly statement of accounts. We had at the present two beginnings and two endings to each year, which was extremely bewildering to the wardens.

The latter were appointed in March, when the estimates were made, and the supposed expenditure allowed for the year. But the annual statement of accounts was made to the 31st of December, thus keeping the waywardens in ignorance, and so bothering them that they were almost disposed to shirk responsibility. The complication had been represented by several boards to the authorities, but hitherto without redress. The other improvements to which he had referred were simply in respect of management, of which he need not further speak. Now he commenced with their grievances. The Government, a few years since, undertook to abolish turnpike gates and turnpike trusts, and to amalgamate the roads and their expenses with the parish roads and the parish rates. This, he would submit, was an impolitic and unjust act. In the first place it was found that it would only be practicable to abolish the gates on those trusts which were in a solvent condition, and so the gates on trusts which proved to be at all in debt were allowed to remain, and tolls paid thereat as formerly. Now, this to trusts, which had had their legitimate means of revenue removed was extremely unfair. The district of Chepstow, for instance, had to maintain its roads for the use of the public, who travelled free, whereas, if the contributors to this maintenance used the roads of the neighbouring districts of

Newport or Monmouth, they were stopped by gates, and had tolls to pay. But supposing that all existing turnpike gates were removed, then would it not be far more just that the source of revenue should come from taxation of horses and carriages, or some other imperial tax, than from, as at present in this district, the local rate, of which the landed interest paid by far the greatest part? He concluded by moving "That a petition be presented to both Houses of Parliament, signed as numerous as possible by the ratepayers of the county at large, praying that a fair and equitable plan of paying for the repairs of the turnpike roads be devised, instead of the very oppressive mode just commenced of throwing the burden on the local ratepayers, and that all districts be treated alike in respect to the abolition of tolls."

The Rev. E. T. WILLIAMS, in seconding the motion, said that having been for many years a trustee of the Chepstow Turnpike Board, he could speak from practical experience on the subject before the meeting. It would be well for the public at large to understand that they did not make a single complaint as to the manner in which the existing law was carried out by the officers employed for the purpose; but they did exclaim most vehemently against those iniquitous measures which threw heavy burdens on the landed interest. And the proceeding by which the burden of repairing the turnpike roads was thrown upon the shoulders of the local ratepayers could only be characterised as a direct and uncalled for attack upon that interest. The Board at Chepstow, when endeavouring to keep the Turnpike Trusts in existence a few years longer, sent up their secretary to give evidence before the Committee of the House of Commons; and a question was put to him as to the state of the finances. The board had thought that their position would be considerably strengthened by the fact that they could present a clean bill; that, notwithstanding the immense expenditure which had been made upon the roads, they had paid off so many thousand pounds; and had, moreover, within the last 25 years, reduced the tolls from 6d. to 3d. Their secretary acquainted the committee with these circumstances, and the meeting might judge of his surprise, when the committee replied, "Why that, sir, is the very reason why you can do without a turnpike trust." He maintained that that was one of the most iniquitous answers which could have been given, and conveyed a direct insult to a body of intelligent men. A great deal had been said about taxing the poor man for the benefit of the rich; but he contended that the abolition of turnpikes was simply another mode of effecting that very proceeding, because the gentleman with an income of £10,000 a year, who kept his stables and coach-houses, and constantly used the roads for his own selfish convenience, would only be called upon to pay towards their maintenance in the same degree as the poor parishioner who possessed no horse at all. In the neighbourhood of Chepstow the case was especially hard, as the roads there were traversed by a large number of foreign visitors who were not to be called upon to make any contribution in return for the wear and tear which their carriages occasioned. The turnpike roads in that neighbourhood

had now been thrown upon their shoulders for two years; and he believed that a heavy prospective outlay was involved in the fact that the foundations were working to the surface very rapidly indeed.

Mr. H. WILLIAMS (Llanarth) remarked that he resided in a little parish so far distant from Chepstow that he believed there were scarcely ten people in the place who knew in what direction the town lay, and there were certainly not two inhabitants who ever travelled on the Chepstow roads. They had their own highways to pay for, and they were also unfortunate enough to be called upon to assist in the maintenance of 17 miles of Chepstow roads, formerly under the management of the turnpike trust. The charges levied upon the parishioners last year were nearly five times the amount actually expended on their own roads, and under these circumstances he could not but feel a personal interest in the matter under discussion. There could be no doubt that the turnpikes were doomed, and would sooner or later be done away with. Possibly they represented a very cumbersome mode of collection, and there might have been reasons why they should be abolished; but, if this were the case, some improved method should be devised by which the maintenance of the roads should still be thrown on those who used them. The proposal to cast the burden upon the rates involved a manifest injustice, which he might illustrate by a case in his own parish. He knew two men there who were rated to about the same extent, and the one paid 30s. a week in turnpike tolls, while the other did not expend that amount during the whole year. If the cost of maintaining the roads were defrayed from the rates those two men would be called upon to contribute in the same degree, and that could scarcely be regarded as fair or just.

Mr. LAWRENCE gave a general support to the resolution. Nothing could be more unjust than the system it was now proposed to adopt. He threw out a suggestion to the effect that the expenditure should be defrayed out of a fund raised by Imperial taxation in respect to horses and carriages, and intimated that he saw no reason why the horses of farmers should then be exempted.

Mr. CULVERWELL (Usk) expressed himself in favour of the re-establishment of the turnpike system, the tolls being reduced to 3d., and the gates placed at intervals of eight or ten miles.

Mr. THOMAS WILLIAMS considered that the position of agriculturists would scarcely be improved if a tax of £1 were levied upon their horses.

Mr. LAWRENCE said the tax at present imposed upon trading horses was 15s.; and he could imagine no circumstance which would induce the legislature to tax the farmer's horse at a higher rate than the trader's. If, as he suggested, the maintenance of the roads were thrown upon the Imperial funds, the farmers could not expect to be exempted; but under such a system they would not be subjected to any exclusive charge.

The resolution was adopted.

G A M E - L A W S (S C O T L A N D) B I L L.

The Game Bill introduced by Mr. McLagan, and bearing on its back the names of Sir E. Colebrooke, Mr. Orr Ewing, and Mr. Maitland, has been printed by order of the House. The preamble simply sets forth that "it is expedient to consolidate and amend the laws relating to game in Scotland." The preliminary clauses provide that the statute may be cited as the "Game Act (Scotland), 1874," that it shall come into operation on 1st December 1874, and that "lessor" shall mean the grantor and "lessee" the grantee of any lease of land, and also the persons for the time in the right and subject to the obligations of the grantor and grantee, respectively, with respect to such lease. "Game" shall include pheasants, partridges, grouse, heath or moor game, black game, ptarmigan, woodcocks, snipes, quails, teal, wild ducks, and widgeons. The term "court of summary jurisdiction" means any sheriff; and the term "sheriff" includes sheriff-substitute. The remaining clauses, twenty-one in number, are divided into four parts—1. Protection of game; 2. Lessors and lessees, right to game and claims to damages; 3. Prosecution of offenders; and 4. Miscellaneous.

Part I. contains the following enactments:

Clause 4. Repeal of existing laws.—All statutes, laws, and usages relating to the protection of game, or wild animals classed by any Act of Parliament along with game, as defined in the Act with a view to its protection, in force in the United Kingdom shall be repealed as from and after the commencement of this Act, but this repeal shall not be construed to extend to or affect the law as to licences to kill game, except as to hares and rabbits.

5. Protection by close time.—Any person guilty of killing or taking any partridge between 1st February and 1st September, any pheasant between 1st February and 1st October any grouse between 1st December and 12th August, shall be liable to a penalty not exceeding £2 for every head of game so taken.

6. Protection of eggs of game.—Any person not having the right to kill game on any land, or permission from the person having such right, who shall wilfully take out of or destroy in the nest upon such land the eggs of any game, or of any swan, or wild duck, teal or widgeon, or shall knowingly have such

eggs in his possession or control, shall be liable to a penalty not exceeding 5s. for every egg.

7. Protection against poison.—Any person who, with intent to destroy or injure any game, shall put, or cause to be put, any poison on any ground, open or enclosed, where game usually resort, or in any highway in the vicinity, shall be liable in a penalty not exceeding £10.

8. Trespassers in pursuit of game.—Any person trespassing on any land, open or enclosed, with any gun, net, engine, or other instrument, or any dog, in search or pursuit of any game, for the purpose of taking or destroying the same, shall be liable, if the trespass was in the day time, to a penalty not exceeding £2; if in the night time, to a penalty not exceeding £4, together with forfeiture of any gun found on him, in addition to any damage that may be recovered in an action for trespass.

9. Night trespass by two or more persons.—Any person, together with any other person or persons, who shall so trespass in the night time, shall be liable to imprisonment, with or without hard labour, for a term not exceeding three months, or to a penalty not exceeding £10, and on a second conviction to imprisonment for a term not exceeding six months.

[In all these cases the offence to be tried summarily, and the conviction to carry costs.]

10. Protection against trespassing in enclosed lands and preserves.—It shall be lawful for any person having the sole right of killing and taking the game to enclose, with the consent of the lessee, any portion of land as a preserve for deer, roe, hares, or rabbits, and to register the same annually as a preserve in a register kept for the purpose by the sheriff-clerk of the county, on paying a fee of 10s., and advertising once a week for four successive weeks the fact of such registration each year in the newspapers published in the county, or in two of the newspapers chiefly circulated there, and to put up and maintain, in not less than two conspicuous places on the land enclosed, printed notices that the land is registered; and every person guilty of trespassing in the manner above described in such enclosed land shall be liable to imprisonment, with hard labour, for a period not exceeding six months, or to a penalty not exceeding £10, and on after conviction to penal servitude for a term not exceeding twelve months.

11. Provisions for facilitating prosecution and conviction.—When any person shall be found trespassing in the day time in search of game, it shall be lawful for the person having the right of killing the game for the occupier, or for any person authorised by either, to require the person so found forthwith to quit the land, and to tell his name and place of abode; and on his refusal to do so, to apprehend such offender and to convey him before the sheriff or a justice of the peace, who shall have power to order him to be released or to find sureties to the extent of £5 to stand his trial under section 8, and to commit him to prison until he shall be tried or find such sureties or deposits or pledges of money be paid. No person apprehended shall be detained for more than twelve hours before being brought before the sheriff or justice; and no person committed to await his trial for such offence, or till he find sureties, shall be detained in prison more than sixty hours without being cited to trial. If not cited to trial within that time he shall be discharged, and not thereafter be liable for prosecution for such offence. If the offender shall be one of a party of three or more persons found trespassing, any one of whom is armed with a gun, bludgeon, or other offensive weapon, and if any of them shall by violence, intimidation, or menace prevent or endeavour to prevent any person authorised from approaching to make such requisition, each shall, upon summary conviction, be liable to a penalty not exceeding £10, together with costs, or to imprisonment with or without hard labour for three months, in addition to any penalty of forfeiture, under section 8, and to damage for the trespass.

12. What to be deemed daytime and night.—For the purposes of this Act the daytime shall be deemed to commence at the beginning of the last hour before sunrise, and to conclude at the expiration of the first hour after sunset; and the night shall be deemed to commence at the expiration of the first hour after sunset, and to conclude at the beginning of the last hour before sunrise, Greenwich time.

The following is a summary of the clauses in Part II.:

13. Right of killing game, &c., to be in the lessee, unless reserved.—The sole right of killing and taking the game upon any

land shall, unless the same be effectually reserved to himself by the lessor, be in the lessee in occupation of such land, subject to the following provisions: 1. The lessee shall occupy the land under a lease made subsequently to the commencement of this Act. 2. The lessee shall not be entitled to assign such right apart from the lease to any person without the lessor's consent. 3. A reservation of such right by a lessor shall not be effectual unless the lease set forth the annual value of the right so reserved. 4. The lessor when he reserves such right may grant it to any other person, provided he shall first, by writing, offer it to the lessee at a rent equal to its specified annual value, and the lessee shall within ten days of the offer decline by writing to accept it.

14. A lessor having the sole right of taking or killing game shall, in the absence of express stipulation to the contrary, be presumed in law to have come under an obligation to the lessee to keep down the stock of game and such other wild animals on the farm to such an extent as shall be fair and reasonable, looking at the condition of the land and the provisions of the lease; and shall in case of failure be liable in damage as for breach of contract to the lessee for the loss, injury, and damage caused.

15. When the right of game is reserved or granted to the lessor, the lessee shall be liable in damage for breach of contract if he kill or take game or hares or rabbits.

16. The contract restraining the lessee from pursuing, &c., game, shall not be enforced by injunction or interdict, but the lessor shall be left to his ordinary legal remedies.

17. Provisions as to actions of damage between lessor and lessee.—No action for damage at the instance of a lessor against a lessee shall be competent unless brought within three months of the date of the breach of contract complained of; and no action at the instance of a lessee against the lessor shall be competent unless the lessee shall have given to the lessor notice in writing of his intention to bring the same three weeks before the crop which he alleges to have been damaged is reaped, when a grain crop; or gathered, when a green crop. Failing agreement as to the amount of damage, any such action may be brought in the Sheriff Court of the county; and the sheriff may remit to a man or men of skill to inquire into the claim. The procedure in such an action shall be the same as is competent in any other action of damage for the same amount brought in the Sheriff Court, and the judgment of the court in any such action shall be final.

18. Provisions as to arbitrations for settling claims.—When a lessor or lessee agree in writing to refer to arbitration any claim arising under this Act, the following provisions shall have effect: 1. Either party having in writing named an arbiter, and given notice of the nomination, and called on the other party to name an arbiter, and the other having for fourteen days after such call failed to comply therewith in writing, the arbiter nominated may settle the claim as if he had been appointed by both, and his award shall be final. 2. The reference, claim, and nomination may be validly made by any writing admitted or proved to be genuine. 3. The arbiters named shall, before proceeding to the arbitration, name an oversman finally to decide in case of such disagreement. 4. The written decision on the claim being admitted or proved to be genuine shall be valid and effectual in a court of law, according to the true construction and tenor thereof; and 5. No proceedings under this clause shall be void for want of form.

Part III. contains provisions setting forth the proceedings to be taken for offences, penalties, &c., under the Act, in the court of summary conviction, which shall be constituted by the sheriff of the county and proceedings to be taken in appeals from courts of summary conviction. Such appeal may be taken to the next Circuit Court, or where there is no Circuit Court, to the High Court of Justiciary at Edinburgh.

It shall be incompetent to prosecute anyone for any offence under the Act for which imprisonment with hard labour for a term not exceeding twelve months may be awarded, unless the prosecution shall be commenced within one year from the time when such offence was committed.

Part IV. of the bill proposes to make it lawful for the lessee of any lands used as an agricultural or sheep farm to call upon the owner or tenant of any lands contiguous therewith and used as a deer forest, in writing, to fence such deer forest, so as effectually to prevent the deer passing on to such farm, or the sheep passing on to such forest; and on failure, compel the owner or tenant of such deer forest to do so by order of a

court of law; failing compliance within reasonable time fixed by the sheriff, the owner or tenant shall be liable in a penalty not exceeding £5 for every day during which the order is not obeyed.

OLD SMITHFIELD.

That abominable hot-bed of foul odours, profligacy, and cruelty to animals, Smithfield, is gone. It is as dead as the vile old Bartholomew Fair—once the resort of all the rogues, and the ruin of half the servant girls at the East End of London, and which for many centuries used to be held in "Smiffle"; the Lord Mayor and Sheriffs opening the scandalous saturnalia, in full civic state. The elder Keau, they say, once played Richard the Third, George Barnwell, and Harlequin, all in the course of a quarter of an hour, at one of the Bartlemy theatres; and Belzoni, the famous Egyptian traveller, was fain at one period in his strange career to appear in pink tights and spangles and a Roman helmet and plumes at one of the booths in the fair, lifting prodigious weights, and bending great iron bars over his mighty fore-arm, as "the Strong Man of the Desert." But all these tales, and Charles Lamb's delightful paper on his friend Jem White's annual hot sausage feast to the youthful chimney sweeps among the "pens," are as obsolete reading now as the records of the Pie-Poudre Court, as the horrible histories of the burnings and boilings of heretics and coiners in Smithfield, and as the wonderful collection of humours brought together in Ben Johnson's "Bartholomew Fair"; the fanaticism of Zeal-o'-the-Land Bury; the idiocy of Bartholomew Cokes, the Esquire of Harrow; the conceits of Lanthorn Leatherhead, the hobby-horse seller; the knaveries and ruffianism of Knockem, the horse-courser, and Moonealf, the tapster; and the salt drolleries of Joan Trash, the huckster of gingerbread; and Ursula, the monstrous fat woman who sold roast pig. But Smithfield, when I knew it (an end was made of the Fair about '45, I think) was not by any means a funny place. It was a gloomy, filthy, and uproarious nuisance. Every market morning ushered in a day of riot, drunkenness, and cruelty. First, the thousands of sheep and pigs and the hundreds of oxen and calves had to be driven through the crowded streets, or dragged from the miserable lairs about Cow Cross, to be huddled together in the "pens" of Smithfield. Then, when they had been sold, they were driven again—their sides thwacked or prodded with sharp goads, their tails twisted, or their horns plucked out—through the most densely populated thoroughfares, not only of the City, but of the West End; for there were scores of private slaughterhouses in every neighbourhood—in Belgravia, behind Piccadilly, and close to Grosvenor Square, as well as in Bishopsgate and Whitechapel. Some scores of sheep used to get run over by carts and coaches every market morning; and very often the bullocks, overdriven, tortured, and parched with thirst, went mad, and ran amuck in the genteel districts—tossing children, goring old ladies, bursting into china shops and smashing the crockery; and affording the keenest diversion to an intelligent populace. For many years the Corporation of London were adjured to abrogate this monstrous evil; and for years the City Fathers, devotees of the Idol of Vested Interests, held out against the reform. One wonderful Common Councilman, I remember, declared in open court that Smithfield was a most salubrious place, and that he frequently took his wife and children there at early morning for "a whiff of fresh air." It must be remembered likewise that on "off days," when there were no cattle-sales, there were horse-marks in Smithfield, to which all the battered broken-down "screws"—the glundered, shoulder-shotten horses and ponies of the country, seemed to be brought to pass a competitive examination as to which of them were fittest to be translated to the neighbouring knackers' yards. At length public pressure virtually compelled the Corporation to disestablish Smithfield and to open a new cattle market at Islington; but for many years the "pens" of old "Smiffle" remained standing; the site was untenanted; and the whole place was abandoned to the abomination of desolation. It would be both ungrateful and unjust to deny that within recent years the Corporation have done very notable things in the way of improvement, not only in Smithfield, but in almost every part of the City; and that

they have therein set a very bright example of energetic and comprehensive reform, only tardily and tentatively followed, I am ashamed to confess, in Westminster. The new dead-meat market in Smithfield is a splendid structure, on the whole capitably arranged, and to a great extent sufficiently subserved by the increased facilities of communication afforded by the construction of the Holborn Viaduct; but looking at things, as I am bounden to do just now, from a purely locomotive point of view, I must fain remark that successful as has been the task of bridging over the Holborn Valley, and razing some of the most objectionable purlieus of Clerkenwell, the work of demolition, of "opening up," and of reconstruction on improved lined cannot by any means be considered thoroughly complete. There are still a great many narrow and confined streets about Smithfield, which every morning are blocked up by butchers' carts (and when will an Act of Parliament be passed to prohibit the carrying of raw meat in four-wheeled cabs?); and these congested streets are all so many impediments to the free circulation of the traffic. So much for dead meat, as it affects locomotion. The new suburban Cattle Market has proved a very gratifying success; but another one is urgently required at the south of London, say between Hammersmith and Acton. Again it is imperatively necessary that the abattoir or public slaughterhouse system should be generally and compulsorily adopted. The concession of time granted to the few remaining private shambles is on the eve of expiry; but it has been noticed, with astonishment and regret, that futile attempts have been made, both in Parliament and before the Metropolitan Board of Works, to obtain an extension of the privilege of "killing at home." Now, every private slaughterhouse which is permitted so exist hampers metropolitan locomotion to an appreciably grievous extent. The Underground Railway cannot convey like stock, even if it would; the animals must consequently be driven through the streets, to the private premises of the butchers; and at least twice a week, coming from Brompton into the City, I find, at the corner of Sloane-street, the wheels of my hansom encompassed by a bleating flock of sheep; or I meet a herd of oxen, blundering and plodding on their weary way down Grosvenor Place on their way to Pimlico. The thing may be against the law, but I am certain from ocular experience that it is done, habitually. I am afraid that so far as brutal horse-play and ferocious pleasure at the spectacle of the sufferings of dumb animals are concerned, there is not much to choose between the mob of 1874 and that of the past generation. Not later than last December, standing at the corner of Fleet-street and Bridge-street, Blackfriars, I saw, lumbering past, a van in which some fat cattle were being conveyed to the Show at the Agricultural Hall. This annual Live Meat Exhibition is, by the way, most needless and demoralising, and one which, in the interest of public decency, should be henceforward discontinued. A Cattle Show in the country is an admirable thing; very serviceable to agricultural progress. In Copenhagen Fields, too, it might be just tolerated, for the sake of the butchers and graziers; but as a Show, at a shilling a head admission, before a gaping mob, in a flaring, gas-lit hall, it has become a public nuisance and scandal. Well, this van came along; the great beasts protruding their horned heads through the aperture at the back. I am sure that if I saw one, I saw twenty blackguard boys, leap up behind the van to smite the wretched animals over their noses with sticks, or to pluck them by the horns. In this merry sport the cabmen from the rank opposite the London, Chatham, and Dover Terminus, with a hot potato-eating man, and several roughs with cat-o'-nine-tail-inviting shoulders, eagerly joined. There was a stalwart City policeman standing by, to whom I indignantly appealed to put a stop to this barbarity. For all reply he stared at me; then burst into a horse-laugh; then muttered something, and began to scowl ominously. Not wishing to be "run in" I went about my business, and left these devils to their devices.—SALA, in *The Gentleman's Magazine* for April.

ARBITRATION BETWEEN FARMERS AND LABOURERS.

The special reporter of *The Times*, writing from Newmarket, very sensibly suggests the intervention of men of influence in the terrible struggle now being carried on between the Labourers' Union and the farmers' associations. The suggestion has been made before, but appearing as it does now in the "leading journal," we may hope that something will come of it. In the contests between masters and men in the manufacturing and mining interests, councils of arbitration, although only recently introduced through the agency of Mr. J. A. Mundella, M.P., have already done great service. The conflict comes last to the agriculturists, and they have the experience of previous sufferers to profit by. Let them take a timely lesson, and not, like spoiled children, insist on buying painful experience for themselves. Seeing, as they may see—and both masters and men are here referred to—that those who have gone before them, by pursuing a headlong course in a certain direction, have invariably run their heads against a brick wall, they may as well spare their crowns, instead of insisting on the repetition of the disastrous experiment, under the conceited idea that they can do it better. The rule in previous struggles between masters and men has been, a long and bitter contest, with monstrous loss and suffering first, and compromise afterwards. What is now suggested is that in the present dispute the first part of the programme should be left out, and the second commence at once.

Unfortunately, as far as present appearances go, it seems that instead of taking advantage of the masters, the farmers are determined to exceed all in reckless pugnacity. Not only they refuse the demand of their labourers for higher wages, as other employers have done, but they essay to do what other employers have been too prudent to attempt, namely, to put down the Union of their men. This it is that so seriously diminishes our hopes of the success of any attempted arbitration. The attack upon the labourers' Union is war *à outrance*. No terms are offered to the foe short of complete and abject surrender. The locked-out labourers cannot return to their work except as whipped curs. It is obvious then that there is no opening for compromise here. The masters must be induced to give up their policy of extermination before any arbitration can be even entered upon. The Union delegates have signified their willingness to treat with representatives of the farmers' associations; but the latter reply, "The Jews have no dealings with the Samaritans."

The preliminary work of the peace-makers, then, is obvious—it is, to convert the farmers from the error of their policy. Either the rule that no Union men shall be employed must be rescinded, or the battle must go on to its disastrous conclusion: there is no middle course. A fiat of extermination proclaimed against a foe must inevitably be recalled before arbitration between the contending parties is possible. Of course, it is not a pleasant thing to give way in this instance, but when one has made a mistake there is no disgrace in admitting it, and rectifying it on the first opportunity. There is, too, a circumstance which may be held to ease the farmers down a little, and it is this: Their contest was with the Labourers' Union, and this they thought they had power enough to break up, as perhaps they had, if the Union had depended solely upon the farm-labourers for support; but now they find that the Agricultural Labourers' Union has allied itself with the other unions of the country, and that rich and poor alike contribute subsidies. Against such a great confederation as this they

may, without dishonour, decline to contend on the one essential point which alone they will have to give up. In other respects, they will still be free to oppose the labourers if they think it advisable to do so; whilst the way will be opened to arbitration by the repudiation of the stamping-out policy. It is that which has given rise to the great confederation that has been formed against them; and, when that policy has itself been "stamped out," they will find that their foes will diminish, and their friends will increase. Then, the arbitrators may step in with some chance of success.

One prominent member of a Suffolk farmers' association, writing to *The Times*, says that the farmers are open to advice. Then the sooner the peacemakers get to work the better. If a number of men possessing influence with the farmers and the labourers respectively were at once to make an attempt to arrange for arbitration, we should hope to see no impassable obstacle placed in the way by the farmers. They must be getting pretty well tired of playing at being farm labourers, although, no doubt, aided by their town cousins and other volunteer visitors, it was very good fun at first. According to *The Times*, there is at present hardly any bad feeling existing between the farmers and the locked-out labourers, and "in this absence of bad blood the best chance of peace may be found to lie." *The Times* further remarks that arbitration has been suggested, and asks—"What is to be the subject of the arbitration? Is it the rate of wages? That, no doubt, might be settled by impartial judges; but we learn from our own reports that the claim of the labourers on this head would not, of itself, have led to the 'lock-out.' Is it the right of combination on the part of the men? We can hardly see how that is to be regarded as an open question, or how any arbitrators could decide that a trade union was not permissible among a certain class of work-people." No; as before remarked, the burning of the "bull" that has been promulgated against all Union men is a necessary preliminary to arbitration.

It has been suggested that Mr. James Howard and Mr. C. S. Read, M.P., should be asked to try the effect of peaceable counsels upon the farmers' associations, and it is to be hoped that they will consent. Their interest in the class to which one of them belongs is beyond question, and their advice would be more kindly taken than that of a well-meaning and rather too sharply hauled Bishop has been.

THE MALT TAX.—At a meeting of the York Chamber of Agriculture, at York, Mr. W. J. Ware in the chair, Mr. Dunn, of Kelfield, read a paper strongly in favour of the maintenance of the Malt-tax. In the interests of the farmers as well as of the revenue he was in its favour; and the farmers, in pressing for its repeal, were only preparing the way for the imposition of other taxes, which would press more heavily upon them as a class. A resolution was then passed in favour of the continuance of the tax.

SALE OF CROWN PROPERTY IN SUFFOLK.—Her Majesty's Commissioners of Woods and Forests having offered for sale the crown property situate at Leiston, known as the Crown Farm, Messrs. Richard Garrett and Sons' tender for purchase, after a lively competition, has been accepted, they having advanced their offer beyond the value of the farm as an agricultural investment in consequence of the convenient proximity of the property to their Works. The area comprises about 900 acres, inclusive of lands in the parish of Aldringham and the hamlet of Sizewell.

THE LOCK-OUT OF THE CAMBRIDGESHIRE LABOURERS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—When I wrote you last year protesting against the cowardly intimidation of *free* labourers by the Chipping Norton Unionists, through the aid of women, I little anticipated having occasion at any future time to protest with equal earnestness, as I do now, against a farmers' "lock-out." The business of farming does not admit of such a proceeding; besides, it is cutting the vantage-ground from under the farmers' feet, and the sooner they are told so by you, who have long been their advocate, or by others to whom they will listen, the better it will be for themselves and their class. Agricultural labourers, for some years past, have been scarce enough, and if they now "strike," it is for the farmers—instead of meeting it by a retaliating "lock-out"—to go out into the highways and byeways to call them in; and if they do not like the terms on which they will come, then, without offence or an unseemly combat, they may proceed to supersede manual labour by machinery, by putting down land to grass, or by farming less high than they do at present. When this is the case, and then only, will they be able to disregard labourers' unions, resist intimidation, ignore abuse, and weed their establishments of worthless hands. All the spinning jennies in England might cease to revolve, and all the factory doors be locked for a time without much loss to any one except the individual owners, and not even always to them; but if farming operations stand still when they should go on, farmers' property marches on to destruction, and the natural resources of the soil, which should be producing its fruits in due season, remain non-productive and profitless. Who then is to compensate the Cambridgeshire farmers for their losses? Not, certainly, their brother farmers, most of whom, I am happy to learn from many of themselves, condemn the step they have taken; nor the general public, whose bread may be enhanced in price by their proceedings; nor landlords in general, who will not willingly, even if they thought it for their personal interests, identify themselves with so questionable an act. Their prospect of extraneous aid is, therefore, *nil*. The Union men appear equally well aware that when money wages enlimate, perquisites—whether represented by corduroys or Christmas beef—will cease; that cottage rents will be raised; broken time disallowed; and perhaps Poor-law relief by-and-by restricted to the old and infirm; and if they are willing to brave these charges, let us meet them if we can. The better education and the greater self-reliance of the Scottish peasantry have long enabled them to dispense with patronizing gifts and sham substitutes for wages, and yet there is no industrial class in the community that shows more emulation at their work, and more genuine attachment to their employers. Indeed, it is mainly to them that landlords are indebted for high rents, and tenants for such profits as they realise. When English labourers are endeavouring to attain a similar stand-point, would it not be better for the English farmer, in the long run, to encourage the effort, however uninvitingly it may at first be made, rather than meet it with a "lock-out?" By doing so, some, at least, of that good feeling which now exists and which it is so essential to their mutual interests to maintain, would be preserved, but which a "lock-out," especially if successful, must inevitably destroy. Throughout the agricultural vicissitudes incident to the repeal of the Corn-laws, and all the others that have since occurred, I have, without

intermission, conducted agricultural operations on an extensive scale, up to the present time; and though some of the transition stages were inconvenient and troublesome, I have never found any insuperable difficulty in adapting my operations to circumstances as they arose, and have, therefore, little dread of any ultimate evil arising to agriculture from the present attitude of the labourers, provided the farmers of England continue as they are doing to act with more forbearance and wisdom than the men of Cambridgeshire.

I am, sir, your obedient servant,

THOS. C. SCOTT.

Knaphill Farm, Surrey, April 11th.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Having read the able article in your last impression from an "East Essex Farmer," would you allow me space for one or two remarks in your valuable paper? As a fellow countryman, and living not a hundred miles from where the present lamentable lock-out is taking place in the sister county, I feel greatly interested in seeing how the affair will terminate. I quite agree with him, that the farmers have no right to try and stamp out the Union; the labourers have as much right to combine as their masters, but have Arch and Co. a right to send word down from Leamington that they expect the labourers to have another 1s. per week? In the parish where I farm the Union was started about eighteen months ago, when the general cry among us was "turn off those that have joined." Thanks to the advice of a few more experienced farmers this was not carried out. What was the consequence? In less than three months all the Union cards were thrown up, and now there is not a member in the parish. They have recently, in a straightforward and fair way, asked for another 1s. per week, which has been granted, and the employers and employed are working together on most amicable terms. I would sooner see (as your Warwick correspondent hints) the farmers combine to put a stop to these meddling, itinerant, demagogues, who go stumping through the country setting class against class; and while farmers and labourers are fighting for the money they step in and put it into their own pockets. As long as the Union is supported by the manufacturers and aristocracy it is utterly impossible for farmers to try and break it up, but I would just ask what would be thought of farmers sending in their subscriptions to support locked-out men in the building trade or the coal mines? I fancy they would be told to look after their own business, and I think that were that advice carried out by the parties who back up this Agricultural Union there would have been no cause for the severe measures now being adopted (we shall see with what success) in the Eastern Counties.

Yours truly,

NORTH ESSEX.

At a meeting of farmers at Halesworth in Suffolk the Earl of STRADBROKE, lord-lieutenant of the county, characterised the question that was agitating the mind of the agriculturists of Suffolk and elsewhere as fraught with greater importance than any which had come up during his life. Considerable differences of opinion naturally were entertained on such a subject, and he did not wish to make anybody responsible for his utterances. He claimed to have some knowledge of the

wants and position of the agricultural poor, from a connection with the administration of the Poor-laws for nearly fifty years, forty of which he had been chairman of the board of guardians. The condition of the agricultural poor had interested him deeply, and been considered by him in all its bearings. In the early part of this century, during the time of the "old war," that was in the time of the first Bonaparte, when wheat was 50s. a coomb, and wages 16s. a week, he knew a man on his estate who received additional parochial relief because he had a large family, and 16s. at the then price of flour was not enough to support them. The cause of this was that from 1814 to 1817 there was a larger amount of labour in the market than there was a demand for. The consequence was that wages depended almost entirely upon the price of flour. In 1819 the Parliament of the country thought it right to change the currency of the kingdom. The farmer who had engaged to pay £300 a year for his farm in paper currency found that with the gold coin thus introduced he was unable to meet his landlord to pay his rent, because the pound note would only fetch 14s. 6d. in the market, while the guinea was worth 21s.; or, in other words, if the pound note fetched 20s., the guinea would sell in London for 27s. In consequence of this depreciation of the paper currency prices fell to a lamentable extent. Farmers discharged their men because they were unable to pay them; the land went gradually out of cultivation, and was very much deteriorated. This state of things went on for some years, until the introduction in 1835 of what was called the new Poor-law Bill. When that bill became law there were in Blything Union 1,300 persons, independent of the aged and infirm, receiving outdoor relief. The rates were, of course, enormously high, the farmers poor, and the men only partially employed. Nothing but the new Poor-law Act cured this state of things. As soon as the new Act came into operation he proposed that measures should be taken to migrate a portion of the 1,300 in receipt of relief. In 1836 they sent 650 men, women, and children to Canada, where those who were worth anything did well. Having got rid of 650 persons, the farmers employed the remainder, so that within six months the rates were relieved to the extent of the pay for 1,300 persons. That was an immense advantage, farming began to improve, and all went on comfortably and well. Prices rose, wages, which had been 8s. a week, rose to 12s., and in 1839 to 13s. All was going on prosperously and well. But a very large and powerful party said, "We must have free trade. This protection system will not do. It is an advantage to the landlords to which they have no right." It was an advantage to the landlords, who paid a great deal more local taxation than any other class. But free trade was introduced without giving the landlords any relief in local taxation. What happened? Wages dropped to 8s., and in many parts of Suffolk to 7s., and the people were never so badly off. Corn was cheaper, and the markets were crammed with foreign flour, with very few people to buy it. But by degrees the people on the Continent took to eating white instead of black bread, and prices again rose until they became what they had seen them during the past few years. But during the last three or four years there had been a desire among the people to migrate and emigrate. The result was that instead of there being a surplus population there were only about as many men as were required. Some people thought there were not so many men as they would like to see to do the work. At all events, so great had been the reduction that the supply could hardly be said to be equal to the demand. Then the labourer said—and perhaps he should say the same—that as their services were in more request they ought to be more remunerated. He did not quarrel with them for that. If he offered a man a certain sum for his labour, and he would not accept it, the man had no right to be coerced into taking it. If a man said he could make more by fishing than by working on the land, let him go fishing, as they had no right to detain him; but, when he came back, he must not expect to be again employed. This was one view of the case; but there was yet another they would have to consider. Were they to be guided by a clique who travelled about the country making speeches, for which they were paid, having no interest in Suffolk or in any other part of the country, and only coming forward to create a quarrel between employers and employed. He had known hundred of instances where the wages a man received were not his only means of support. Many little comforts and advantages were given him by his employer, who delighted to help a good man; but the moment men put themselves into

the hands of those travelling fellows all that would cease. If a man said, "I work for my master, but I don't care a bit for him," of course the master would not care about him. The man would be too independent to ask his employer for a bottle of wine or soup in winter, and the strong feeling which had hitherto existed between the upper class and the lower would be destroyed. When he had a good man on his estate it gave him pleasure to talk to him and make him comfortable, but if a man were going to belong to a union, to insist upon a certain wage and certain hours, and to set him at defiance, he should say, "Choose between me and the union: if you will stand by me, I will stand by you; but if you choose to belong to the union, and to depend upon a lot of vagabonds who go about preaching disaffection and making speeches, instead of trusting to me, I do not wish to employ you." The object of the union was that when a sufficient sum had been subscribed, the farmer should be compelled to give a higher wage by causing him immense trouble and difficulty. No doubt, this would last for a time, but ultimately it would be to the misfortune of the men; and therefore he strongly advised the labourers not to be led away. But would it be wise for the farmers and owners of land to sit with their arms folded, doing nothing? Would it not be more prudent to say at once, "I will not employ men who are endeavouring to damage me?" Would it not be better to say to the men, "If you stand by me I will stand by and assist you; I advise you, by all means, to trust those you know, and not to believe those of whom you have no possible knowledge and may never see again." To carry out the object he had in view the farmers must be unanimous. It would not do for one lot of farmers to do one thing and another lot to take another course. Let them do what was right; let them encourage in every way those men who did not belong to a union and who trusted them, by giving them constant employment and the best wages they could afford, and set the others at defiance. Farmers naturally felt themselves in very great difficulty, and it was hard to say what was best to be done. One thing that was certain was, that if labour became more scarce the farmers must, in self-defence, do all they possibly could by machinery to reduce the number of their horses, which were of great expense on a farm, and to limit the number of men, otherwise, the cost of labour being so heavy, they would have to throw up their farms. There had appeared many letters in the papers on the subject, some very sensible and others very curious. One letter, written by a right rev. prelate, he read with some surprise. No doubt the writer was a man of considerable ability, but it was his lot to see many men of great ability who were not distinguished for strong, sound, common sense. He was afraid that the right rev. prelate wrote a great deal of nonsense. Some fancied that the landed interest had the preponderance of the wealth of the country. But what was the fact? In the early part of the century the landed interest undoubtedly formed one-half of the wealth of the country. At the present time it did not form more than one-sixth or one-seventh of it. The real rich men in England were those of the manufacturing and commercial interests, and it was they, and not the people connected with the land, who had the high-stepping horses of which the right rev. prelate had spoken. He counselled unanimity of action, and a fair, reasonable, and liberal policy towards their men, at the same time setting their faces against this revolutionary strike.

At the conclusion of his lordship's speech resolutions were carried adopting the lock-out for that hundred, and pledging the meeting to give all possible support to those labourers who had not attached themselves to any one or other of the unions, whose object was to force up the rate of wages, and that a benefit society should be established, to be aided by the landlords and farmers, for the support of agricultural labourers during sickness and old age.

At Wymondham, Mr. Read, M.P., Secretary of the Local Government Board, addressing a meeting of his constituents, said the present Government would not be satisfied with a dead calm; they would introduce reforms, but they would be reforms carried out in the lines of the constitution. Their policy would be reformation, but not revolution. He considered it an extraordinary thing that the Bishop of Manchester should have given the Eastern Counties a lecture on the relations between employers and employed, and he was thankful that as a rule the clergy had stood aloof from the

labour agitation. The farmers did not find a friend in the London press. The Liberal press, as a matter of course, took the side of the labourers against the farmers, and even the Conservative press was sarcastic enough to make reflections upon the latter. The real question was, "Was the capital employed in agriculture paying more than a fair per-centage?" He believed the capital of the tenant did not pay more than 8 per cent.; if it did nothing at all it would yield 4 per cent.,

and surely the odd 4 per cent. was not too much return for the trouble and risk incurred by the farmer. He thought the Labourers' Union had chosen the wrong time for the present labourers' strike in Suffolk, as field work was never so forward. He did not believe the labourers would strike in harvest time. He trusted, however, that some mediator would be found to settle the unhappy differences at present existing.

THE PROPOSED EASTERN COUNTIES ASSOCIATION.

The Prince of Wales, presiding at a meeting of the Norfolk Agricultural Society at Lynn, in 1872, suggested that an enlarged Association for the Eastern Counties should be formed, and for some time past an effort has been maturing to carry that suggestion into effect. The council of the West Norfolk Chamber of Agriculture have been authorised by a unanimous vote of that Chamber to take steps for bringing the proposal before the influential residents in the Eastern Counties, and the accompanying suggestions have been adopted and circulated, not to bind the ultimate decision of the members, but as indications of the manner in which a new society may best co-operate with those in existence:

That the Association be called "The Eastern Counties Association for the encouragement of Agricultural Improvements, and for the extension of Education in the Rural Districts." That it shall consist of a patron, a president, vice-president, council and subscribing members. That its operations shall extend to the following counties:

1st Division: Lincoln, Notts, Derby, Leicester and Rutland.

2nd Division: Cambridge, Hunts, Northants, Beds, Herts and Bucks.

3rd Division: Norfolk, Suffolk and Essex.

That all members of the Royal Agricultural Society, and of any included County Agricultural Societies, residing within this area, shall have the privilege of being members of the Eastern Counties Association, on the terms that half their subscriptions to those Societies shall be credited to them as subscribers to the Eastern Counties Association. That the objects of the Association shall be pursued by periodical exhibitions of useful, scientific and artistic productions connected with agriculture; by the publications of a Journal or by systematic correspondence with the Agricultural and Provincial press; and by the appointment of provincial, county and local committees to communicate with the public bodies charged with the administration of funds, available for education, with a view to ensure the best distribution of schools for the lower, middle and upper ranks of the agricultural community.

THE SHORTHORN IN IRELAND.

On Tuesday, March 23rd, Mr. Thornton sold the draft bulls and heifers from the Island herd, county Wexford, and on Thursday the bulls and some of the cows and heifers from the Ardfort Abbey herd, county Kerry. A glance at the map will show that these demesnes lie, one on the coast of St. George's Channel, and the other on the Atlantic coast; while both have reputations for advanced agriculture and general improvement, as well as for large Shorthorn herds. We left on Friday night, crossed by the mail packet from Holyhead to Kingstown; a smooth and easy passage, in those boats which are said to have no parallel in the world, and we landed in Ireland soon after seven o'clock on Saturday morning. A wash and breakfast prepared us for the journey to Shillelagh, where we were bound to see Lord Fitzwilliam's herd at Coolattin, and the sale of the young bulls. What a delightful ride it was! A bright sun and a fresh breeze made the journey pleasant; and then the scenery! The rail runs along the shore by Killiney Bay to Bray; the beautiful line of coast, with Bray Head in the distance; the white villa houses dotted here and there; the rich verdant, carpet-like grass on the one side, and the rippling waves, dancing in the sunlight and breaking into white spray over the rocky boulders, give an indescribable charm to scenery as beautiful as little known and frequented. Past Bray the line, overhanging rock and precipice as it passes round the Head, is fearful to the nervous; where works are still going on for carrying it further inland. The flats of Wicklow are soon passed; then, through the beautiful vale of Ovoca, we change at Woodenbridge, and pass through another delightful country to Shillelagh. The old oak has gone, but the Ladies Fitzwilliam have planted another "sprig," which stands on the estate, near the railway station. About a mile, on a jaunting car, beside neat-trimmed hedgerows and square, well laid out fields, we arrive at the capacious farmyard at Cool-

attin, with its excellent stone buildings; by the aid of which Mr. Murray, the farm-steward, has made wonderful improvements since his management. Mr. Bolton, whose health was given at the launch, told the best story of the place when he said that three-and-thirty years ago he hunted across what then was nothing but heather and bog, and now fruitful fields, of grass land and tillage. Every spring the young bulls are sold, and the sheep and other store stock in the autumn: these give the tenants and neighbouring farmers a good choice of well-bred male animals for their herds and flocks. The cows were all in the lofty houses, standing on each side, face to face, with a walk down the centre as well as on each side, so that the animals can be seen either way. They appeared thin, especially the heifers, as no cake is given, and the hay was an inferior crop last season; still there is a character and colour about them that, with Robert Burns' aid, may develop into good young stock. Robert Burns, from the Aylesby herd, is a particularly handsome young red bull, standing on short legs, with a fine quality of flesh, and a temper as sweet and gentle as a sheep. The young bulls, thirteen of them, were paraded on a field in front; they were not in high condition, but a useful lot of young animals, and they looked better when brought into the ring. Under Mr. Gavin Low's hammer they made fair prices; but the sale was evidently flat, being no doubt influenced by those to take place in the following week. Lot 2, Rowley, 35 gs. (Barton); lot 4, Viscount Lovel, a good useful bull, 29 gs. (Anderson); lot 7, Lord Napier, a long low bull, deep, but a trifle narrow, a Booth on a Bates in blood, 43½ gs. (Hamilton); and Roebuck, a red gay July calf, probably the best of them, went to Mr. Nugent for 27 gs. The thirteen averaged nearly £33, considerably below the average of last season, which was about £46. Well might Mr. Low, in his Scotch accent "Irishised," exclaim, "Going for a song and a

bad song!" But there was much pleasantness about the proceedings, and a stroll through some capital stalls, in which were two or three heifers feeding for Dublin, brought the day to a close, and our party, after good fare and hearty welcome, betook ourselves to the station for Gorey. The fine day closed in a heavy shower, but this soon cleared up, and we arrived at the Island about ten.

The Island estate has been in Mr. Bolton's family for six generations, and is a fine property running out nearly to Oulart Hill (thick with stones of '98) on the one side, and to the coast on the other. Some of the land near the coast is particularly rich and good, but as it runs away to the hill, it becomes poorer, and is set at a much lower rent. The buildings are of "ancient descent," simple earth and thatch, and a few poles, but they are comfortable, and do as good duty as the finest stone steadings. How genial is Irish hospitality! Every one does as he likes, goes where he likes, and comes when he pleases. The hours of meals are told at the breakfast table, without pretension, without fuss; his comfort is studied, yet he is left "alone," a practice the worthy host considered was the great thing wanted for the Irish. The herd numbered about 230 head on the sale day, of which 53 are female Gwynnes. There are other good tribes that are being improved by the excellent Booth crosses that are annually put upon them; for Mr. Bolton leaves it with Mr. Booth to send him his best bulls, and pays the bill when it is presented. Mr. Barnes' Duke of Marlborough (23768), a Mantalini bull, and Mr. Torr's Grey Gauntlet (19908) preceded these pure Booth sires. There can be no question but Mr. Bolton will, in due time, if he has not already, become the Booth of Ireland. The herd is kept on several different farms, but the cows are mostly brought up for calving to the Island. They are reared in a good generous way, and the young bulls came out, not fat, or in show condition, but with plenty of lean flesh and of great size and growth for their age. Tuesday was a May day for weather; a slight frost in the morning was followed by a bright sun, and at an early hour the Island courtyard had many cars and dog-carts neatly packed away. At noon a company of three to four hundred was present, from every province of Ireland. The bulls were from time to time led out as a buyer desired, but at one o'clock half of them were paraded together in a field at a time, in Indian file, according to lot, though not to age. Their chief features were the abundance of hair and flesh; their great growth, good colour, and general healthy appearance: the last half were younger, being white, a colour that won't go down at all in Ireland. Lieutenant-General (31600) and King Charles (24240) are at present on hire from Warlabay; the former a very fine bull, though not large, is of grand flesh, with fine masculine character. King Charles has not the same character, though he is a long, low bull, rather short of hair. A bountiful lunch followed the parade, Mr. Chaloner, of Co. Meath, presiding. Brief and humorous were the toasts, and talkative the party. Owing to the late arrival of the mid-day trains, the sale was a little delayed. The ladies are, however, at last accommodated with a raised stand, and the business commenced with a thick, short-legged roan Gwynne bull, which is cheaply sold to Mr. Hewer, of England, for 60 gs. Lot 2, King Saul, a very lengthy roan, by King Richard, is retained in Ireland at 40 gs., and the third, a white, by the same good sire, from a Sylph cow, runs up to but 27 gs. Lot 4 is cheap too at 30 gs. King Leopold is thought by many to be the show bull of the lot: he is smart, deep, and high-bred looking, yet he only fetches 65 gs., and Mr. Chaloner took his young friend Shirley Montgomery, one of the cheapest lots of the day. To all practical breeders, however, the deep,

heavy flesh of No. 6, with his great size, stout limbs, and strong masculine character is apparent, and the biddings run up very quickly. Major McCraith, Mr. Taylor from Co. Armagh, and others, are all against the Hon. Hugh Massey, who finally gets him at 100 gs. Prince Ned, the next lot, Mr. Taylor secures for the North at 63 gs.; he is a good bull of fine quality, though said not to be equal to his own brother, who was sold last year for 100 gs. Then a beautiful white calf goes ridiculously cheap at 25 gs., and one red and white, and bare of hair, at the same figure. Four useful robust, less highly-bred bulls follow, at good paying prices, and one of them crosses the water for Mr. Long in Gloucestershire. Lot 15, a deep even red, is a general favourite, and very like the stamp of a show-bull. He is by the Lieutenant, very handsome, and from a Glossy cow. Major McCraith and others bid well for him, but Mr. Wilkinson takes him at 85 gs. into Cheshire. The Shap is a cheap purchase at 41 gs., and Lieutenant Gwynne, a thick short-legged little bull, goes to Co. Limerick at 60 gs. Cheaper prices follow, until the last bull, Twin Richard, a handsome roan of Mr. Armstrong's breeding from Mr. Torr's G. tribe, is ridiculously cheap at 55 gs. He, too, goes to England oddly enough, as near the sea in Essex as the Island is on the Wexford coast.

The females consist of 16 cows and heifers, headed by Game Hen 3rd, an undefeated show-yard cow, a good breeder and regular; although light in colour and somewhat worn. Major McCraith bids well at her, but Mr. Wilkinson's heavier bids carry another lot over sea at 90 gs. Lot 28, Rosanna, a beautiful cow, heavy in calf, but rather bare, is knocked down to Mr. Mathews, of Oxfordshire, at 40 gs. "Gentlemen, you are letting them all go out of the country" rallies the company somewhat. Mr. Taylor buys Geraldine at 36 gs., due to calve in a week; Major McCraith takes Fluent, very thin, at 31 gs.; and Pat McGill, "the herd," who has the privilege of keeping a cow, buys Gwendoline, an enormous animal, and a prodigious milker, at 51 gs. Lot 27, Titania is a white, and amiss; she made only 46 gs. Mermaid was the handsomest heifer of Booth and Pawkes blood: a deep red, full of hair, and of great substance, on short legs, causes spirited biddings, and finally purchased for Sir W. Stirling Maxwell at 80 gs. Lot 30, Woodbine 10th, a prize-winning strain, may make a prize cow some day, with her grand back and wonderful ribs. Mr. Wilkinson bought her at 55 guineas, and again, "The best lots are crossing the water, twenty per cent. cheaper than you can buy them over there," is quite a view halloo in this great fox-hunting county; and Mr. Doyne comes in at the death for the next three lots at 30, 57, and 30 gs. Two or three others go cheaper and the last lot joins Rosanna for Oxfordshire at 31 gs. about half what she would bring at a decent sale in that county.

Three cheers wound up this lively little sale, and the purchasers "shell out" in the office. In the warm afternoon sun Pansy Gwynne, Patty Gwynne, and the Glossy calf, all in show trim for the Royal Dublin and Royal Irish meetings at Wexford, are brought out. Bids are made at them, and though the worthy host is a seller, his price is not reached, and "Pat," "Martha," and "Johnny" lead them back again. Old Alpine, still fresh and near calving, has a nice little box to herself, whilst her roan cow-calf of last year holds a levée, and witnesses the sale like most of the bulls, with their heads through windows or over doors. Mantalini, the 750 gs. heifer, has swelled out into a fine animal; twice has she slipped, but now, tied up by her neck in a little low house, with other maturing matrons, she has gone past her seventh month, and is looked upon to refate in the flesh Mr. Christy's arguments on paper regarding non-breeders and

pure blood. So we saunter in as the twilight deepens, a merry party at dinner, and the day's work discussed makes a pleasant ending to a pleasant day: with more to tell of such another.

Whatever disadvantages may belong to the Irish railway system, that of haste and dangerous speed cannot be laid to the charge of the Great Southern and Western line. The train passes slowly along through Kildare, Queen's County, near the great bog of Allan, Tipperary, and county Limerick. Spirits may not be the best kind of liquor to travel upon during a long journey, and those to whom authority be given authoritatively forbid their sale. "But by jabers," exclaimed a ready wit, "they make up for it in wittals." At Limerick junction good soup, excellent fish, and a number of well-cooked joints, with the Murphy in perfection, await the hungry for the small charge of half-a-crown. What a beautiful green country it is! Rarely a piece of tillage seen. For miles and miles dairying is the system of farming, and many thousand firkins of butter find their way to England. A little hay in winter is about the only help the cattle get, for they run out nearly always in winter, so mild is the climate. Store stock fairs abound, and business is usually done by sunrise, aye and at times even while it is yet dark. One peculiarity of the district is the division of the fields. A huge bank, in places broad enough to run a cart on, is protected on each side by a deep ditch, thus many roods of rich fine land are wasted, where a good hedgerow would be more serviceable. But wit and wisdom, like beauty and riches, are rarely found together. The stock looks thin, but they are very hairy, coloury, thrifty beasts, and by their general good looks appear as if they have got a bit of blood in them. We leave the good town of Mallow—which by the way is a fair representative of an American city—and run up past beautiful Killarney to Tralee. A six miles drive and we near the Atlantic coast; huge sand-hills tell in snug Ballyheigue Bay what inroad the waves have made where the land is unprotected by that frightful iron-bound coast. Ardferd was a great city in its time. The remains of the Cathedral show what a large, fine building, it must have been in times of yore. The ruined abbey adjoins the mansion house and the still perfect walls show the marks of Cromwell's shot. When Mr. Crosbie succeeded to the estate things were in a deplorable condition. The land was divided, so to speak, into pocket-handkerchiefs among the numberless tenantry and proprietors; the people were lazy, indolent, and lacked that energy which better food and a stronger climate impart. Indeed they had got to that state when

The finest diversion under the sun
Was to sit by the fire till the praties be done.

They had neither physical nor moral strength. The famine came in 1845, apparently as a curse, but it eventually turned out a blessing. On what is now one farm of something over three hundred acres, five hundred souls existed, one cannot say lived, thirty years ago. When the famine fell on the land, Mr. Crosbie sent the first and best men to distant farms in Kerry and the adjoining counties. The others were set to work draining and cleaning the farm. So they earned their bread, and in course of time, with that providence for which the Irish are peculiar, saved a little money. When the work was finished some preferred emigration, others took kindly to labour, and the farm was let to an enterprising tenant who in a few years saved sufficient to buy an estate. Thus with prudence and foresight the face of the whole district, under Mr. Crosbie and his agent Mr. Bogue's skill and judicious management, has been changed in one generation. The home farm was kept in hand, and improved Shorthorns and sheep introduced. For the Kerry cattle, pretty and useful and fine eating as they are, cannot stand

against high farming, however well they may be adapted to the more mountainous districts. In a few years the herd had increased sufficiently to hold an auction, and the first sale of young bulls among the tenants took place in 1852: eleven were sold at £11 10s. average. The next sale then took place in 1854, and have been continued yearly.

The herd numbers about a hundred females, and of these a large number are of the Isabella tribe, which went originally from Mr. Booth to Mr. Fawkes, passed into the possession of the Rev. Thomas Cator, from whom it came to Ireland. But the catalogue tells the story better: "The Ardferd Abbey herd was established about 1840. Cows of good pedigree were from time to time added, and the majority now are of the Warlaby Isabella tribe, through Mr. Fawkes's Medora by Ambo; the Gwynne family, from Mr. Troutbeck in Cumberland; Mr. Peacock's Duchess strain (tracing to Mr. Booth's Governor and Robert Colling's Wellington), brought over from Yorkshire by Mr. Welsted, the tribe still forming part of the Ballywalter herd; Mr. Watson's April Daisy by Mr. Booth's Belshazzar, another fine old Yorkshire sort; and Mr. Stokes's Daisy, imported by Mr. Christy, and full of Nottinghamshire blood. Among the earliest sires were Monarch (18346), a son of the prize bull Bamboo, and Mr. Chaloner's Admiral (12340) by Mr. Booth's Baron Warlaby, both noted prize-winners. The celebrated bull Lamp of Lothian (16356) (gold medal yearling at Dublin 1858), of the Isabella tribe, succeeded them, and was followed by Nobleman (18457), Castle Grove (19408), and Northern Light (24670), all bred by Mr. Grove Wood from the Fame tribe. Mr. Booth's Royal Sovereign (22502) was also in service at Ardferd, and at the present time Mr. Bruere's Regal Booth (27262), and Mr. Chaloner's Irish Baron (31417) are in use." In 1862, the stock rose into distinction. The Ganly challenge cup and first prize for yearlings at the Royal Dublin Show went to Crown of Athelstane (19532). Crown of Lothian (19533) followed in the same wake the next year, and in 1864 Ravenswood repeated the successes of the two Crowns, and with this triple honour Mr. Crosbie retired from exhibiting at Dublin. But how went the averages?—that true thermometer of public opinion. In 1865, eleven bulls averaged £35 11s. 5d.; but it was found the small number of bulls supplied the richer men, who beat the poorer tenants out of the bull market. The number of bulls was then increased. Last year twenty more averaged £32 4s., and on Thursday the twenty-seven averaged £35 10s. Many of these go into distant counties; still, the object is maintained, for if a tenant cannot afford to go to the price of a good-looking bull, he can secure a useful animal at less money, and if his prejudices will allow him, he might take a white at almost steer price. The cows run out nearly all the year, and their calves with them. In one large field were sixteen cows and capering calves; in another a score of good heifers; whilst many of the uncalving cows and bull-breeders were in the solid stone farm-buildings. These are excellently arranged on the pit system, with tramways for feeding; but it does not seem the most healthy method for rearing young stock on a hotbed of accumulating dung, however good it may be for bullocks. A good substantial lunch was served in the granary, to which everyone was welcome. The bulls were shown out two at a time, and the auction took place near the buildings. Most of them were January and February calves, which were allowed to run with their dams till about Midsummer; they are then brought in, suck their dams twice a day, get a little oilcake and meal, and a gambol occasionally in a paddock. Towards the end of October they lose their milk, are put into the boxes, and fed until the sale. Consequently, they come out not only well-

grown, but hardy and in good condition. Lot 3, Royal Howard, of the Isabella tribe, a grand thick-fleshed roan, created quite a surprise; and, after good bidding from two or three Irish breeders, was sold to Mr. Candlish for the Earl of Cawdor's estate in Pembrokehire at 86 gs., the highest price yet reached by auction at Ardferit. Royal Earl, another good roan, similarly bred, went for 61 gs. to Mr. Scott, Queen's County, and Captain Herbert, M.P., got Von Booth at the same price for his Killarney teantry. Royal Harry goes to Colonel Charteris's estate at Cahir at 45 gs., and others remain in Kerry and Limerick at good prices. Some fat cows and draft heifers were sold, one of which, Maid of Orwell, was bought by Mr. Cramer, of Kinsale, at 30 gs. Those tenants who pleased were allowed to put up their own bulls after the sale. Mr. McDonnell exhibited a very fine three-year-old bull, and another very good yearling was shown before being sent up to Dublin Show. The good, healthy condition of these bulls, and their clean state, did the tenants right good credit. But they seem well up to their business. The Tralee Show encourages good stock as well as crops and farming, and last year seventy-three prizes were won by the Ardferit teantry, and thirty-seven prizes for stock alone. It is this system of "Home Rule" that will tend to remove the discontents of Ireland. Estates in the south and west, numbering thousand upon thousand acres, and containing a population of several thousand inhabitants, are comparatively unknown to their owners, and the capital grown from the soil is taken out of the country without adequate return. Absentee landlords might take a profitable lesson from the good example set at Ardferit, where comfort, order, and prosperity reign.

A little below Mallow, on the Blackwater River towards Lismore, is to be found another good herd of Shorthorns, the property of Mr. Welsted, of Ballywalter. It is one of the oldest in Ireland, and entirely descended from cows which its large-hearted owner has imported from herds in England, principally from Yorkshire. His bulls have also been brought over. The late Mr. Maynard supplied him with Puritan and Lord Raglan; but Mr. Welsted's autumnal trips among the herds in the North of England soon led to the conviction that bulls should be used from the best herds, and consequently the Warlahy herd has for nearly the last twenty years supplied Mr. Welsted with bulls. The new house is beautifully situated, overlooking the valley of the Awbeg, and near it is some

of the richest pasture in county Cork. Mr. Welsted adopts a different system to most breeders. He sells his bull-calves in the autumn instead of the spring, and the prices may be lower, yet the winter's keep and anxiety are saved. For Mr. Welsted, hale and hearty at three-score years and ten, still lives four days a week with the foxhounds, and only recently he hunted over the same ground where just fifty years before he had had a great run. The cows are all put to in the spring, so as to calve early in the year, and the calves suckled for a few days. They are then milked; and the clean, nice udders were a striking feature in the herd. Oileake has not been used for fifteen years. Eight hundred acres do everything—grow turnip and mangold and oats, which are bruised and given to the young stock. The calves are, as the grass grows, allowed to run out, get a little good sweet hay, and, with the bruised oats, come out in capital condition by autumn. As we strolled into the fields at noon, after such a torrent of rain in the morning as is rarely seen this side of the Channel, the cows came up to the gate, before going in at night. Large, good, roony animals they are, straight-backed and round-ribbed, with thoroughbred-looking heads, and the neat curled horn indicative of the breed. The heifers are kept out night and day; although thin, they have abundance of hair, and constitutions that might be envied by animals of fashionable blood. They are bulled at two years old, and are mostly sired by Prince Christian, a son of Mr. Booth's fine white cow Alfreda, whose other son, England's Glory, is now in service. Roans predominate, and reds, and there is scarcely a white, and not an indifferent animal in the lot. Broad backs, strong loins and ribs, and neat fine shoulders are their characteristics, and so uniform are they that it is difficult to find the best. A few animals are occasionally sold; others go off fat to Cork. "A mountain of beef, yer honour—a mountain!" The average runs up to about £35, and pays good interest for the pure Booth bull, as well as enhancing the value of the herd. So from year to year it increases and multiplies, and its feeding properties are sown, like good seed, around on the country stocks, whose offspring gradually leave their native shores, and find their way a wearisome hungry journey, exposed, after the heat of the vessel, to the cold winds at the English ports, yet, nevertheless, reach York, and even distant Norwich, such good cattle the admiration of every beholder and the desired of every farmer and grazier who uses them.

PENRITH FARMER'S CLUB,

CATTLE BREEDING.

At the last meeting called, to hear a lecture by Mr. Finlay Dun, of Weston, Shipston-on-Stour, on the Curiosities of Cattle Breeding, the vice-President of the Club, Mr. W. Heskett, of Plumpton, was in the chair.

Mr. DUN read the following paper: More favoured than many southern or eastern countries by those mists and rains which proverbially drop fatness, Cumberland has for generations very properly devoted herself extensively and successfully to cattle breeding. The agricultural statistics of 1873 record that you were possessed of 128,533 head of cattle, of which 35,000 were under two-years-old. The long-headed farmers of this picturesque county of hill and dale, years ago discovered that rents and profits must be found in horn rather than in corn. Whilst elsewhere cattle were grumblingly kept at little or no profit, merely to tread straw into manure, the selection of the right sort, and their constant good management, have enabled Cumberland men to make cattle breeding and feeding a profitable department of the farm. The general attention devoted to the subject, the wholesome spirit of emulation created by your shows and clubs, have steadily improved the cattle of Cumberland, and given them size, substance, early maturity and

quality. A few crack herds of Galloways still remain; but here, as elsewhere, the cosmopolitan Shorthorn has shouldered aside the older sorts. From the pedigree herds of your own county, from Mr. Ferguson, of Harker Lodge, Mr. Curwen, of Workington Hall, and latterly, from Messrs. Hetherington's, Mr. Fawcett's, Mr. Jefferson's, and other good herds at home or abroad, the best of sires have been sought. Ungrudgingly, tenant-farmers, for the breeding merely of dairy stock and steers, have given 100 guineas for really good bulls of substance and symmetry, and where men had not the scope or means to secure such a sire on their own account, rather than put up with a second-rater, two or three neighbours have elbowed together and bought a thoroughly well-bred bull of shape and character. In most districts of your county this system has been enterprisingly followed up. Well would it be for farmers themselves, as well as for meat producers generally throughout the country, were greater pains bestowed in the selection of better sires. Very frequently even in good dairy districts do we hear the observation: "Any bull will answer," "I sell the heifers down calving;" or, "I do not rear the calves;" and thus sometimes out of a tolerably good dairy cow a mere non-

grel race is propagated. A few pounds are badly withheld in a bull of character and pedigree which proves usually the sire of some fifty or sixty calves, each of them worth at least 20s. extra if they were well got, worth 40s. or 50s. more than commoner beasts when they are a year old, and double that amount when they go out fat at about two years. Mated with most dairy herds, a good consistently-bred bull, whether Galloway, Angus, Hereford, or Shorthorn, is notably prepotent—the stock partakes more of his character than that of the cows with which he is put. From rather a mixed mongrel lot of cows a good bull will frequently leave a very uniform and superior lot of calves following their sire notably in size, style, hair, and colour. As a general rule the best bred parent impresses its character more strikingly on the progeny—a strong argument for using only sires of sound accredited descent. Still another consideration points to the importance of using first-rate male animals. Whilst the progeny inherit in tolerably equal proportion the qualities of both sire and dam, some of the most prominent and selling qualities of cattle are chiefly inherited from the sire. Size, skin, hair, horns, or absence of horns, the bony frame and general mien usually follow from the male; whilst the internal organs, temper, and constitution, come more notably from the female. Thus, a Shorthorn bull, on a West Highland Galloway or Ayrshire heifer, will produce a calf usually with much more Shorthorn appearance than can be got from the Shorthorn cow with the West Highland Galloway or Ayrshire bull. I have frequent opportunities of seeing the cross between the Shorthorn bull and the polled Angus cow, and also the reverse cross between the polled Angus bull and Shorthorn cow. From the first cross the progeny are modified shorthorns, with much of the colour and appearance of Shorthorn, and usually with horns; from the second they are modified polled Angus, with admirable backs, loins, and ribs, with the skin, hair, and hornless head of the Angus. In like manner, when it is desired to impart particular appearance or plumage to any breed of poultry or pigeons, it can be done much more effectually by using the male of the sort that is to be imitated. This law was first propounded by Mr. Orton, who illustrated it by crossing many descriptions of animals. The principle is very familiarly exemplified in the cross with the ass and mare, as compared with the stallion and she ass. Foremost among the principles which guide the careful breeder is the axiom that "like produces like." In sacred writ the fiat is set forth that every living thing shall bring forth after his kind. In obedience to this familiar law, a tolerably uniform type transmitted generation by generation in each of the fifty-five European breeds of cattle, and in like manner the characteristic features are preserved of the nineteen British breeds. Shape, size, style, colour, early maturity, and milking properties are alike hereditary. Indifferent and objectionable characters unfortunately are equally liable as first-rate points to reappear in the progeny. Accidental and unnatural peculiarities are constantly propagated. The Niata cattle of South America have multiplied from a single accidental specimen, and herds of thousands of these deformed creatures are to be found with their distorted jaws, short noses, and upturned nostrils. In Tartary a fat tailed race has been cultivated, the most prized being white, and the sort breeds perfectly true to its kind. In Banda oriental is a race with their hair lying reversed. A well-known Lancashire breeder, from a single cow with ears deeply cut into strips as if for the purpose of identification, has for thirty years bred numbers of this "jimp-eared" sort, and although no pains are taken to keep up the peculiarity by cutting the ears of those calves dropped without the distinction, and although no bull with this feature has been used, many heifer calves continue to come marked as deeply as at first. The tendency to various diseases is notoriously hereditary, consumption, rheumatism, and parietur apoplexy, constantly run in families. Recently I heard of a heifer, which at her first calving was discovered to have one quarter of her udder faulty and mis-shapen, and exactly resembling the corresponding quarter of her mother's udder, which had been damaged by an attack of garget. But like does not invariably, constantly, slavishly produce like. Were it so, there would be little opportunity for the improvement of our domestic animals, for moulding them to their various styles, for adapting them to their particular localities. The race has a strong family likeness, but every individual has its own distinct features and peculiarities. Darwin and other observers have shown that amidst the myriad ants in a large hillock, or the bees in a well filled hive, each individual has distinctive features which cause

him to be recognised by his fellows. Almost every leaf in the same great tree has its special character. Even in the most truly bred flock or herd, the careful attendant has no difficulty in distinguishing each animal, however alike they may appear to the casual observer.

No being on this earthly ball
Is like another, all in all.

Varieties amongst individuals and the tendency to occasional variation enable the agriculturist, the poultry fancier, and the horticulturist—for similar laws apply tolerably certainly to the vegetable as to the animal kingdom—to seize, propagate, and extend various individual and accidental peculiarities. In this way have arisen the several breeds of cattle. Taking advantage of this law of variation, the breeder often secures special symmetry, precosity, and other qualities which are subsequently increased and fixed by selection. Thus a cattle beast, which accidentally fails to grow his horns, becomes the progenitor of a hornless race. Forty years ago, in Yorkshire, cattle were bred with extraordinary wide loins and rumps, but the peculiarity inherited by the calves rendered parturition so difficult and dangerous that the breed was discontinued. The law of variability, guided by good taste, has lately improved in various respects our breeds of cattle. Style and quality have been sought for and cultivated, and added to the size and substance which more especially characterised some of the older indigenous varieties. A heavier, earlier matured carcass is grown upon shorter legs; gaudy, cartilage-padded rumps, five and twenty years ago so common, especially among Shorthorns, have fortunately been weeded out; well sloped, nicely covered shoulders, open between the blades, are sought for by good judges, and the rough blades and outstanding knuckles of forty years ago have been superseded. In many localities milking properties have been unjustifiably sacrificed to flesh. The tendency to variation appears more decided in males than in females. It is often brought out in a marked way, when two somewhat alien strains are mated. Even accidental variations, as already indicated, are apt to become fixed and permanent. In still another striking manner the principal that like produces like is set as it were at defiance. Frequently when two animals unusually good in the same points are mated, their progeny do not by any means invariably rival the excellencies of either parent. Instead of such animals being necessarily double-firsts, they are sometimes in the points specially expected even below mediocrity. Thus, pairing cattle with extremely good hind quarters I have been surprised to find some of the progeny worse rather than better, as compared with the parents. In mating two good milking breeds of cattle, such as Alderneys and Ayrshires, the crossed stock sometimes turns out indifferent dairy animals. In breeding other animals there appears to be the same tendency to preserve a tolerably constant mean rather than to develop extremes. Two canaries with top-knots often breed bare-headed birds. Two non-sitting sorts of poultry frequently produce "broody hens." A Derby or Oaks winner rarely leaves stock as good as either celebrity. The honours of the showyard seldom adorn successive generations of cattle. In the breeding of cattle as of other animals, there is a great tendency to what is termed reversion or calling back. The progeny, instead of being the *fac similes* of their immediate parents, exhibit some of the characters of their more remote ancestors. Peculiarities of form, colour, temper, or disease, frequently crop up after having remained dormant during several generations. Often there is a tendency to revert to old natural or feral characters which cultivation and selection have in great part set aside or removed. Thus the several diverse breeds of pigeons left to themselves gradually assume the characters of the Blue Rock from which the others have been produced. In some countries the cattle left in a natural state speedily become lighter coloured and eventually white. The law of reversion frequently intervenes to disturb the breeder's calculations. He introduces into his improving herd a smart-looking, symmetrical bull, decorated perhaps by county show commendation, but of mixed and dubious pedigree. Instead of uniform, shapely, improving calves, he is sometimes disappointed with an unpleasant proportion of mean, weak-loined, narrow, bad-coloured brutes, which inherit their unsatisfactory qualities from some common, vulgar, mongrel ancestor of the new bull. Although four crosses of accredited blood are regarded by the herd-book and by Shorthorn authorities as sufficient to constitute a Shorthorn; and although such an animal possesses one-sixteenth part of unrecognised blood, such a descent does not prevent the outcropping of many characters

inconsistent with the type of a true Shorthorn. Partly to diminish this evil, it has been wisely suggested that no new Shorthorn families should henceforth be recognised without some preliminary history or sound recommendation. Among home-bred Cumberland stock, the characters of the old Lyzzick breed which disappeared full fifty years ago, still occasionally present themselves—the wide spreading horns, white colour, with dark spots on muzzle, legs, and sides. Cattle may also still be seen which call back to the “Lamplugh hokeys”—fifty years ago great favourites in Cumberland, and remarkable for their short white legs, heavy hides, dark red, brown, or black colours, with white faces, limbs, and stripe down the back. In the midland counties of England, where Longhorns—fifty years ago—were the prevailing cattle breed, it is still common to observe the old Longhorn head, horns, and markings appearing in Shorthorns dairy herds, where for four or five generations only Shorthorn sires have been used. Again, how noticeable the occasional Hereford markings in a herd where, perhaps more than thirty years previously, a bull of the white-faced sort had been used. White legs, and red and white staring markings, ever and anon startle the Shorthorn breeder, solicitous of good reds and roans, and who has, perhaps, for several generations, bred from nothing else. Such markings, Mr. Stradford considers, frequently call back to Ketton Second. Amongst the Castle Martin and Pembroke black beasts there are every now and then a few grey calves, and such irregularity of colour crops up even in herds where, for fifty years, black bulls, of undeniable Castle Martin descent, have been used. How frequently do dark noses contaminate some Shorthorn families, and come down through many generations in which the fault has remained dormant, from the father of “Poljambe,” or from the early Dutch or indigenous British breeds! The persistence with which some characters continue to be transmitted, and crop up several generations after they are supposed to be wiped out, is pertinently illustrated in the case of the several breeds of white-faced sheep, which so frequently produced lambs with black markings. Like so many other qualities, colour is distinctly and strongly hereditary. Amongst horses the transmission of colour from parent to offspring is more certain than in other animals. Hoferer gives results of matching 216 mares of four different colours with like coloured stallions, without regard to the colour of the ancestors; only eleven of the progeny failed to follow the colour of their parents. When animals of entirely different colours are mated, intermediate colours are not usually secured, nor even are piebald markings or mixed colours the rule; more frequently the colour follows mainly one of the parents. This is particularly noticeable amongst dogs, mice, and rabbits; some of the several young born at a birth from differently-coloured parents, have the colour or special markings of the sire, others of the dam. Amongst cattle, however, the pairing of red and white parents very frequently produces roan progeny. One hundred of such unions taken at random from the Shorthorn Herd-book yielded ninety roan calves with only four reds and six whites. A white bull with red cows appears records of the Shorthorn Herd-book to produce from the roan calves with greater certainty than the red bull with the white cows, from which union there falls a greater percentage both of red and whites. Both bull and cow being red, not more than one-sixth of the calves come of any other colour, and not one per cent. are white. In the same way, when both parents are white, there is such an overwhelming predisposition to white colour, that in twenty such unions registered in Mr. Stradford's valuable pages, I find nothing but white produce. When, however, one or other of the parents is of mixed colour, such as red and white, or roan, which is of course only an intimate regular admixture of red and white, the calves do not come with much uniformity, but exhibit variable proportions of red and white and roan. Extracting two hundred cases of pairing of red bulls and roan cows, I obtain an almost equal proportion of red and roan calves, with only a record of four whites. Reversing the colour of the parents—namely, taking the roan bull with red cows—does not materially affect the colours of the progeny, but still leaves about equal numbers of reds and roans, with not more than two per cent. of white. Red and white parents appear chiefly to beget red calves. From 12 such unions taken at random from the Herd-book, I find 38 reds, 4 roans, and no whites. Red and white bulls mated with roan cows left 30 red, 46 roan, and only two white calves. Two red and white sires, both of good Oxford descent, with red cows, produced 22 red calves and

only one roan. Conversely, roan bulls on red and white cows left 47 and 45 roans. Amongst Shorthorns, when both parents are roan, more than half the progeny follow suit. Of 333 cows born of roan parents, 197 are roan, 72 white, 64 red. Roan bulls with white cows leave a record of 39 roan and 36 white calves. White bulls with roan cows leave 61 roan, 49 white, and 5 red. Such facts—and from the Herd-books of the several description of cattle they might be immensely amplified—indicate that the colour of cattle may be fixed and transmitted quite as easily as that of pigeons and poultry, which skill and practice breed to the tinting of a feather. With a little time, patience, and careful selection, a cattle fancier after two or three generations might with tolerable certainty obtain his animals of any ordinary colour he required. Several other conditions modify the tolerable general rule that calves partake of the colour of their parents. The most prepotent, usually the most distinctive breed of the pair impresses a larger share of its own colour as well as of its other characters. Often a well-bred Shorthorn bull will communicate his colour and good points to the calves of a mongrel herd of many hues and types. I had a red bull for several years, which, although the sire of upwards of 120 calves, and mated often with white cows, never produced a white calf. For several years I have watched the crossing of polled Angus bulls, usually obtained from the renowned Tillfour herd, with fairly bred non-pedigreed Shorthorn cows, and so notable is the prepotency of the polled Angus that the calves, with the exception of a few dark greys, are invariably black, and as invariably without horns. When the Shorthorn sire is put upon black polled Angus heifers there is much variety in the colour of the progeny, fully half a which show the red, white-and-roan, so characteristic of Shorthorns, whilst many are also possessed of horns. Some Shorthorn breeders have perhaps unreasonably a great objection to white animals, they consider them to be delicate. In low condition in winter they certainly never look well and are apt to be infested with vermin. In the West Indies white beasts are notably weaker and worse than the coloured. Amongst white stirks there is apt to occur an irritable state of the mucous membrane of the generative organs which I have not noticed in the darker coloured animals. The law of reversion often leads to peculiar colours and markings amongst cattle. In this way is to be explained the black markings and dark noses which occasionally disfigure even well-bred Shorthorns. Such outcroppings of old hereditary insignia are particularly apt to occur where two distinct tribes are attempted to be blended. Every observant Shorthorn breeder can call to mind examples where a Bates family, clean and flesh-coloured about the nose, is mated with a Booth, equally free from dark mottlings, and yet a considerable proportion of the progeny exhibit smutty noses. The like tendency to these dark muzzles is observable among the half-wild cattle at Chillingham Park and Hamilton Palace. It is recorded that during thirty-three years about a dozen calves have been dropped at Chillingham having distinct brown, blue, or black spots on their muzzles, cheeks, or necks, and although these mottled calves are never reared they still continue occasionally to appear, the dark marking doubtless dating back to the time of King John, when there lived in these islands an indigenous race of white cattle marked with red or black spots about the ears and muzzles. White cattle, with similar dark markings about the head, muzzle, tips of ears, and feet, are at the present day found in various parts of the world. For upwards of a hundred years, wild herds of such cattle have lived in the Ladrone and Falkland Islands. In the latter group these white cattle occupy the higher grounds, keep themselves distinct from their coloured fellows in the lowlands, and regularly breed three months earlier. It is curious that animals in a natural or semi-wild state almost invariably divide themselves into separate herds, distinguished by uniformity of colours. Calves, when first dropped, and during the earlier periods of their existence, often exhibit old specific colour markings, which gradually wear out. The brindled appearance and black muzzle already referred to are usually more observable in the young calf, and after several months often entirely disappear. The lemon-red, Hubback-red, and faded colours, which in some Shorthorn tribes are very noticeable in the newly-dropped and young calves, are shortly superseded by much darker reds. Similar tendency to the development of old feral colours is noticeable in foals and donkeys, many of which are dropped with bars and lines both on their

bodies and limbs, which gradually, however, disappear. It has long been observed that white pigs cannot long breed of uniform colour, but become marked with black spots if run in the yard with a black sow or hog. Careful breeders of Shorthorns are very averse to mixing with their favourites, Alderneys, black Angus, white-faced Herefords, or other such breeds with colours or markings different from the Shorthorn. An experienced breeder informed me that several years ago a valuable Shorthorn cow, being led to the bull, made off, and stood for some time by the gate of a yard containing a number of Hereford oxen. Served by the Shorthorn sire, she produced, in due course, a calf unlike both sire and dam in colour, but a *fac-simile* of the Hereford oxen, which appeared to have impressed her excited imagination. We know of at least one analogous case in which Shorthorn calves, with most unusual black markings, have been dropped by cows which, at the period of conception, had happened to run amongst black cattle. In like manner, bitches in heat, taking a fancy to a particular dog, although served by an entirely different dog, occasionally produce one or two of their pups with markings similar to those of the object of their affections. The colour, as well as other characters of the offspring, is apt to resemble, not their own immediate sire, but males with which the dam has previously had fruitful intercourse. A polled Galloway or Angus bull put to ordinary Shorthorn cows produces usually a very large proportion of black-polled calves. In subsequent seasons these cows, especially if they have bred for the first time with the black-polled bull, when mated with Shorthorn sires, still leave calves with black, grey, and brindled markings, very evidently derived from the influence of the polled cross. Various explanations have been given of this curious phenomenon. There was at one time an idea that the fetus, whilst in utero, inoculates the maternal system, but, as no foetal blood passes back into the circulation of the mother, such explanation is untenable. It is more probable that, in the first pairing, the male, besides fertilising effectually one or more ova, gives his impress to others, which for a year or longer period may remain unimpregnated. Before closing, I would advert to one other subject in which cattle-breeders are interested, namely, the period of gestation. This varies somewhat in the various breeds, and is several days longer in Shorthorns, Herefords, and other large races, than in Ayrshires, Alderneys, and Devons. From my somewhat limited experience, West Highlanders and Polled Angus calves somewhat earlier than Shorthorns. From Earl Spencer's observations on 764 cows, he obtained, as the average length of gestation, between 284 and 285 days. The shortest period recorded in which a live calf was produced was 229 days, the longest was 313—the produce a cow-calf. M. Teissier's observations, on upwards of 500 cows of different breeds, yielded an average of 282 days between the date of service and of parturition. I have chronicled, for some years, the gestation of a herd of Shorthorn cows. I have 573 entries on which I can implicitly rely, and I find that the average period is about 281 days. 235 bull-calves have been carried 281 days, 235 heifer-calves have been carried 280 days. The shortest period was 248 days, the gestation of twins born small and bare of hair. Another calf, from a stirk, was carried 253 days. The longest period was 308 days—the produce a white bull-calf, from a 17-year-old cow. Several cows went regularly several days over time, whilst others as regularly failed to carry their progeny the usual period; one cow constantly calving ten or eleven days short of the average, the calves being apparently sound and healthy. There is always more irregularity with first than with subsequent gestations, and twins are rarely carried out their full time. There is a strong hereditary tendency in some families to multiple births, and I fancy that I have at least one family with this predisposition. In 473 births I have had sixteen lots of twins. From the Shorthorn Herd Book I extracted 1,137 births before I made up twenty lots of twins. But at the close of such a long paper, such statistical details are rather tedious. Many of the subjects brought under your notice I venture to think are not only interesting but also may be applied to increase and extend the production of symmetrical, hardy, paying stock. Like other fine arts, the higher department of breeding, such as the successful production of superior sires, demands experience, judgment, power of appreciating slight distinctions, a cultivated eye and touch, as well as enthusiasm and love for their vocation, are all essential to success. Great breeders may be said to be born, not made. Careful selection must be continued for many generations;

only the best animals must be bred from, all misfits or rogues must be unsparingly sacrificed; any delicacy of constitution, one of the faults of some high-bred strains, must be scrupulously avoided. To secure fixity of character, so desirable to a good herd, sound, hardy, suitable sires, of strains not too remote from that of the cows, will be used. Continued in-and-in breeding is to be deprecated as reducing size, vigour, and fertility. A bull, when once he has proved himself a good getter, should not be lightly parted with. I am sure many four and five-year-old bulls get better stock than they did when yearlings, and even when two-year-olds. Immature sires cannot be expected to procreate vigorous progeny. Artificial treatment and pampering is injurious in breeding animals, a reasonable amount of exercise is conducive to thriving and good health. Want of exercise not only diminishes fertility and muscle, but also the capacity of the chest and general vigour, and such defects are apt to become hereditary. Amongst ordinary dairy and steer breeding herds, the real sources of the people's food, the prevailing errors in the management of breeding cattle appears, as already mentioned, to be the use of common underbred bulls, their chief recommendation being their low prices. Many tolerable judges affect small, smart compact bulls, with heifer-like points. Such animals seldom leave stock of size, substance, or paying properties. Another fatal fault in many bulls is their long cow's head—an unfailing evidence of under-breeding, or of some unsuitable strain. To raise useful paying cattle, the bulls should be of full size, robust, well-grown when young, with masculine heads, moderately full placid eyes, not too prominent or staring, for such a feature tells unmistakably of delicacy of constitution: big backs and loins, hides moderately thick, not thin and "papery," full and mellow when handled; in the younger animals, possessed of abundance of a soft, velvety undergrowth of hair amongst the longer coat.

Mr. MITCHELL said he did not rise for the purpose of asking any special question, but simply to express his entire satisfaction with the deeply interesting paper which had been read, and to which they had all listened with great attention, and he hoped with considerable profit. The lecturer had particularly impressed upon them to direct great attention to the selection of the male animal, and though he (Mr. Mitchell) quite agreed with Mr. Dun that this should be the first and special object, he believed that many farmers did not pay proper attention to the females.

Mr. JAMESON: There was one part of Mr. Dun's remarks which struck me most emphatically, and which I should like to have defined a little more. I allude to the words "rent-paying stock." Now I should like to know what is meant by that, for I confess it has always been a puzzler to me.

The CHAIRMAN: You will also find on inquiry that the question is one that many farmers are frequently sadly puzzled with.

Mr. JAMESON: I thought it was well known. What I want explained is, what are the peculiar characteristics of "rent-paying stock"?

The CHAIRMAN: "Rent-paying stock" in one part of the country may not be so in another. For instance animals that are suitable for the Vale of Eden would not do upon the slopes of Skiddaw.

Mr. JAMESON: Oh, I see; it is like orthodoxy, it means anything.

Mr. MITCHELL: It means the best animal of its kind suitable to the locality, whatever the breed may be.

Mr. J. C. BOWSTEAD: I should like to ask Mr. Dun what is the cause of the same bull from the same cows getting so many whites one season and a very small proportion of whites the following season? It was the case with Flag of Britain the two first seasons we used him.

Mr. MITCHELL: Are you sure, Mr. Bowstead, that the calves were got the second season by Flag of Britain?

Mr. DUN: We all know very well that circumstances alter cases in agriculture as in many other things, and that what is particularly suitable in one locality is not so in another. In a cold and rigorous climate a short-legged, hardier animal is required than where there is plenty of shelter, a warmer atmosphere, and a large use of artificial feeding stuffs. Shorthorn stock, it is well known, is suitable to many parts of these counties where plenty of plant-food is to be obtained and the climate comparatively mild, and particularly where the animals are protected from extreme weather by sheds erected in the fields, and brought into good yards in the winter; but Short-

horns in some of the mountain fastnesses of your own county and in various parts of the West Highlands of Scotland would be entirely out of place; for they would not be able to obtain sufficient plant food to bring them to early maturity, which is a speciality of the breed. In such situations what is wanted is an animal with equally good conformation as the Shorthorn, but possessing shorter legs, a hardy constitution, abundance of hair, and what is even of more importance, an animal acclimated to the circumstances amidst which it is placed. Mr. Dun added that this was well illustrated by the different breeds of sheep, of which there were between twenty and thirty in this country, as for instance those in Romney Marshes, which were eminently adapted for the circumstances in which they were placed, and on which no other class of sheep would thrive. In the last twenty years the system of farming had very much changed, and Shorthorns now flourished in places where formerly they would have been unprofitable.

Mr. JAMESON: Is it not a fact that dairy produce is not so good now as it was a few years ago, and that it is owing to animals being kept too fat?

Mr. DUN: I presume that in Cumberland, as elsewhere, farmers, like those engaged in other trades and professions, follow the system which pays them best. A good deal depends upon the locality. If land is situate in the immediate neighbourhood of a large town, it is very desirable that a considerable quantity of milk should be produced, and there you will find farmers devoting their energies, time, and money especially to the dairy. In other localities, where the population is less dense, especially of late years, farmers have applied themselves to the rearing of what I call "rent-paying stock," that is as to shape, symmetry, with nice quality such as any good judge would wish to buy. Animals of this description, such as Shorthorns, Angleses, and other breeds, not generally possessing any high milking qualities, but full of bloom, quality, and possessing properties for the early laying on of flesh, have been extensively purchased and bred, as it very likely happens they are found to pay the best.

Mr. JAMESON: I am afraid that is the case.

Mr. DUN: There is another matter with regard to the extra properties of animals which should be taken into consideration. No doubt feeding stock has increased of late years partly because it was very desirable to increase the manurial fertility of the soil, which can, as a general rule, be done faster and better through feeding stock than through dairy stock. Farmers, in other words, want to carry out from the manure heap a large amount of plant food; and instead of applying fertilisers in the form of superphosphates, guano, &c., direct to the soil, they use linseed and other cake, crushed grain and turnips amongst their rapidly-growing young stock and feeding beasts. In that way they obtain an immediate profit, and a considerable amount of return, by having luxuriant crops eventually in consequence of having this rich manure placed upon the soil.

The Rev. J. BRUNSKILL asked if the lecturer had read of the experiments by Dr. Orton, some twenty years ago, for his paper seemed to establish a definite principle on the physiology of breeding.

Mr. DUN replied that he was acquainted with the main arguments read by Dr. Orton at the Newcastle Club. The chief peculiarity drawn from observation is the special power the small animal has in reproducing its own own features in its progeny. The male animal gives to the beast the shape, the size, the skeleton; the female gives it the constitution and internal organs. This was first and fully attended to by Mr. Orton, who illustrated it by noticing the effects produced by putting a male donkey upon a mare. The produce in such a case is an animal with the skin, ears, tail, and feet of a donkey, and that animal brays. On the other hand, if a stallion is put upon a she ass you get a cross-bred creature, which has the ears and skin, and hair, and tail, and feet of the horse, its sire, and that animal neighs. Again, in breeding poultry, it is very well known that if you put a Dorking Tom amongst a mixed lot of barn-door fowls you will have an immense number of chickens of the Dorking breed; but if you put a cross-bred Tom amongst a number of Dorking hens, you don't get the development alluded to. Now, that law is capable of being applied by us with advantage as breeders of stock. If you have got a big, roomy, hairy-legged cart mare, and desire to get foals with more style, less hair about the legs, and perhaps with more speed about them, you will put the mare to a coaching stallion, or a tolerably well-bred horse, that will leave such an impress upon her that the subsequent foals which she may have, even by a cart-horse, will not be altogether like their own sire, but prove to possess more the proportions of the first sire.

Mr. JAMESON: Have you any proof of that?

Mr. DUN: Breeders of racing stock are of course very anxious that their yearlings should come out great, big animals, standing firm upon their legs, well developed and precocious animals; and they put little under-rated, weedy, thorough-bred mares for the first time to a big half-bred stallion. The next season the mare is put to a thoroughly well-bred horse of name and celebrity, and the progeny comes away with even more size, apparent power, and grander in form than it would have been if got from a little mare put to a thorough-bred horse at first. But the most provoking thing is that though these horses sell splendidly well, they never come to the post to run; they have no racing power, and it is all a case of "sell."

Mr. ROBINSON said it would perhaps be remembered that a few years ago a very interesting paper on the breeding of animals was read to the Club by Dr. Taylor, who took the same view as just enunciated by Mr. Dun.

A vote of thanks to Mr. Dun was proposed by Mr. JAMESON.

Mr. LAZONBY, in seconding the proposition, said he had sometimes thought of writing a paper himself, but had been deterred through fear of being pulled to pieces. He thought he could manage two or three, but he shrank from encountering the shock of the whole weight of the members of the Club.

A vote of thanks to the Chairmen brought the proceedings to a close.

THE WEST CUMBERLAND FARMERS' CLUB.

IRRIGATION.

At the last meeting, held at Whitehaven, Mr. W. B. Clarke, in the chair,

Mr. MONTGOMERY introduced the question of irrigation. He said that in the paper which he read to them lately he spoke of drainage and irrigation as things which ought to go hand in hand; but on land that needed it—which might be said of this country generally—drainage must always be first, for it was not until the land was drained that irrigation could be employed with advantage. How far we were from the utmost point of improvement in this country might be inferred from the fact that of twenty millions of acres of land requiring drainage in England and Wales only three millions had been drained, and it might be taken for granted that the drainage in all cases was not very perfect. He begged to remind them that the more perfectly land was drained, the more need there was for irrigation. If drainage was secured

the speedy removal of superfluous water, which, allowed to stagnate in the soil, would render it unfit for the production of good grass or good crops of any kind. With drainage alone a short drought might be sufficient to make the land too dry, and arrest vegetation at the very time when it was most desired that it should make rapid progress, and when it certainly would, if there was sufficient moisture in the soil; but drainage combined with irrigation put it in the power of the farmer to secure himself, as far as was possible, against the baneful effects both of a redundancy and of a scarcity of moisture. On the one hand, drainage must be continuous—the drains always open to carry off superfluous moisture; on the other, irrigation must not be continuous, but resorted to whenever it seemed likely to be beneficial. The fact that the application of water benefited crops was patent enough from mere observation, but science fully explained it; indeed, it

was easier to explain the necessity for a constant supply of water than to explain how a superabundance, especially when it was allowed to stagnate, was injurious. Plants had no mouth, like animals, with which to take up nourishment from the soil; not one solid particle entered its roots, so that manures ought to be thoroughly decomposed and dissolved in water before plants could derive any benefit from them. Those manures, therefore, which were most easily soluble, and had no preliminary decomposition to undergo, were the most speedy in producing effects. When, however, decomposition must take place in the soil—as in the case of the rougher parts of farmyard manure—the presence of moisture, as well as of heat, was essential to this process. In a perfectly dry state no decomposition would take place, and decomposition is never rapid when this state is too nearly approached: consequently it was most important that the soil should always be kept moist to a certain degree, varying according to the crop and its stage of growth, but much exceeding the degree of moisture often found in the soil after a drought of a few weeks or even a few days. The surface of the soil soon became perfectly dry, and in that condition it was impossible for say turnip seeds to vegetate or the seed plants to live, so that the field had to be resown or turned to some other purpose. A dry state of the soil was incompatible with vigorous and luxuriant vegetation. As a dry atmosphere dried the soil, so a moist atmosphere moistened the soil. The surface of a newly irrigated field gave forth much moisture to the atmosphere on a hot summer day, and this moisture, meeting the leaves of plants in its ascent, refreshed them and restored them to a state of perfect health. He would ask anyone to observe a plant in a flower-pot. It must get water, or it would soon die. And when its leaves had begun to hang down, how speedily it revived and looked fresh and bright if water was supplied. Yet there must be a hole in the bottom of the flower-pot, and a few small stones or bits of broken pottery under the earth for drainage, in order that water might not stagnate about the roots of the plant, which would not kill it so quickly as want of water, but would kill it ere long.

Mr. BORTHWICK quite agreed with Mr. Montgomery that the first thing to do with wet land was to drain it. The next thing he would do was to thoroughly disintegrate it, and pulverise it, and properly manure it, otherwise the draining would be to a great extent useless. From his experience he thought that as agriculturists they had little to do with irrigation, because in this climate it was so little needed. He had gone over some water-meadows in Cumberland, which he had compared with adjoining land of a similar quality, and he must confess that the whole of the expenditure incurred in laying the drains, sluices, &c., and managing the concern were in a great measure lost, because the system had been abandoned for no other reason than that it did not pay. No doubt Mr. Montgomery was right in theory, but what they wanted to talk about was not theory, but practical matters—things which some had seen and others might not, and so, by exchanging ideas, disseminate knowledge. He would be glad to hear from some gentleman the practical results of irrigation. He agreed with Mr. Montgomery that moisture was most essential to the growth of plants, and that a superabundance of it was a great evil; but it was rarely they had a season when they suffered from want of rain in Cumberland. Two years ago the crops were a little stunted, and perhaps the turnip crop was a little deficient for want of rainfall, but he had yet to see how it was possible for a man to irrigate a whole farm. The tenant could not afford to do it, and it would be ruinous for the proprietor to go to the expense of laying pipes, constructing reservoirs, and so on, because in nine years out of ten, if these requirements were at hand, they would not be needed. If it was a question of irrigating a bit of grass land on a hill side for the purpose of creating herbage on which to keep stock, and in a place where they could get the water to distribute itself by gravitation, he would say try it; and if it was found to be beneficial, he did not think the Cumberland folk were so negligent of their own interests as not to adopt what they saw their neighbours doing with advantage. Irrigation as recommended by Mr. Montgomery was not very likely to succeed in West Cumberland, unless they were to experience a different cycle of seasons from that which they had experienced.

Mr. R. JEFFERSON said, with regard to drainage, that the

West Cumberland people generally had taken time by the forelock and had got their land pretty well drained before this, otherwise it would be a hopeless task to get it done in these expensive days. To drain land now would not cost less than £25 an acre. With regard to irrigation, he was always extremely fond of it, and many a wet skin he had got in rainy weather while laying water on the land. Some might agree that in this climate irrigation was of no use, but after all there was something in water running over the land. He could not tell what it was, but wherever they found a running stream there they found a green spot. He did not care how poor the water was, it would do good if it ran over the land and did not remain stagnant. Where they had a river which became greatly swollen in the autumn and overflowed meadow land the land caught all the juice washed out of the arable fields in the neighbourhood and was made a fertile spot. Some people, on the other hand, were mistaken in their idea of getting water off the land as soon as possible. It used to be the custom in sowing wheat to get the water away as quickly as possible, but he was glad to say that theory had been exploded, because when land was drained the water ought to find its way through the soil by filtration. One did occasionally meet these anti-water fellows. He had seen a farmer, not 100 miles from Whitehaven, send sheep to eat turnips on grass land in order to manure it, and then actually to cut drains in the grass field to convey the manure away. That, they might see at a very short distance, and an enlightened agriculturist he was in some things. He (Mr. Jefferson) would like to be his neighbour, so as to catch the stream after it had left his laud, for he thought he would be able to make something of it by sending it over his own land. With regard to turnip land, he thought it was impossible to irrigate it, for if they sent a stream of water over it in the soil would be washed away; it was only useful where they had a grass field. Respecting water-meadows he had seen some that never got a shovelful of artificial manure of any kind and yet grew abundant crops year after year. A good deal of time and attention were required, and the first flood of the autumn was the best, for then they caught all the juices from the land above; if not properly attended to they would not pay. It was the want of labour that was at present bothering the farmers, who could not pay that attention to farm management which they ought while they could not get men to attend to really necessary work.

Mr. M'CAA (Greysouthen) gave details of some land near Edinburgh which had been irrigated. Originally it was not worth 5s. an acre, but it had increased in value from £28 to £30 after being irrigated by Edinburgh sewage, and yielded enormous crops—Italian rye-grass growing at the rate of an inch-and-a-half per day.

Mr. ROBERTSON (Gilgarron) said his experience of the irrigation of a meadow in his neighbourhood fully bore out what Mr. Montgomery had said.

Mr. ROSS was of opinion that where water could be found handy, and would spread itself by gravitation over a bit of land, that was the most profitable way of manuring it, but unfortunately these positions were very limited.

THE METROPOLITAN CATTLE MARKET.—At the Court of Common Council Mr. Deputy Fry drew attention to a statement of the money received and expended in connection with the Metropolitan Cattle Market. He might be told by the Chamberlain that it was correct, according to the Act of Parliament, but it was a very fallacious one. There was a deficiency of £837, but in point of fact the deficiency was £3,437. They had raised loans amounting to £42,600, and they had paid off only £40,000, so that the deficiency was as he had stated. He thought it was his duty to say that the time had arrived when serious attention should be given to the state of their markets. By and by he should have to make some remarks as to Deptford. They were losing large sums of money in the conduct of their markets. Mr. Rudkin was sorry that this matter had been mentioned in the absence of the chairman of the Cattle Market Committee. The suggestion that had been made was fallacious. If it were discovered that there had been a loss of £3,400 last year, it was the smallest loss they had ever sustained in one year. In three or four years the market would be found to pay. Mr. Deputy Fry added that the report dealt with five years, and during that time the loss on the Cattle Market had been £26,649.

WESTER ROSS FARMERS' CLUB.

THE COURSE OF CROPPING.

At the last meeting Sir KENNETH MACKENZIE of Gairloch, Bart., read the following paper on the most suitable course of cropping for purely arable farms in Wester Ross at the present day:

The title at the head of this paper would be misleading, if I did not state at the outset that I can only pretend to introduce very shortly to your notice the subject to which it refers. An essay treating of it in all its bearings would occupy a goodly-sized volume, and would have to be written by one having much greater experience and practical knowledge of farming than I can be supposed to possess. It is, however, I think a subject of more importance than the attention generally bestowed on it would lead one to suppose; and though my contribution to its elucidation will be but small, I hope to be the means of eliciting in the discussion that will ensue many valuable opinions regarding it. The wish has often been heard of late that the cultivation of land should be free and unfettered, at all events till within the last four years of a lease; but as a back-going man, endeavouring to retrieve himself, may ruin a farm by injudicious cropping, and after all, from failing means, have to abandon it before the lease has run its course, I do not think it probable that landlords will voluntarily part with all control over a matter of such vital importance to them as the course of cropping. At the same time, there is no one system of rotation that can be said to be best under all circumstances, and it may possibly be highly impolitic to continue to prescribe the same order of cultivation that seemed judicious to our fathers, when the Corn-laws were still in force; when artificial manures and feeding stuffs were but little used; when fallow crops were looked on as profitless, and only somewhat less wasteful than leaving the fallows bare; and when meat occupied an unimportant place in the farmer's sales as compared with grain. All this has changed. The farmer's great object now is said to be the production of meat, and though grain, doubtless, still constitutes a larger item in his profits than city writers seem aware of, yet the fallow crop is at the present time second in importance to none. The proportion in which the different crops are produced depends necessarily on the rotation observed, and the question, therefore, which I offer for discussion, when simply put, amounts to this—Whether is the old five-course shift still the best and most profitable for us to adopt? I am quite aware that the answer cannot be the same for every farm in Wester Ross. There are diversities of soils which mark off some farms as specially adapted for breeding, others for feeding, and others for growing wheat. Some farms, too, have pasture out-run attached to them, where young stock may graze in summer, and in such cases less arable land will be required in grass. But I think the discussion should be limited to the average farm of this part of the country, which lets at from 25s. to 30s. the acre, where there is no out-run, and where both breeding and feeding can be profitably carried on. The mass of the Black Isle farms are of this nature, and if we can arrive at definite conclusions regarding the course of cropping proper for them, our conclusions may easily be modified to suit other cases where consideration may have to be given to special circumstances. Another observation I must make is, that I think it desirable to estimate the relative proportions of crops which may most profitably be cultivated with reference to a permanent stock. There are cases where flying stock may be advantageously made use of, and, without doubt, arable farms can serve no better purpose than the feeding of those classes of sheep which can be bred, but cannot be fattened, on the hill-side. Widders can, perhaps, be most cheaply finished on the parks and permanent pastures of England, but cast ewes should form a natural source of profit to the northern agriculturist. No cattle, however, worth the expense of turnip feeding, can be bred on Highland moors. Those so bred should, like hill widders, be grass-fed in England, for only beasts that come to early maturity can be fattened with profit on agricultural farms. At the present time many of us look to Calthness for our feeding cattle, but that source of supply cannot last long. With the opening of the railway, the farmers there will take to feeding too. For some time longer we may still be able to procure Irish or Continental,

store cattle, at the risk of introducing disease into our stocks but the really satisfactory and only permanent system is to make ourselves, as far as we can, independent of extraneous breeding, by rearing for ourselves all the feeding beasts we require. On a farm thus conducted, provender will be required equally in summer and in winter, and the object of the rotation should be to establish an equilibrium of supply throughout the different seasons of the year, so that with a constant stock there may at all times be a sufficiency of food, yet never such an excess as to require the addition of a flying stock for its consumption. Having made these preliminary remarks, I now proceed to estimate the probable produce of a 200-acre farm of the character I have pre-supposed, when cultivated on usual five-course shift, and the value of that produce when disposed of, whether directly or indirectly. On such a farm there would be 80 acres of grain crops, 80 acres of grass, and 40 acres of green crop. The grain crop would usually consist of 40 acres of oats, 20 acres of barley, and 20 acres of wheat, and the oats may be supposed to yield 5 quarters of grain to the acre, and 26 stones of straw to the quarter; the barley, 4 quarters of grain to the acre, and 22 stones of straw to the quarter; and wheat, 3½ quarters of grain to the acre, and 35 stones of straw to the quarter. It would, however, be necessary to have two acres of tares, which, though commonly enough taken off the fallow shift, should, according to the best rules of husbandry, rather follow lea. This would, therefore, reduce the acreage of oats to 38, and the gross produce of grain would be—

	Qrs.	Dutch stones.
38 acres oats ...	190 grain	4,940 straw.
20 acres barley... 80	”	1,760 ”
20 acres wheat... 70	”	2,450 ”

Total straw..... 9,150

Of the acreage in grass, 14 would be kept for hay, producing, at 150 stones (of 24lbs.) to the acre, 2,100 stones; 26 acres of young grass; 40 acres of two-year-old grass, which would be pastured. Five acres of the green-crop shift would be under potatoes, and the remaining 35 acres under Swedish and yellow turnip. The yield of potatoes, at 16 bolls to the acre, would be 80 bolls, and that of turnips, at 16 tons to the acre, 500 tons. The grain and potatoes would give a direct return, the value of which I will immediately endeavour to estimate, but the value of the pasture and turnips; straw and hay, has to be realised through the stock. According to my calculation, there might be kept on the farm 18 milk cows and a bull, with their progeny, until fed off at two years old, and 35 cast Cheviot ewes, from which a crop of lambs would be taken, both ewes and lambs being afterwards fed off on turnips. Assuming that five horses should work the farm, and that there would always be one colt coming on, the 66 acres pasture would be thus allocated from April to Oct.:

5 Horses and a colt	6 acres.
18 Cows, with calves, and a bull.....	28 ”
18 Stirks preparing for feeding.....	18 ”
35 Ewes and lambs.....	14 ”

66

A tip might range with the horses or the cattle. The two acres of tares would help the horses in harvest, be useful for pigs, and save breaking too early into the turnip crop. The whole stock would be put on winter keep about the middle of October, and the cast off ewes would be purchased at the October market, and put on the rough pasture which had been left by the cattle and horses. I count that through the winter the cows would consume a half cwt. of turnips a-day for the first three months, and three-fourths of a cwt. a-day for the last three months when milking. The stirks would consume about the same, making in all, for 18 of each, 203 tons. The stirks throughout, and the cows till calving, would have no other dry food than straw; after calving the cows would need half a stone of hay per day—in all, 819 stone. The feeding beasts should be fit for the butcher by the 1st March, getting one cwt. of turnips a day, with as much oat straw as they will eat, and a

little cake at finishing. Reckoning the time they would be up as 140 days, the turnips they would consume would be 126 tons. The bull would require about 8 tons. The lambs would be speaned early in August, and would have the foggage, and (after harvest) the young grass to keep them till the middle of October, when both they and the old ewes would be put on turnips. I count that the hogs would take six months' keep at the average rate of two cwt. turnips and half-a-stone of hay per week, which would come to 19 tons of turnips, and 455 stones of hay. Some of the ewes would be fat soon after Martinmas, others not till February. They would be drafted off as they were ready, and might take ten weeks' turnips on an average, which, at the same rate of keep as for the hogs, would require 35 tons of turnips and 175 stones of hay. The new cast of breeding ewes would pick up a living on the rough pasture till nearly Christmas, after which time they would get half turnips till they lambed, and full turnips afterwards. During a snow-storm they might require a little hay. I allow for them and a top 49 tons of turnip and 42 stones of hay. The five horses, the colt, and the pigs may be allowed 13 tons of turnips for the winter, and the work horses would need a stone of hay a-day during spring work, and some besides at odd times, say altogether 600 stone. Putting all this together, the consumption of produce by the stock would be as follows:—

Cattle require of turnips	339 tons.
Sheep " "	175 "
Horses and pigs "	18 "
Leaving a margin of 5 per cent.....	28 "
Total	560 tons.
The cows require of hay.....	819 stones.
The sheep " "	672 "
The horses " "	600 "
Securing a margin of	9 "
Total	2,100 stones.

I do not know, and have not at short notice been able to ascertain, how far straw goes either as fodder or as litter; the quality of the straw must have much to do with the freedom of its consumption as fodder, and the character of the fold and byre must greatly affect economy in its use as a litter. It may, I think, be assumed that the straw produced under a five-course shift would suffice to meet the consumption I have here contemplated, but I do not suppose there would be very much to spare. I have now to state the farm returns in money. From the sales of barley and wheat must be deducted the quantity required for seed. From the oats I retain 50 qrs. for seed and farm use, and from the potatoes 40 bolls for the same purpose. There remains—

100 qrs. oats.....which, at 26s. leaves	£130 0 0
70 qrs. barley... " at 35s. "	122 10 0
62 qrs. wheat... " at 52s. "	161 4 0
40 bolls potatoes " at 20s. "	40 0 0
	£453 14 0

This is the amount of the produce which has been, we suppose, directly realised. The value of the remainder is to be found in the stock, on which the profits are as follows:

18 fat cattle at £22	£396 0 0
35 hogs at £2 2s	73 10 0
Clip of 35 ewes at 6s... ..	10 10 0
Difference between the purchase and selling prices 35 ewes, bought lean and sold fat, at 8s.	14 0 0
	£494 0 0
Add price of grain and potatoes ...	453 14 0
Total receipt ...	£947 14 0

I have not made out these estimates without the assistance of friends, but they are all still rough, and a margin of errors must be allowed for. Into the cost of labour, and the farmer's net profit, I have not attempted to enter. If it should be remarked that I have made no allowance for losses on the stock, per contra I have no account of double lambs, of which

there should be several pair, nor of the sales of pig or dairy produce. I must now ask you to observe that while I have so arranged the stocking as to make supply and consumption fit in to a nicety, in order to do so I have been obliged to assume peculiar proportions of sheep and cattle, and to feed off two small lots of sheep of different classes at considerable cost and labour. The reason of this is, that on a five-course shift the turnip will winter more than the grass will summer. Without the power of purchasing store cattle, you have to summer the same number of cattle that you winter; but by purchasing cast ewes in October, you can winter two and a half sheep for every ewe and lamb you summer, and thus the turnip is overtaken, which, if cattle alone were kept, would be wasted. By increasing the proportion of grass, the sheep may be dispensed with, and this may be done by leaving the lea unturned for three years instead of two, by which means the five-course becomes a six course rotation. The scale, however, thus becomes too greatly overbalanced. Not only is the grass increased from two-fifths to one-half, but the green crop is at the same time reduced from one-fifth to one-sixth, and the wintering is consequently now insufficient for the summering; in order to obtain an equilibrium half the farm must be worked on the six-course shift. If we assume 5 acres of the green crop quarter to be required for potatoes, and an acre or so of turnip for horses and pigs, and if we deduct 5 per cent. from the turnip crop as a needful margin, and allow 10 acres of grass as hay and pasture for the horses, then the proportion of grass to turnips available for cattle and sheep will be

Under the 5 course shift at 100 to 45:87	6	100 to 28:64
" mixed "	100 to 36:18	

According to our former computation of the production per acre and the consumption per head, I make out that a cattle stock entirely home-bred requires 41 acres of turnips for every 100 acres of grass, including both pasture and hay. A cast ewe stock, when the lambs are sold after speaning, and the ewes only are fed, requires nearly 34 acres of turnips to the 100 acres of grass; but if the hogs are kept and fed as hogs, 59 acres of turnips are needed for every 100 acres of grass. Not having much time to prepare this paper I give those figures under reservation of any errors into which hasty reckoning may have let me slip. The result aimed at by mixing the five and six course shifts might be reached by reserving one field in permanent pasture, and cultivating the remainder on a five-course rotation, were it not that permanent pasture is apt to be a figure of speech on most of our light-soil farms. You may leave a grass field permanently unturned, but after four or five years there will be little pasture. Foreseeing the probability that at no distant time we shall have to make ourselves independent of an extraneous supply of store cattle—thinking it possible that even now it might not be disadvantageous to be so—and considering that our rotation of crops must probably be altered before we can establish our independence, I have thought that a discussion on an improved system of rotation might be interesting. To you, gentlemen, I now leave this subject. A change in this part of our system of cultivation can scarcely be effected without modification in the terms of our leases, and the subdivision of our farms, but such modifications will no doubt gradually be made, if the farmers of the country express a wish for them. If the discussion to-night evinces that this desire exists, I hope that some member of the Club—more competent than I am—may be induced to prepare another paper on the subject for our next meeting, bringing out more fully than I have been able to attempt the different rotations that are possible, and the various merits of each

The discussion on the paper was adjourned.

ABATEMENT OF RENTS IN SCOTLAND.—Lord Kinnaird has sent the following letter to his solicitors in Dundee: Rossie Priory, Inchture, N.B., 18th March, 1874.—From my experience of the farms in the Carse, I do not consider that last year's crop has made up for previous losses. I therefore am prepared to allow my Carse tenants a deduction of 10 per cent. on the rental for crop 1873 out of last instalment. I expect, with our present prospects, that the Carse farms will again do well.

THE CENTRAL CHAMBER OF AGRICULTURE.

A meeting of the Council was held at the Salisbury Hotel, Salisbury-square, on Tuesday, April 14, Mr. G. F. Muntz in the chair, when the attendance of members was by no means so numerous as usual.

The following were elected members of the Council: Lord Egerton, of Tatton, Mr. W. W. B. Beach, M.P., the Hon. S. Stanhope, Mr. Rashleigh, M.P., Mr. Tremayne, M.P., Mr. Stanford, M.P., Mr. Brymer, and Mr. Medley.

Mr. STORER, M.P. (Nottinghamshire), moved that the thanks of the Council be given to the Lord Mayor of London, for his courtesy in inviting representatives of the Central Chamber of Agriculture to the Mansion House.

Mr. CALDECOTT seconded the resolution, and said that, whether agriculture went "hand in hand" with commerce in future or not, there was no doubt that on the present occasion the former had gone hand to mouth with the latter. The motion was agreed to.

The CHAIRMAN gave notice that, at the meeting of the Council in June, the Committee on Unexhausted Improvements will report the result of their inquiries into agricultural customs in England and Wales.

Mr. PELL, M.P. (who has succeeded Sir Massey Lopes as chairman of the Local Taxation Committee) presented the report, of which he moved the adoption.

The Local Taxation Committee in presenting their report congratulate the Council on the very satisfactory declarations made by the Prime Minister to the deputation from the Central and Associated Chambers of Agriculture on the 23rd of March last. The Prime Minister emphatically denounced as a "violation of justice" the existing "system of raising taxes for general purposes from one particular kind of property." He took occasion to reprobate the fallacy that this matter concerns land alone, which is so persistently advanced by those advocating the interests of privileged classes who now escape any fair contribution toward national obligations. He claimed for the question the dimensions of "a great national grievance," in which town and country were alike interested; and he complimented the chambers of agriculture on their careful study of the subject and their recognition of its more than agricultural character. Mr. Disraeli reminded the deputation of the interest he had individually taken in this cause more than five-and-twenty years ago, and pointed out that almost every member of the Ministry now in power had long advocated the redress which ratepayers claimed. On the part of her Majesty's Government, he announced their complete concurrence in the views expressed by the deputation. While compelled by official reserve to withhold any indication of the practical method in which the sympathy of the Government might find expression, he promised that local taxation should receive "the most anxious and complete consideration" when the general finance of the country came to be considered; and he declared it to be the duty of her Majesty's Ministers to deal with the matter in such a way as, he hoped, would "in the end completely satisfy those just demands which had for so long a period been brought before the country, and which, he believed, the great bulk of the enlightened opinion of the nation had now adopted." To these observations your Committee naturally desire to call especial attention, as marking the position at length occupied by the question on which they have been so long and anxiously engaged. The recognition thus accorded to the reality and magnitude of the ratepayers' grievance entitles local taxation reformers to look forward with confidence to some definite and substantial relief. Year after year ratepayers have seen the claims of the payers of Imperial taxes only considered in questions of finance. No material attempt has been made to alleviate the pressure of those much more onerous (because unequal) imposts which are locally levied. On the other hand, new taxes upon a single description of property have been annually accumulated, while various items of Imperial Revenue have been abandoned or reduced. While awaiting relief, your Committee will continue vigilantly to watch the introduction into Parliament of any rate-imposing or rate-increasing measures. Fewer bills than usual of this nature have as yet appeared, and your Committee trust that the resistance which in the last Parliament they were able to offer has been successful in discouraging legislative proposals of secondary importance, which, had they touched the Imperial Revenue, would have been at once detected by the peculiar guardians of the public purse, and means taken by the Government of the day to ensure their immediate rejection. Proposals to increase the rates by adding the cost

of establishing School Boards and free education in every district throughout the country will, of course, continue to receive the strenuous opposition of your Committee; while a re-introduction of the Prison Ministers Bill, formerly successfully opposed, will necessitate the resistance which every new charge on the rates must involve. On the other hand, your Committee are glad to note that the Juries Bill as introduced this Session omits the proposal which last year provoked their opposition, and charges on the Treasury the payments to overseers for making up jury lists. Your Committee look forward to the time when readjustment of local with Imperial taxation having been effected, they may be able to devote increased attention to much-needed reforms in the administration of local authorities. Sir Massey Lopes, who from the formation of your Committee has with such singular ability acted during five years as its Chairman, has been compelled by the pressure of official duties to resign that post. The Council will, however, be glad to learn he does not vacate his seat on the Committee, and although unable to give that close attention to varied details which the Chairmanship involves, he retains the same deep interest he has ever had in the cause with which he is so closely identified. Your Committee have accordingly elected to the vacant post Mr. Pell, M.P., in recognition of the valuable aid he has already given them, and the time and attention he has been able to bestow on the subject both as a member of the Executive and in Parliament.

The motion, on being seconded by Mr. LONG (Gloucestershire), was agreed to.

It was further agreed to, at the instance of Mr. LONG, seconded by Mr. CALDECOTT, "That the pressure of official duties having prevented Sir Massey Lopes continuing to discharge the duties of Chairman of the Local Taxation Committee, this Council, in the name of the Chambers of Agriculture, desire to express their best thanks to him for his eminent services to the cause of local taxation reform."

The CHAIRMAN next presented a report of the recent interview of a deputation from the Chamber with the Chancellor of the Exchequer, on the subject of the Malt-tax; and the adoption of the report was proposed by Mr. STORER, who remarked that it was not necessary for him to go further into the matter than to state that the deputation had been kindly and courteously received by the minister. Many of them had been present on similar occasions when the reception had not been quite so pleasant. Therefore, they felt all the more grateful when they were received with courtesy and respect. He was sure they were all satisfied with everything the Chancellor of the Exchequer said on the subject. The right hon. gentleman had promised to consider the question and to examine the difficulties that presented themselves to his mind; and his (Mr. Storer's) advice was that agriculturists should not abandon hope or lose confidence. All these things, however, required time, but he believed that they had now more prospect of justice being done to them than they ever had before. He exhorted them, then, not to lose heart; but to remember that time worked wonders, and that, although the Malt-tax was a mountain in itself, supported by stupendous influences in and out of the House of Commons, the justice of their cause was such that they might hope to overthrow the mountain.

Mr. T. WILLSON seconded the motion, and concurred in all that Mr. Storer had said "with regard to the courtesy of the reception." It certainly did present a strong contrast with that of former deputations to Downing-street.

The motion was put and agreed to.

Mr. DUCKHAM (Herefordshire) moved: "That, considering the great disadvantages arising from the present division of Government administration in matters relating to agriculture, this Council desire the establishment of a separate agricultural department."

The want of such a department, he argued, had long been felt and he insisted that the existing state of things ought not to be allowed to continue.

Mr. FORD (Warwickshire) seconded the proposal, and said that if, during the last few years, when cattle plague and other diseases prevailed among their stock, they had had a Minister, or a Department, of Agriculture, they would not have seen such ridiculous orders as had been issued by the Privy Council, and caused such serious loss to the country.

Mr. PRICE (Brecknockshire) observed that, considering the important questions which had cropped up of late years, and which were likely to crop up hereafter, it seemed an extraordinary anomaly that there was no department of the Government with which the agricultural community could communicate in seasons of distress or anxiety. Almost every country in Europe had its Ministry of Agriculture, and he did not see why such an advantage should be withheld from England (Hear, hear).

Mr. STRATTON said he understood that at the beginning of the century we had a Minister of Agriculture, and he thought it desirable that the Chamber should be informed how it was that the office had ceased to exist.

Mr. CALDECOTT: Perhaps some old gentleman who flourished in the time of George the Third might be able to tell us.

Mr. STORER was not old enough to supply the information; but the other day, on opening an Agricultural Calendar by Arthur Young, he saw that the author was described as Secretary to the Board of Agriculture. That was in 1804. It was desirable to know what had become of that Board, and if any gentleman could give the information it would be very valuable. At any rate, the fact that it had once existed here, and that it existed now in most countries on the Continent, taken in connection with the losses to which agriculturists were liable, owing to one Governmental department being charged with one particular subject, and another department with another particular subject, must suggest to their minds that it would be convenient and useful for the scattered authorities to be brought under one head.

Professor WILLIS BUND had hoped that a stronger case would have been made out for the proposition than what he had yet heard. There were considerable objections to such a department being created, and one question which struck him was, If they had it so long ago what was the reason that it had been abolished? The obvious answer must be that it had proved useless, and was therefore abolished. What he feared was that if they had a separate department it might think it to be its duty to "do" something—perhaps, a good deal; he was not clear that it might not be too much, and that there would be considerable intermeddling in agricultural matters (Hear, hear). Farmers did not want an inspector constantly inquiring into everything, and asking perpetually for returns, nor did they like being continually interfered with; in fact, he was not sure that the result would not be an illustration of the old fable of King Log and King Stork. Moreover, an agricultural department would be an expensive matter; and as they were endeavouring to get some relief from the Consolidated Fund for the agricultural interest generally, they might be told that they were represented by a Minister of Agriculture, that they had obtained relief to that extent, and that they could not therefore ask for much more. Then, if there was to be a department of commerce and agriculture, or of agriculture and commerce, he should like to know which was to be first, and he feared that if agriculture and commerce were connected together in one department they would simply see a remodelled Board of Trade, and nothing more, with perhaps additional inspectors asking for new returns; and they would be in no better position than at present, without getting substantial relief. True, other countries had their ministers of agriculture and commerce, but there was no country in which agriculture was so prosperous as in England, and that for the simple reason that it was so little interfered with, whilst in France, Austria, and other countries there was constant official interference, the effect of which was greatly to check the development of agriculture. The conclusion he had come to then was that it were

"better to bear the ills we have
Than fly to others that we know not of."

Mr. J. TURNER (Peterborough) admitted that perpetual interference with their business by a Government department would be most objectionable, but it was not to be denied that, to a certain extent, some such interference was necessary. He thought, then, if they were to have interference and inspection and to be under Governmental management at all, it should be under persons who understood at least the rudiments of agriculture, and not right hon. gentlemen who would tell them to go home and mind their business, and not meddle with politics. The Chamber he represented held that there ought to be a Department of Agriculture with a responsible parlia-

mentary minister at the head of it; and he was inclined to think that it should be separate from commerce, and entirely devoted to agriculture (Hear, hear). Agriculture had been put out of sight by the superior attractions of her young and better dressed sister, Commerce, and he thought that the creation of a ministry of agriculture and commerce combined would be about the worst step that could be taken (Hear, hear). The interests of agriculture would be subordinated to those of commerce under such a department, as they always had been ever since he recollects anything of agriculture (Hear, hear).

The resolution was then put and agreed to, with but a few dissentients.

Capt. CRAIGIE next moved the appointment of a committee to confer with the Associated Chambers of Commerce with respect to their proposal for a Minister of Commerce and Agriculture, and the best means of carrying out the foregoing views of the council. Whether the department should be separate or combined was a point which could be better investigated by a committee than by the Council, and he recommended that the Chambers should lose no opportunity of co-operating with their commercial brethren on the subject.

Mr. STRATTON seconded the resolution, which was carried *sub silentio*, and the following gentlemen were nominated a committee accordingly: The Chairman (*ex officio*), Mr. Storer, M.P., Mr. Phipps, M.P., Mr. J. Turner, Mr. Price, Mr. T. Ford, Captain Craigie, and Mr. Stratton.

The SECRETARY having read the resolutions passed by the Chamber on Highway Legislation, in February 1867, March 1868, March 1871, and March 1872,

Sir G. JENKINSON, M.P. (Gloucestershire), said he had prepared a question which it was his intention to put to the President of the Local Government Board in the House of Commons to this effect: Whether, in consideration of the constantly increasing expenses which are thrown on separate parishes by the irregular and piecemeal extinction of turnpike trusts, the Government intend, in accordance with the recommendations of the Select Committee on Turnpike Continuance Acts, both last year and the year before, to provide by legislative enactment this session for the more speedy and final extinction of all remaining turnpike trusts, and for the future maintenance of all turnpike-roads, of which the trusts have been or may hereafter become extinct? On receiving an answer to that question, which would probably be that the Government did not intend to do anything, he should give notice for an early day of a resolution which he had carried in the House two or three years ago; but nothing had come of it; indeed, nothing ever did come of motions carried by private members; and too often, when a man had made himself a little disagreeable on local taxation or some other subject, the Government of the day contrived to silence him by putting him into the Admiralty or some other office (Hear, hear, and laughter). The resolution was, That as great and continually increasing hardship and injustice was inflicted on the ratepayers of various parishes by the present system of partial and piecemeal extinction of turnpike trusts, it is both expedient and necessary that provision should be made, without further delay, by legislation for the early and simultaneous abolition of all remaining trusts, and at the same time for the future maintenance of all turnpike roads, of which the trusts have been or may hereafter become extinct, on an equitable basis. He had always recommended that the licences on horses and carriages should be given up to the counties for the maintenance of the roads, and he had been entrusted with more than 30 petitions to the House of Commons from different localities, asking that that should be done. If some such arrangement were made it would be a sensible relief, because the amount of these taxes was in round numbers something like £900,000 a year, being in the year 1871 on horses £144,663, and on carriages £476,294, together £390,957. To this he would add the tax on dogs, £289,756, and these amounts together made as nearly as possible the sum which had been collected from tolls on the average of the last three years. At the smallest computation, however, the tolls were levied in such a manner that at least 25 per cent., he believed 40 per cent., was lost in the collection. Then, if the tolls were extinguished, the toll-houses would be disposable, and that would add a considerable item to the general county fund for the maintenance of the roads. In conclusion, Sir George moved a resolution which was in substance the same as that which he proposes submitting to the House of Commons.

Mr. FOWLER, Dorsetshire, seconded the motion.

Professor BUND moved the following amendment: "That in the opinion of this council no further turnpike trusts should be abolished, or highway districts formed, until some general measure for the maintenance of the highways of the country by all classes of property is passed into law." The necessity for that was, he remarked, shown by experience in Worcester-shire. In that county there were seven highway districts, and in all but one there had been a great increase of expenditure under the present system, the increase being in one case as much as 53 per cent. But, that was not the worst, since the turnpikes were abolished in part of the county they had had the turnpike roads to maintain as well as the old parish roads, and the result was that their maintenance had been thrown entirely upon the land, not a single sixpence being contributed by those who chiefly used them (Hear, hear). In his parish there were four turnpike roads, which were really arterial roads leading from one part of the country to another. Those roads had been recently supported by the parishes through which they passed, and the rates had in consequence increased to an almost incredible extent. He believed that within about six years the maintenance of the whole of the roads which have been thrown on the land, and those who chiefly used them would contribute nothing. England was, he believed, almost the only country in the world in which the State did not contribute towards the maintenance of the main roads. He hoped that before long there would be some general measure in Parliament dealing with the whole question in a comprehensive manner, and he thought that in the mean time no additional burden should be thrown upon the land.

Mr. WHITTAKER (Worcestershire) in seconding the amendment, observed that he was one of those old-fashioned people who thought that those who used roads should pay for them (cheers). The expression "Continuance Act" was a misnomer; the words ought to be "Discontinuance Act," fresh turnpike trusts being struck out every session (Hear, hear). He believed that if there were a strong resistance to any further abolition of trusts, that would force on legislation which would afford relief. As regarded highway districts, he thought experience had shown that the more concentration there was the greater would be the expense.

Mr. PELL, M.P., supported the amendment. Under the present system the ratepayers were subjected to two evils—the payment of a toll in the interest of the landholders, and the burden of rates for the maintenance of the roads (Hear, hear). That was certainly a very unsatisfactory state of things; but to deal with the question piecemeal, as Sir George Jenkinson proposed to do, would also be unsatisfactory (Hear, hear). It was clear that legislation could not be long deferred. The Act under which highway districts were formed had proved very imperfect in many respects. There was no proper provision for an audit; under some circumstances those who collected the rates were not called upon properly to account for what they received; and there might even be two assessments in cases in which timber was made to contribute to the repair of roads. In the eastern counties there was a strong desire for legislation with regard to occupation roads, and he was prepared to enter into communication with the present, as he had done with the late Government on that subject. He thought that on the whole it would be well to adopt the amendment and postpone the question altogether. So anomalous was the present state of things that in one parish the cost of the roads was only £10 a mile, and in an adjoining one it was £20 or £30, and Sir George Jenkinson could not wish to see such a state of things as that perpetuated.

The SECRETARY then read resolutions passed by several of the associated Chambers, including the Devonshire, Herefordshire, and Gloucestershire Chambers, condemning the present system and insisting on the necessity for legislation.

Mr. TURNER (Peterborough Chamber) said that in the highway district in which he lived the expenses had been increased during the last six or eight years by something like 100 per cent., and the ratepayers complained loudly of having to maintain the turnpike roads. In one or two parishes in that district all the roads were turnpike roads, and there the rates were 300 per cent. less than in the adjacent parishes. He thought they should be very cautious in expressing an opinion as to the proper mode of remedying the existing evils.

Mr. BUTLER (Essex Chamber) would not be disposed to lay

great stress on the extra expense of the roads under highway boards, provided they got good work for the money; but it was, he maintained, impossible for any surveyor to superintend the work on 180 or 190 miles of road (Hear, hear). The great secret of the failure of the Act was that official, independent surveyors were not appointed to manage the roads. He did not believe that any permissive Act could work satisfactorily (Hear, hear). He had very great faith in the honesty of surveyors, being one of them (laughter), but he had not much faith in the ability of many of them to make out a proper account. No one could deny that during the last twenty years there had been a great improvement in the highways of this country, but he did not believe that the improvement was continuing under the highway boards.

Mr. YALLAND (West Gloucestershire) said that in his parish the abolition of turnpike trusts had increased the rates 75 per cent., and the cost was now 1s. 10d. in the pound, nearly the whole of which was paid by agriculturists.

Mr. T. HORLEY (Warwickshire Chamber), in supporting the amendment, observed that while the highway districts were in many cases working unsatisfactorily, so also was the old parish system, there being sometimes an amount of jobbery which was discredit to the country.

Mr. J. TRASK (Hampshire) thought that in many cases the reason why highway districts had failed lay more in the management than in the Act itself (cries of "No.")

Mr. GARDNER (Essex) said that in his district the expenses had increased about 80 per cent. in the last five years. He was in favour of the abolition of the Permissive Act.

Mr. W. BIDDELL (Suffolk) said, having been connected with two highway boards, he could not help thinking that a large part of the difficulties in working arose from its having to be carried out, as it were, by reluctant instruments. In considering the increased expenses, they ought to take into account the additional cost of wages and of materials (Hear, hear).

Mr. BEACH, M.P., observed that the simultaneous abolition of turnpike trusts was scarcely possible on account of the varying nature of different trusts. No doubt, if Parliament chose to provide the requisite money, all the remaining turnpike trusts might be speedily wound up, but no gentleman could be sanguine enough to believe that it would consent to do that. The select committee on the Turnpike Trusts Continuance Act, of which he was a member, after having carefully considered the matter, had come to the conclusion that the formation of highway districts should be made compulsory, and that legislation should not be confined to turnpike roads, but embrace all the roads of the country. The general circumstances of the different counties should be made as far as possible uniform, and they might then look forward to a general highway measure which he hoped would ere long become law. He thought the proposal that the produce of certain licence duties should be devoted to the maintenance of the roads was fair and just.

After some remarks from Mr. T. Duckham and Mr. Gilbert (Nottingham), the Chairman made a vain attempt to effect a compromise between the proposer of the resolution and the proposer of the amendment.

Mr. STRATTON having given notice of an amendment forming a modification of the resolution, Sir G. JENKINSON, M.P., offered to withdraw his proposal provided Professor Bund would also withdraw his, but this the Professor declined to do, on the ground that the amendment involved the principle of local taxation.

The amendment was then put and carried. On its being submitted as a substantive motion,

Mr. T. HORLEY moved as an amendment "That it is desirable that, before any resolution is passed, further information should be obtained as to the anomalies that exist in the working of the Permissive Highway Act in districts where it is in operation; and that further time should be given to discuss the matter in the provincial Chambers before the Council of the Central Chamber arrives at a conclusion."

Mr. RUSSELL seconded this amendment, and it was adopted. On its being put as a substantive motion,

Mr. D. LONG moved an amendment declaring that the time had now arrived for the Government to take into consideration the subject of the maintenance of the turnpike roads and highways, but he withdrew it in favour of Mr. Stratton's amendment before referred to, and seconded that amendment, which was "That the maintenance of all roads is rapidly becoming a

charge on real property only, and not paid for by those who use them; and that this Council are of opinion that the Government should substitute for the present tolls the assistance of the licences on horses, carriages, and dogs."

After some further discussion, Professor BUND moved the adjournment of the discussion till the June meeting; and this having been carried, the proceedings terminated.

MAIDSTONE FARMERS' CLUB.

THE DISEASES OF LAMBS.

At the last meeting, Mr. T. B. Lovett in the chair, the object was to hear a paper by Dr. Joyce, of Craubrook, on The Thread-worm of Sheep's Lungs.

Dr. JOYCE commenced by stating that there were few subjects of more importance to the farmer than an acquaintance with the causes of the maladies to which domestic animals used by man as food were liable. This was more especially true of parasite diseases, *i. e.*, diseases having their immediate cause in the development and multiplication of some low form of life in the cavities or tissues of the body. It was only necessary to mention the rot, staggers, and the bronchitis, associated with the disease now under consideration, to bring this fact home to all agriculturists. After alluding to the depreciation of stock caused by these diseases, and to the general difficulty of dealing with such, he said: My own attention was directed to the lung disease in young sheep some years ago, when living in Rjvenden. I then knew little of its history or causes, but seeing their sufferings, and the loss entailed, I devoted what spare time I could afford to studying this disease, both by obtaining the care of lambs affected, and making examinations of the bodies of those that had succumbed to the malady, and I propose to lay before you to-night, in as brief a manner as possible, the leading facts connected with its development and causes. With the symptoms that mark the invasion of the disease I imagine most of you are pretty well acquainted. They generally show themselves in late summer or early autumn, and begin with short, husky cough, increased on motion or in hazy weather, and accompanied by a discharge of frothy fluid from the mouth and nostrils, and by thirst and scouring. The coat opens and looks rough, the eyes become sunken and white, and very frequently a desire to eat dirt or sand is present, and rapid emaciation takes place. The characteristic symptoms are the constant hacking cough, and progressive loss of flesh, and their presence should at once awake suspicion of the disease, with a view to prompt and early treatment. If death takes place the appearances found on examining the body after death are as follows: On cutting across the lungs a large quantity of frothy fluid can be squeezed out, and the lung tissues exhibit every stage of inflammatory action; in some places just commencing, in others advanced to the second or third stage. On opening the windpipe, and cutting up the air tubes with a pair of scissors, a large quantity of thick tenacious slime is found sticking to their sides, and embedded in this slime are numbers of thread-like worms. When the air tubes diminish to about the one-sixteenth of an inch they become completely blocked up, so that all the air cells beyond that point are cut off from a supply of fresh air. Now it is to these air cells (to which all the tubes lead, and in which they end) that the changes, between the air taken in at every inspiration and the blood pumped into the lungs by the heart, take place. The blood then yields up its impurities into a gaseous condition, and obtains in exchange a more than equal quantity of pure oxygen, and becomes fitted to start again on its life-giving circulation throughout the body. Therefore anything which interferes with this process, if long continued and largely existing, slowly kills. There are also found on the surface of the lung numerous small round whitish elevations, about the size of a mustard-seed. These spots, if examined with a lens, show in their centre a small dark spot, and if broken into by the point of a needle a long fine hair-like worm can be extracted. In a more advanced stage of the disease, large patches of the lung, of whitish colour, and hardened by inflammation, are found. The heart is found to be pale and flabby, and the blood watery. The coats of the stomach and bowels are thinned, the various glands much enlarged, and, in addition to the worms found in the lungs others of an allied species are found, often in great numbers, in the fourth stomach, and many yards of tape-worm in the intestines. It

becomes evident from these appearances that death results from a chronic wasting disease. Downward extension has evidently been progressive. As each fresh portion of lung becomes useless for breathing purposes by the inflammatory action set up by the presence of the worms, the blood becomes more and more unfit to nourish the various vital organs, till at last a point incompatible with life is reached, and the poor creature dies, worn out by the protracted struggle. It is probable that at any point before this, provided the development of fresh worms could be prevented, and those present killed or expelled, a cure could be effected. The lecturer then passed on to consider the nature of the worm, which produced this disease—the strongylus filaria, one of the tape worms. The sexes of this worm were separate, and when fully developed, the female animal attained a length of 3 in., and was about the thickness of a thread of sewing cotton. The male worm did not attain a greater length than an inch. The eggs extruded by the female worm amounted to thousands. Large numbers of these eggs were undoubtedly coughed by the animal affected with them in mucus, and discharged from the mouth; others passed into the stomach, and were voided in the excrement. The worms found coiled up in the little elevations mentioned as being found on the surface of diseased lungs were of a different sort, and were called gordians. They attained a length of from two to four inches, and were of a black, greenish, brown, or beautiful crimson colour. They were less organized than the filarise, but their vitality was very remarkable. Young gordians had been placed on glass, and dried and wetted three times in succession, yet after ten days they had been found alive. The lecturer, after pointing out the singular fact that these worms, like the tape worm, existed in a different form in some other animal or insect, and had to pass through different animals in order to obtain their free development, said the history of the strongylus was not exactly known, but it was most probable that it did pass through some other body at some period of its existence, and further researches might perhaps define its actual history more exactly. There were reasons for supposing, however, that its insect nest would be found in some species that choose white clover for their food. The lecturer then referred to the conditions most favourable for breeding these parasites. To obtain correct information on this important matter a series of questions were some years ago circulated by the Bath and West of England Agricultural Society, and in a large number of answers returned there was a curious uniformity of testimony on one point. Over and over again it was stated that lambs fed on white clover, especially if it had been heavily fed off by sheep in the spring, invariably produced the disease. This uniformity (proceeded the lecturer) coming from independent observers is remarkable, and if we examine the underlying conditions we shall, I think, arrive at a correct result as to the favouring conditions. In the first place it would not be correct to suppose that sheep are alone affected with this parasite during the early portion of their lives, because examples have been taken from the lungs of sheep at all ages, but it seems to be only during the first few months of life they are capable of being developed in sufficient numbers to threaten the life of their host. That, we may call fact one. Second, the natural food of the strongylus is, as I have before stated, the unhealthy mucus thrown out by the air passages. In a state of health the living membrane of the air passages called the mucus membrane is always kept permanently moist by a certain amount of secretion, that the air, as it passes to and fro, may be impeded as little as possible. This fluid is strained from the blood by very minute cells which line the air tubes throughout, and which are tipped by very delicate fringe-like processes in constant motion to whip towards the mouth any matter which needs removal. One of the most curious sights you can imagine is to see under the

microscope (for I am speaking of objects not more than 1-2500 part of an inch in size) this delicate fringe waving to and fro as many as ten times in the second, all working in such a manner as to sweep whatever lies upon the surface in one and the same direction: and this motion goes on for some time even after the death of the animal. When this mucus is only poured out in proper quantities, and is healthy in character, it is probable the young strongyls, if by chance they are brought into contact with it—a eluace that must be constantly happening—would not find themselves surrounded by those conditions favourable to their development. But if the lambs have already been subjected to conditions calculated to lower health and increase the amount of mucus secretion, then I take it they would find themselves placed amidst their natural pabulum, development and multiplication would rapidly proceed, and would tend to perpetuate and intensify the pre-existing evil. Thus interpreted, the natural history of the disease appears to be this. Eggs containing the young strongyls ready for development or already hatched, are scattered over the field by the sheep in the early part of the year. If it prove a wet summer, it causes the grass or clover to grow luxuriantly, and to contain an undue proportion of water and a diminished amount of earthy salts in its issues. Consequently when the lambs are turned on to the pasture, they get out of condition, all the vital organs suffer, the membranes lining the digestive canal pour out an undue amount of mucus causing scouring, the membranes of the throat and windpipe get lined with the sticky unhealthy phlegm, the product of a low form of inflammation, and in this the germs of the filaric, taken up with the food, get caught on their way to the stomach. Finding in this unhealthy mucus their natural sustenance, they rapidly develop and multiply. I believe it has happened that filaric have been found in the lungs of lambs before weaning, and it has been supposed from this that the germ of the worm must have been received direct from the dam. A simple solution would be to suppose that the eggs or young worms had been fished up from infected pasturage by the teat of the ewe, and had been swallowed by the lamb during sucking. Or on the other hand the true solution of the fatality of clover may be that it forms the food of some caterpillars, into which the immature strongyls passes, and in which it has to pass some portion of its existence. When once the worms have gained access to the lungs, and begin to develop, they soon make themselves felt by the train of symptoms they set up. Each worm becomes the focus of irritation, which gradually merges into inflammation, extending, as the worms multiply, over the whole lung. An equal, if not a greater amount of mischief is done by the gordians in the surface of the lung; each little cyst is surrounded by a small patch of hardened lung, and where both filaric and gordians exist together, the case soon becomes desperate. At the same time worms of an allied species abound in the sixth stomach, and help to exhaust the vital powers of the animal. Lastly, as to the all-important subject of treatment, preventive and curative. This may be as regards drugs, direct and indirect—direct where an attempt is made by medicated inhalations to destroy the worms in their homes in the lungs. Indirect when medicines given by the stomach are absorbed into the system, and conveyed to the lungs by the blood, and there so modify the pulmonary mucus as to render it unfit to nourish the parasite. The direct method is carried out by confining the animal for a short time in a chamber filled with the fumes that are given off by burning sulphur—*i. e.*, sulphurous acid. These fumes are best obtained by dipping pieces of deal in melted sulphur, and then igniting them. Some caution is necessary in the time of exposure and the strength of the gas. Ten minutes would not be too long, provided a proper amount of air could be allowed access to the chamber in which the animals are confined, and there should also be means by which a large amount of air could be quickly admitted if necessary. Chlorine gas may also be used in a similar manner. It is readily obtained by pouring strong sulphuric acid on common salt, but equal if not more care is required in its use. A gentleman in Devonshire tried this plan a few years ago, and reported very favourably of it, though on his first attempt he had sixteen lambs instantly killed by administering too strong a dose of it, and one of his labourers who helped to remove the lambs from the chamber in which they were confined was also affected by it. After experience had taught him the right proportion that could be safely inhaled no other accident occurred, and after the pro-

cess the lambs at once began to gain flesh, and the scouring and cough ceased. In some of the damp pasture ground of the Lower Alps, where the disease is very common, much benefit has been derived from the inhalation of heated tar. As regards the administration of remedies by the mouth, the process, though a more roundabout one, is more simple, and undoubtedly much good follows their use. As before stated, in most cases in which the filaric are present in the lungs, other worms of an allied species abound in the fourth stomach and the bowels, and these are at once reached and killed. A teaspoonful of milk of sulphur mixed with the ordinary food, or given as a drench, may be administered every morning for a fortnight, and then at intervals of two or three days. A tablespoonful of linseed oil and turpentine given every morning for a week has been tried with partially beneficial effects, a dessert-spoonful of common salt, every other morning fasting, for a week, or a table-spoonful of turpentine with half a pint of strong salt and water to each lamb three alternate mornings every week till the cough ceases, has also proved useful, a dose of castor oil being afterwards given to clear out the dead worms. Any remedy that would tend to dry up or diminish the phlegm on which these creatures live would also prove beneficial. I would suggest that a teaspoonful of oxide of zinc made into a ball with turpentine, and given every morning fasting, would prove a cheap and useful remedy. In all cases medicine should be given in the morning after the lambs have been shut up during the night without food. Afterwards a little powdered sulphate of iron mixed with bean or pea meal may be given to improve the condition of the blood. The administration of these drugs must be helped by a warm and dry situation, and good nutritious diet such as oilcake, bean, and pea meal, oats, and bran; in fact, during the continuance of the diarrhoea as small an amount as possible of succulent food should be allowed. In conclusion, the lecturer said he thought what he had stated exploded the idea that these worms were bred in sheep, and said he believed the best method of avoiding the disease was to keep lambs in small lots, give them plenty of room, changing from field to field as often as possible, generous diet in bad seasons, sufficient supply of dry food, with a free access to rock salt.

The CHAIRMAN could bear testimony to the great accuracy of Dr. Joyce's representations. Unfortunately he (the speaker) had been a considerable loser that year, having lost something like 100 lambs or 20 per cent. of his entire stock. He could speak favourably of turpentine and oil as a remedy, and believed that the use of dry food was of great assistance.

Dr. MONCKTON remembered some years before having had a few lambs affected with the cough, and this caused him to refer to an authority on the subject. Shortly afterwards, however, the lambs recovered, and he had never been troubled in the same way again. He had therefore had very little practical acquaintance with the disease of which Dr. Joyce had been speaking. He had noticed with regret a point casually referred to in the paper to the effect that these worms were exceedingly tenacious of life, and that they had survived the direct application of weak spirits and diluted turpentine. Dr. Joyce had spoken of tape-worm in the human subject as the result of an indulgence in mealy pork, and he had himself several times proved the truth of this assertion in an interesting way at the hospital. Patients had presented themselves with symptoms of tape-worm, with which they were afterwards found to be affected. He had inquired into the habits of such persons, and had found that in most instances they had been in the habit of picking at raw pork. The mother of one girl had told him that she dared not send her to the grocer's for bacon, or ham, or pork, for she was sure to find about half of it eaten before she got back. The remedy, of course, was that all pork, whether mealy or not, should be properly cooked before it was eaten. He questioned whether Dr. Joyce had given sufficient prominence to the tendency of the ova of the filaric to enter by the nostril into the lungs of the sheep. The consumption of ova by the mouth appeared very imperfectly to explain the strong tendency to development which was observable in the air passages. The nostril seemed to be the direct road to the windpipe, and he had been inclined to view it as the way in which the ova were introduced, and the worm thereby generated. He thought this ova which became the filaric in the windpipe of the sheep, might have been deposited by an insect upon the herbage; an idea which was a good deal sup-

ported by Dr. Joyce's observation that clover apparently was largely instrumental in disseminating the disease, and it certainly seemed probable that if an insect did deposit the ovum he would select some such plant for the purpose. It might be suggested that the gape in chicken was attributable to a similar cause. As regarded treatment, all that he had confidence in was the use of turpentine internally, for he apprehended that its likelihood of doing good depended upon its being absorbed into the stomach, and excluded by the mucus membrane. Dry food might enable the sheep to maintain the struggle against the disease, and thereby increase the percentage of recoveries. The first great thing was to endeavour to detect, identify, and keep out the ova, and secondly having failed to do this, to destroy them. They could not expect much good to result from the inhalation of gas, for if the direct application of spirits failed to destroy, the inhalation of sulphuric acid gas for a few passing moments was little likely to prove effectual, especially when they remembered that the enemy with which they had to contend was buried and ensheathed in a thick mucus. Dr. Monckton concluded his remarks by speaking of the many impure atoms which were constantly floating in the atmosphere, and being inhaled into the system. He explained how the air could be effectually filtered by the means of cotton wool, and suggested, amid some merriment, that sheep might be fitted up with respirators made of such material.

Dr. OWENS remarked as to tapeworm being the result of persons eating measy pork, that at the time when it was his duty to open bodies, he remembered three cases where persons had been in the habit of eating raw pork, but in neither was there any trace of tapeworm observable; so that he did not think it necessarily followed. Dr. Monckton had also said that the ova of insects which had been deposited by them upon the herbage, may have been sniffed up through the nostrils of the sheep and have generated these worms into the lungs. He quite agreed with this, and he had been wondering whether the worm in grouse might not be accounted for in the same way; thus bearing out the idea that the flower of clover, &c., formed a deposit for the ova. He also thought with Dr. Monckton that it was absurd to give powerful drugs to the sheep in order to destroy the parasites in their lungs, when they were so exceedingly tenacious of life that direct application of powerful medicine through the throat failed to answer the desired end.

Mr. CHITTENDEN said that while admitting the theory that these parasites were either picked up in the food, or inhaled from the air, passed through various stages, and then returned to the ground to be again picked up by the lambs, he would venture to ask Dr. Joyce whether in young and healthy animals these worms could not, by the aid of a microscope, be discovered in an undeveloped form. His belief was that this cause of disease was inherent in the lamb. Mortality was very great among young children; and they also knew, from practical farming experience, that they suffered especial loss among their young sheep, the parasites of which he had been speaking forming a fruitful cause of disease. His idea, then, was that they existed in all lambs in an undeveloped form; and the next question would be what course of treatment they could best adopt. He thought that if they could succeed, by good management and proper care, in keeping the sheep in health, they would not be troubled much with this tapeworm. Certain seasons were particularly unfavourable to the sheep. At one time there was a large, and at another time only a scanty, crop of grass. This would lead to irregular feeding, and develop a disease which had not shown itself before. He believed that if they maintained their animals in good health, the existence of those destructive little creatures in the throat or lungs would not be sufficient to induce any mortality. Their own experience showed that there was nothing more suicidal than to put their lambs upon stale keep; and he was satisfied that no lambs should be placed upon a piece of grass or food of any kind that had been fed off the same year. He thought if that were followed out they would seldom find their lambs become emaciated. As they advanced into the chilly autumn months the food that had been nourishing during the summer time failed to continue so; and if they neglected to use corn and other nourishing food, their sheep must necessarily suffer. He thought one great cause of mortality among their lambs was that they were permitted to get out of condition towards the end of the year. An unflourishing, retrogressive state of health meant incipient disease. Therefore, when they found

an animal failing, they must, by the use of oilcake, &c., assist nature to combat with the disease which was coming upon it. Mr. Chittenden concluded by recommending the free use of oilcake, which he had found to be most advantageous among his own flocks.

Mr. HAYES remarked that the present year had been a most disastrous one for his lambs, which had suffered greatly from worm in the throat. He had lost no less than 25 per cent. of the whole number. He could not account for it at all. They were in good order when weaned, and had been fed more freely than usual, the extraordinary part of it being that those who had suffered most were apparently the best situated, having been fed upon land lately mown. They had been put out in small lots of from twenty to thirty, and every care taken of them, but the loss had been greater than they (his brother and himself) had known for thirty years.

Mr. STONHAM said the first question they had to consider was, how these ova obtained access to the system. Scientific investigation seemed to point to the fact that it was taken up from the herbage by the sheep, and passed through the nostril to the lungs. At certain seasons they had to contend with the rot in sheep. There was a slimy sort of snail attached to the herbage; the sheep were attracted to the spot, and so the system became undermined, and the sheep died. In the same way he believed these little parasites were passed through the nostrils and developed in the lungs. It was a painful thing that they should be found so tenacious of life, and he did not think that an effectual mode of treatment had yet been discovered. Dr. Monckton had given them a capital insight into the impurities of the atmosphere, showing how many minute particles they were constantly inhaling. Parasitical life, he believed, attached itself more readily to weak organisms, and this showed them how careful they ought to be not to allow their young stock, by inattention to diet, to get into a weak state. He knew the case of a farmer who had a lot of nice lambs which had been fed upon trefoil. He took them to market, but failed to sell them, and brought them back to the old pasture. The result was that nearly the whole of the lambs died. There was something abhorrent to those animals in being put upon stale keep, and he had no doubt that this carelessness as to their real wants led to much greater loss than they would otherwise sustain.

The CHAIRMAN said that to speak of remedies he was inclined to think that turpentine was the very best. He had the lungs of a sheep opened, which had been treated in this way, and every one of the worms was found turned back, completely dead. There was no doubt, however, that the germs would still remain and go on developing from time to time. He thought the best plan was to be careful as to general treatment and diet, and to give occasional doses of turpentine.

Dr. MONCKTON remarked that it might be interesting to them to know that a respirator similar to those of which he had spoken had been used with great advantage by the freemen of London who had been thus enabled to breathe freely in a fearfully dense and destructive atmosphere. In the course of some further remarks, Dr. Monckton suggested that a slight incision made into the windpipe of a sheep might induce the escape of the cause of irritation as it often did in the case of a human being where a nut-shell or something similar had been partially swallowed. He thought Mr. Chittenden's idea that the disease was an integral part of the lamb was an altogether fallacious one, but when he said that they might by careful treatment fortify the animal, and enable it to withstand the disease, he quite agreed with him.

Mr. PLOWLEY thought Dr. Monckton's plan of tracheotomy would answer no purpose, as the worms were not found in the larynx, but in the ramifications of the bronchial tubes. He also thought that care must be taken in the treatment of affected lambs, for it would be very injudicious to feed them high while they were in a weak and emaciated state.

Mr. TROUTBECK said he should like the lecturer to explain a circumstance which had come to his knowledge. A number of sheep which had been bred in mountainous districts, and which left them in a perfectly healthy state, their produce also being healthy, had died after being introduced to pastures in the breeding districts of the midland counties, although they had not been fed off for two years previously.

Dr. JOYCE then proceeded to reply to the observations which had been made. With regard to what Dr. Monckton had said with reference to the ova being taken up by the sheep through the nostril, he expressed himself as more in favour of the

supposition that the sheep in browsing consumed the excretion of other sheep, which he knew from examination did contain the ova. The danger of a stale bite was very great, for these parasites, as he had shown, were exceedingly tenacious of life, and would resist change of temperature for months and months. They were, however, migratory, and if by careful feeding the

disease could be put off for a time, no loss would probably be sustained. With regard to Mr. Troutbeck's question he could only surmise that the sheep had fed upon infected pasture on their way from one grazing district to another.

A vote of thanks to Dr. Joyce for his paper closed the proceedings.

CORK FARMERS' CLUB.

At a special meeting, Mr. D. J. Riordan, president, in the chair, Mr. JONES submitted the following report, which he had prepared at the request of the committee:

The committee, in presenting the report of the Cork Farmers' Club for 1873, congratulate the members on its unimpaired stability, and the esteem in which it is held by the general public, which is attributable, may be truly said, to never having deviated from the principles laid down at its formation, and to which, for special reasons, they will as briefly as possible allude: In the latter part of the year 1865 the Club was established, and being somewhat of a novelty in Ireland, persons before joining it asked what is the meaning of a farmers' club? What are its objects? These questions were best answered by pointing out the objects sought to be obtained by the leading farmers' clubs of England, when they were no novelty, and whose example it may often be our special interests to follow. In the early part of the year 1866, in order to give this information clearly, the Club reprinted in pamphlet form the inaugural address delivered by the Rev. Frebendary Breton on the opening of the Barnstaple Farmers' Club in Devonshire, in which he ably points out many of the advantages to be derived from the establishment of farmers' clubs, and the subjects properly appertaining to them. He says; "I have only to name a few of these questions to make the advantages obvious.—The condition of the labourer, the mutual obligations of landlord and tenant, the desirableness for larger or smaller occupancies, and the adjustment of local and general taxation, the improvement of local communication, the relative profits of grass or tillage, the most profitable breeds of animals, the true principles of mutual insurance applied to agricultural property, and the best sanitary precautions apart from insurance." He then goes on to say, "Even this slight enumeration of the questions which are occupying general attention in the public press and before the Legislature, but which are almost legitimate subjects for discussion in a farmers' club, must, I think, convince anyone that as they will not be satisfactorily solved without a thorough mutual understanding and co-operation between the owners and occupiers of the land, so will they best elicit their understanding and co-operation when landlords and tenants meet in the same society, in the same rooms, and converse freely together. It is my sincere hope that the Farmers' Club will long be the means of bringing together for consultation and co-operation on the great practical matters of rural-life men of all classes, views, and parties." Your committee in thus alluding to those topics suited for English farmers' clubs, and which have been adopted from the outset as the basis for the Cork Club, cannot complain too strongly of the sneer, constantly made by those who do not wish well to such institutions in this country, that the Cork Club was merely a political one, when in no single instance has it ever gone outside any of these questions. It is true the Cork Club has on all occasions taken an active part both in county and city elections, in the latter for the simple reason that the city franchise extends into the country for a radius of several miles. If it be political for farmers to take an active part in the selection of their representatives in Parliament who will honestly endeavour, by a fair attendance in the House of Commons, to rectify present abuses, and attain the foregoing object, but above all things the further amendment of the Land Bill, which means fixity of tenure at fair rents, and a change in the local and general taxation (of the latter a thorough revision of the grand jury laws), your committee trust that so far the farmers' clubs of Ireland will continue to be political as long as they have existence. It is deplorable to think that what is an Englishman's proudest boast—his nationality, and the freedom to make his own laws—should be considered in an Irishman little short of outrage and crime. Your committee wish to point out some of the subjects the Club aimed at attaining, in order to show it has never exceeded its duty: In 1866, a meeting and reso-

lutions on the best mode of meeting the cattle-plague; resolutions recommending the extension of root crops, and the consumption of grain grown on the farm; resolutions for the alteration of the grand jury laws; resolutions condemning Mr. Fortescue's land bill; rules for the guidance of a cattle insurance; a lecture on the growth of flax, and resolutions recommending its culture; the first great show of roots, cereals, butter, flax, and poultry; the first annual dinner, a most complete success, at which members of Parliament and several leading citizens were guests; the deputation to Dublin to present Mr. Bright with an address for his advocacy of Irish affairs. In 1867, a scheme for gradually creating a farmer proprietary in Ireland; the first meeting with regard to Parliamentary representation, at which Mr. McCarthy Downing was selected in preference to Messrs. Smith-Barry and Scully; a joint committee of the farmers' clubs and members of the agricultural society at a conference with the committee of merchants on the butter question, at which important changes were suggested and adopted, and a thorough good understanding established; a petition on the grand jury laws with 6,000 signatures—the growth and extension of green crops; a public trial of mowing machines, at which a medal was awarded. 1868: The opposition to presentments for malicious burning, effecting a saving of £1,221 to the ratepayers; the first ploughing match, the largest that ever took place in Ireland—forty-nine ploughs entered; the analysis of manures—one sample sold at £14 per ton being found worth only £1 18s.; the recommendation on the reform of the land and grand jury laws; the essay by Mr. Riordan on the extension and cultivation of green crops; the reclamation of waste lands; the show of roots, which was an improvement on the first, and the dinner was equally successful; the report on the Poor-law amendments. The records of the Club show works of a similar character, but it would be tedious, and waste of time and space, to specify any more than for the past year: For the report on the land bill by Mr. Ronayne, M.P., and his ever watchfulness in the farmers' interest, the Club are deeply grateful; the conference of clubs held at Cork in January last on the land act, its bearings, novel lenses and remedies suggested. The following were the clubs represented: Cork, Mallow, Macroom, Limerick and Clare, Kerry, Kildare, and Queen's County. A most successful ploughing match on a field, most favourable, given by Mr. James Hegarty, Whitechurch; the great Tenant-Right meeting held in the Rotunda, Dublin—Mr. Dorgan (president), Mr. Riordan (vice-president), Mr. E. Farrell, and Mr. J. Jones, hon. secretary, representing Cork. The meeting was one of the most important ever held on the land bill, every farmers' club and tenant association in Ireland being represented. Resolutions were unanimously passed condemning the bill; the *Daily News* remarking: "Such is the verdict on one of the Premier's messages of peace by the very persons whom it was specially designed to conciliate; and the temperateness of the language employed only gives more weight to a sentence pronounced with so much clearness and precision." The conference held in Belfast on the 20th and 21st January last, attended by Mr. Riordan, vice-president, and Mr. Farrell, was equally, if not more important, as the fusion of the interests of northern and southern farmers was more like completeness than on any former occasion. Besides the immediate result of this conference was the election of several Tenant-Right and Home-Rule members of Parliament for boroughs and counties which otherwise would have been sealed against them. The root show, from unavoidable circumstances, did not take place this year. A conference of farmers' clubs of the county of Cork was held on the 5th of December, for the purpose of determining what steps should be taken with a view to electing a tenant-farmer for the next vacancy for the county, and the following resolution was unanimously adopted: "That we form a committee of chair-

man, vice-chairman, and hon. secretary of the different farmers' clubs of the county, to name a day upon which a meeting shall be held, to which delegates, clerical and lay, shall be invited from every parish in the county, for the purpose of naming a proper candidate." An unexpected dissolution of Parliament took place in January following. The county meeting was hastily called, was held in the Chamber of Commerce on the 3rd of February, and resulted in the unanimous adoption of Mr. McCarthy Downing and Mr. William Shaw (who resigned his seat for Bandon), and who were returned without opposition. The committee suggest, as some portion of work for the ensuing year, that a mowing trial be held in June. The annual show of roots, cereals, butter, &c., and the competition for the medals given by the hon. secretary for the field culture of mangels and turnips be held in November: two prizes, first and second, for labourers' dwellings; the analysis of manures, at the scale previously agreed upon by the Club. Resolutions on these matters will be proposed at the meeting this day. It will be seen from the foregoing report that it is not even the intention to depart from the original principles, while also there are many topics which have not as yet been touched. The committee hope that in time, as prejudices against farmers' clubs fade away, they will become, as in England, institutions of the country, their object being the advancement of agriculture, thereby promoting the best interests of society.

D. J. RIORDAN, Chairman.
J. JONES, Hon. Sec.

March 12, 1874.

The PRESIDENT thought the report ought to embody the fact that through the action of a deputation from the Club, which waited on the agent of a landlord who was going to evict one of his tenants for allowing his rent to run in arrear, although he had laid out an immense sum of money on the farm, an offer proposed by the deputation had been accepted, and the tenant was left in possession of his farm, instead of being thrown an outcast upon the world.

Mr. JONES: That does not appear upon your records.

PRESIDENT: But it occurred. I was one of the deputation; and I think it ought to be inserted in the report, if possible.

Mr. JONES: I had no document to show me anything about it.

Mr. FARRELL moved the adoption of the report. He said the farmers of the county knew their own interest they would become members of the farmers' clubs in larger numbers than they had done.

Mr. DORGAN had much pleasure in seconding the adoption of the report. If there were nothing else to show the usefulness of the Club, the opportunities it afforded of bringing the best agricultural implements to the farmers' doors, and enabling them to judge of them in operation, ought to suffice. Another proof of their utility was found in the exhibitions of their skill in the production of roots, and the beneficial competition those led to. He should add that instead of their being a drawback upon the comfort of the labourers, the farmers were most anxious to promote habits of cleanliness and domestic comfort amongst them by offering prizes for their encouragement; and, if circumstances permitted, they would do still more.

Alderman KELLER observed that fixity of tenure was the only hope for the country. To that the country looked forward with one mind.

Mr. MAULIFFE: I think we will be a long time waiting for it.

The adoption of the report was then put from the chair, and agreed to.

The Secretary read a series of resolutions adopted by the committee:

Proposed by Mr. E. J. Farrell, seconded by Mr. J. Bagcott: That a mowing match be held at the most fitting time in June, open to all, and the several makers be invited to compete, and that a medal be awarded, and that a special medal be awarded to a one-horse mower, if deemed of sufficient merit.—Confirmed.

Proposed by Mr. J. J. Bateman, seconded by Mr. J. Dorgan: That the annual show of roots, cereals, butter, &c., and the competition for the medals given by the honorary secretary, for the field culture of swede turnips and mangels, be held in the autumn, the competitors for field culture to state at time of entry the mode of culture and manures used.—Confirmed.

Proposed by Mr. T. Dorgan, seconded by Mr. James Hegarty: That two prizes, first and second, be offered for labourers' cottages, thatched or slated, open to all, and that the members of the Club be earnestly requested to urge competition: gentlemen's lodges and tradesmen's cottages excluded.

Mr. JONES referred to the annual report for 1866 to show that from its earliest days the Club had moved in this matter; but unfortunately there were on that occasion two competitors for the prizes, 25 miles apart, and neither of them of sufficient merit.

The PRESIDENT said the club had been accused, some time ago, of indifference to the interests of the labourers, by parties who wanted to make a handle of it at the time; but their records proved that from the very start they had been advocating the cause of the labourer as well as that of the farmer.

Mr. FARRELL denied that the farmers neglected the interests of the labourers, and urged that they could do nothing while they themselves were in a position of insecurity. In many leases there was a clause which prohibited the tenant from building one labourer's cottage, although he might knock down as many as he could.

Mr. DORGAN: I have it so.

Mr. FARRELL: And yet we are accused of neglecting the labourer. There is no more patient drudge in this world than the Irish labourer; and only that he is so I don't know what the Irish landlord or tenant-farmer would do with his hand. He toils from morning till night for a very small amount of wages—it is not enough, indeed, to give him decent food. Most of the farmers are in the same position themselves, and I know instances in which the farmer finds it very hard to make up his rates. I hope and trust there will be found sufficient spirit amongst our members to demand an inquiry into the condition of the Irish labourer during the coming session. I think it would be well if we asked Mr. Ronayne, Mr. Shaw, or Mr. Downing to call for such an inquiry, and let the Conservatives see how the landlords are treating the labourers.

Alderman KELLER said it was plain that if the labourer were to get suitable cottages and a bit of land they must come from the owners of property.

The resolution was adopted.

Proposed by Mr. J. M'Auliffe, seconded by Mr. Denis M'Donnell—That the secretary be authorised to wait on the vendors of manures and request them to submit samples of same for analysis, the samples to be taken by him from the bulk, vendors to pay the cost of analysis at the scale agreed on by the club.—Confirmed.

RABBITS, FOXES, AND FARMERS.

At a meeting of the Hambleton Hunt, the new master, Mr. Walter Long, who has just succeeded his father, said he hadn't the slightest doubt that nine-tenths of the foxes were killed by the keepers who were allowed rabbits as perquisites. Many letters were read bearing on this subject, and others appealing for consideration for tenants whose poultry is destroyed. Mr. Stratton moved a resolution: "That in the opinion of this meeting the preservation of rabbits causes the destruction of foxes."—Mr. Paddon, in seconding the motion said he took it there were 80 foxhunters in the Hambleton Hunt, besides others who took a part in the sport, and each of these

had on an average two horses. All this was a benefit—from the very tailor up to the hay dealer, corn merchant, and others. They must not for one moment think that foxhunting should be discontinued. Their worthy chairman hit the right nail on the head when he said that the keepers destroyed the foxes. He did not believe half the gentlemen were aware of what their keepers were about. He noticed the other day that one left a certain place, and he had in his possession nearly £2,000, which he had made out of what? ("Rabbits"). Not out of his wages, which did not average, perhaps, more than £1 per week, and he could not have realised anything like that sum

from that source alone. The fact was the keeper had leave to kill the rabbits; he employed the poacher, and they ferreted out the rabbits for the keeper. And when they compared the price of rabbits they would find whereas some time ago they were 4d. each they were now 1s. 4d. It was but the other day a gentleman told him he made £300 per year by his rabbits.—Mr. C. B. Smith remarked that there was no question that the preservation of rabbits was a great evil, and it led to more bickering and ill feeling than anything else. There might be a desire to get rid of rabbits altogether, but he did not think that was likely to happen in their time.—The motion was amended as follows: "That in the opinion of this meeting the preservation of rabbits is the chief cause of the destruction of foxes."—This was put to the meeting, and carried unanimously.—Mr. Knight, of Middlington Farm, Soberton, said in a farm he occupied he estimated he lost £100 a year by rabbits, which was under the mark, and he had suffered quite to the extent of £2,600. He had seen as many as 200 rabbits feeding in a small field. He had complained, but it was no use, for the keepers had the rabbits, and the poacher was employed by them to kill them. They were trapped, and the fox came along and took some out. They then knew the result. The fox was killed, and if he (Mr. Knight) wanted a rabbit he was obliged to buy one. This was the way foxes were destroyed.—Mr. C. Purrott suggested they should take the map of the Hambleton country, divide it into districts, and have a committee of three to assist the master during the year. They could have three gentlemen in each district, one of whom should be a landowner, and the third a tenant-farmer. These gentlemen would make themselves acquainted with the various matters, and would always be aware, to a certain extent, of the number of foxes in their district. A great deal had been said about the keeper, and if they took away his perquisites how did they suppose they could obtain his assistance without they did something for him? He would suggest that they should give him 7s. 6d. for each "find" until November, and after that time 10s. The committee would receive claims for damage done to poultry, and would recompense parties at once.—Mr. Wyatt could tell them that since rabbits had got from 6d. to 16d. there were more of them and less foxes, and the other day he saw a rabbit lying dead in a cove—for what purpose he could not say. It might have contained arsenic and this would have been taken up by a fox as well as a hound.

He should like to see more power given to the tenants, who would act as keepers. He was perfectly satisfied that if a large landowner would make every one of his tenants keepers—that was by giving them power over the ground game—they would take care that no labourer was turned into a poacher, and they would have more foxes, less rabbits, and plenty of hares.—Mr. C. B. Smith thought the keeper should not be allowed to have the rabbits as perquisites, as it would get rid of trapping and the evils of which Mr. Stratton had complained, and it would do more than anything else to lessen the quantity of rabbits.—Mr. Purrott then proposed that the Hambleton country should be divided into districts, that a member of the hunt and a farmer living in the neighbourhood of such district be requested to act as a sub-committee, who should from time to time investigate any complaints made with regard to damage to poultry, that they should make themselves acquainted with what was passing in their neighbourhood which was detrimental or otherwise to foxhunting, and report to the general committee.—Mr. King Wyndham might state that the damage fund amounted to about £120 or £130 per year, which, however, had nothing to do with the master's fund. The members of the hunt gave £3 or £4 each, and if that could be increased it would be very beneficial. He quite agreed with Mr. Purrott—that the country should be divided into districts.—Mr. King Wyndham said he could not understand why it was the Corhampton covers were drawn blank, and whether it was the fault of his keepers or not he did not know. At all events he had told them that he would have foxes, and a litter or two as well, and if there was not he should turn them off. He could not, however, believe that they injured or killed the foxes, but they had been found dead on his property, and also that of Mr. Long. They had found no less than sixteen that had been killed. Two or three had been brought to him by his own keepers. One of them—a fine old dog fox—had eight shots in him, and he had no doubt come from some distance and died there. If any gentleman could tell him that either of his keepers killed a fox he would not have him one minute longer. At all events he had told them "Foxes I will have, and also a litter or two," and if that was not so they would know what they would receive.—The resolution of Mr. Purrott was then put, and carried unanimously.

THE ROYAL DUBLIN SOCIETY'S SPRING CATTLE SHOW.

The forty-fourth Spring Show of the Royal Dublin Society opened on April 21st, in their premises in Kildare-street, where from a general point of view the show of Shorthorns was a fair one; but it cannot be denied that amongst the very large number of yearling bulls exhibited, there were many that would have been better absent, were it not that this annual show is also the great mart for the sale of yearling bulls; and as all farmers in Ireland are now most anxious to introduce pure pedigree blood amongst their dairy stock for improvement, it is a matter of £ s. d. to procure this at a moderate price, as they are not able to give fancy prices for fancy bulls well made up. Thus the seller of bulls in the rough and the farmer of moderate means are substantially served by the exhibition. As compared with former shows the Shorthorns are in excess of all hitherto brought forward, as will appear from the following table:

	BULLS.			HEIFERS AND COWS.				Total.
	Yearlings.	2 years old.	Aged	Yearlings.	2 years old.	3 years old.	Cows.	
1871	135	45	24	18	6	1	8	237
1872	136	36	27	13	4	0	5	221
1873	148	37	20	20	1	2	6	234
1874	154	27	29	15	10	3	15	253

The judges commenced their duties early, at about 8 o'clock, by selecting such animals from the 154 yearling bulls exhibited as they deemed most qualified to compete for the four prizes, and it took them till after 10 o'clock to come to a final decision, although in the process of weeding out they sent back several finer animals than some kept in the ring, certain of which were sold soon after at, as we learned, almost fabulous prices. From these yearlings the judges selected Major Barton's Conqueror by Iron Duke (31420), out of Mysie b Cumberland the First; he has a capital back, ribs well sprung, and good crops, being very substantial and symmetrical throughout. Mr. Henry Lyons, of Croom House, was put second, for Lord Robert by Lord Francis (26650), out of Diaua by Saturn, a very stylish, strong bull, with a good back, well-formed ribs, and beautiful chest; his twist excellent, and well coated with fine hair. Mr. Chaloner took the third honour with Sir Andrew by Frederick Fitz-Booth (26195), out of Alice by King Richard; a grand topped bull, with good ribs and flank, backed by a capital coat of fine mossy hair, and an excellent touch. He was placed No. 24 instead of 23, which caused some confusion, but after the award he was placed by his proper number. The fourth prize was given to Mr. David Gibson, Ballybrit House, for Autoerat by Czarowitz (30837), out of Dewdrop by Count de Gray, an altogether taking animal, with capital ribs, crops, good depth of carcass, and a very level back. The high commendations went to Major Barton's Indian

Chief, half-brother to his first-prize bull, who was further distinguished as the reserved number; while the others were Earl Fitzwilliam's Count Malton; Mr. Robert Cosby's Phosphorus, out of Rhoda by Sol, a most promising animal; and Mr. Meadows' highly-bred Master Frank. Mr. Cope's Baron Roby the Third, bred by the Duke of Devonshire, Holker Hall, by Baron Oxford the Fourth, out of Oxford Rose the Second, was expected to do great things, but he did not tell in the eyes of the judges, albeit he deserved a higher grade, for he is a sweet, symmetrical young bull. There were some other high commendations: Mr. Humphry Smith's Longfellow by Lord Claud, out of Auricula by Sheet Anchor the Second; Mr. Thomas M'Craith's Blyn Gwynne by Gwynne Fitz Booth, out of Leda the Fourth; Mr. Francis Morice's Mayboy by Victor, out of Mayfly; Mr. Patrick Sinnott's Knight of the Garter by Valentine, out of a dam by Agamemnon; and Mr. James Hamilton's British Oak by Royal Oak, out of Violet by Heart of Midlothian. The commendations went to Mr. Francis Lowe's Jonathau by Wide-awake, out of Rosalia by Little Wonder; Mr. George Beresford's Knight of the North by Knight of the Thistle, out of Miss Battersea the Second by Crown Prince; Mr. N. M. Archdall's Chancellor by Abercorn, out of Titania by Napoleon, and another for Drummer also by Abercorn, out of Moss by Ancient Briton; and Mr. G. Nugent's Bonny Boy by the Baron, out of Bonnie Lass. Unquestionably this very numerous entry of yearling Shorthorn bulls contained many more which were deserving notice, among which may be classed Mr. Wm. Scott's (of Coolnagour) Young Roseberry; Colonel Carden's Prince Patrick; Mr. Downing's Brigadier General; Christy Brothers' Sir Francis, Young Lieter, and Viscount; Mr. Maxwell Gumbleton's Cherry Brandy; and Mr. Wm. Meade's Red Prince.

In the two-year-old Shorthorn bull section there were twenty-seven entries, from which Mr. Meadows' white bull, Ben Brace (30524), was put first. He has greatly improved since this time last year, when he took the second honour, while at the Hull Royal he was fourth, and at the Northumberland Society's show at Berwick, in July last, he took the first place. He is by Bravo (25665), out of Braelet the Second by Vanguard. He holds his fine coat of soft, silky hair; he has a straight, level back, and is very well all over, excepting that behind the crops he is a trifle hollow; both ends are good; ribs well sprung, and he stands square. Major Myles O'Reilly, M.P., was put second for Prince Royal (32202), by Royal Prince (27384), out of Lady Sara; a fine upstanding bull, with a good breadth of back, but rather hollow; both ends and middle piece are good, and altogether he is a bull of much promise. The third, or reserved, bull is Mr. Thomas Jackson, jun.'s, Peter Simple, from the Bally-highland herd, and a commended bull of last year. The Dey of Algiers (25892), is credited as his sire, and the dam Simplicity by Equinox; he is much improved, and placed a step higher on the ladder of fame. Mr. N. M. Archdall takes the second high commendation for Banagher by Abercorn (25484), out of Jenny Lind the Fourth, and the commends went to Rev. Mr. Moutray, for Count Addressy, out of Columbine by Count Robert; he is a strong upstanding bull, and sold, soon after adjudication, to the Duke of Leinster at a high figure. Mr. Matthew Kirwan, Yellowstown, Ardee, was also commended for Sir John, by Mr. Chaloner's fine bull Frederick FitzBooth, out of a cow by Mr. Chaloner's Golden Spur. There were several highly-bred bulls in this section unnoticed, amongst which were those of Messrs. J. A. Farrell, W. H. Massy, G. Low, Lord de Vescie, Mr. Moffatt, Earl of Courtown, Messrs. W. S. Garnett, J. A. M. Cope, Robert Dowse, Wm. Bolton, W. A. Barnes, Capt.

Butler, and a nice English bull, bred by Mr. F. Lythall, of Leamington.

The three-year-old bulls numbered 29, out of which Major Myles O'Reilly's grand bull King Richard the Second (31514) was selected for the first place in his class, and also as the Champion or winner of the Chaloner plate, as the best of all the bulls over two and under six years old. He comes from the highly-bred herd of the late Colonel Leslie, of Glasslough, and is by Booth's King Richard, out of Rosalea by British Flag. King Richard's fortunes have been varied. At Dublin, in the spring of 1872, he stood second, where he was thought to be one of the best, if not the very best in the yard, and third at the Belfast Royal in the same year; in 1873, at the Royal Dublin, he only got a high commendation, where Mr. Hinson's St. Ruth took first place and the Chaloner plate, both of which St. Ruth now yields up to King Richard the Second. The second place was assigned to Mr. John A. M. Cope, Loughgall, for Marmaduke by Hopeful, by Best Hopes (23414), out of Cherry the Fourth by Priam; while St. Ruth got the reserve place. The other high commendations were Mr. Cooke's Lord of the Manor, from the Welsted herd; Mr. O'Leary's (Ardfert) Royal John, bred by Mr. Crosby, Ardert Abbey; Mr. Thomas H. Stevens's Rasselas, from the Rev. M. Moutray's herd; Colonel H. R. Carden, Fishmoine, for Prince Patrick, from the Tynte Park herd; and Mr. James Ganly, for Cardinal Wolsey by Leviathan, out of Limerick Lass. This good bull is never housed except at night in the winter, and is constantly out with the cows, while he exhibits great substance, strength, and stamina. There was a good bull shown in this section by Mr. H. Lyons, Croom-house—Lord Francis (26650)—from Mr. Meadow's famous herd by First Fiddle, out of Fanny the Seventh by Saturn, but he was unnoticed. A very fine bull, Breakpear, the property of Wm. Stawell Garnett, bred by Mr. M. H. Cochrane, Hillhurst, Compton, Canada, was shown in this class, but was unnoticed. He is by Royal Commander (29857), out of Queen of Beauty by Knight Errant (18154); but this was not treating the American quite fair, for he deserved some notification.

The yearling heifers numbered fifteen. The prizes were: first to Mr. Maxwell Gumbleton, who is fast getting into good stock, for Princess of Wales by Red Cross (32247), out of Truelove by Ducrow. She is a sweet, stylish heifer, with a fine back, splendid bosom, well-coated, and of great promise. The second went to Mr. Michael Callan, Castlebellingham, for Sovereign's Butterfly by Mr. Chaloner's famous Sovereign (27538), out of White Butterfly by Royal Sovereign (25044). She is a most taking animal, having a profusion of fine mossy hair, a fine and level back, splendid bosom, and finely sprung ribs. The third, or first high commendation, was to Mr. Wm. Scott, Coolnagour, for Style by Patriot (32053), her dam by Crown of Lothian. A finely-topped heifer, with nice hair, capital ribs and ends, she stood a very lengthened contest with the second-prize heifer, Sovereign's Butterfly, but eventually had to give way. The other high commendations went to Mr. Gumbleton's Czarevna by Red Cross, out of Seraphina, also by Ducrow, being half-sister to the first-prize heifer, and of equal descent from the grandsire, and to the representatives of the late S. A. Richards, Ardamine, Gorey, for a very symmetrical heifer in all her points, Apricot by Peacock, by Manrico (26805), out of Roan Lass by Main Royal. The commendations were to Mr. David Gibson for Countess of Lothian, Mr. J. Ffolliott for Waterloo the Twenty-Sixth, and Mr. R. F. Dunlop for Miss Gwynne the Third.

Of two-year-old heifers there were ten, and so good that the greater part were highly commended. Mr. Downing, Ashfield, Fermoy, who has been a very suc-

cessful breeder for some years, took the lead with Verbena Royal—a sweet creature, of beautiful symmetry throughout, carrying a load of good hair; she was so very fat that a rib could be scarcely felt, but her owner reports that she could not be kept down without injury to her constitution; and the judges could not pass her over. She is by Royal Duke (25014), out of Vestal Queen by Hero of Thorndale (18061), claiming kindred in her descent to Western Wonder and Australian. The representatives of Mr. S. A. Richards, Ardamine, Gorcy, came in second for Rosetti, bred by the late Izon Bryan by Charlemagne (28126), out of Fanny the Twenty-fifth, by Agamemnon (23278), descending from the long line of Fannys which have shed such lustre on Mr. Meadows' (Thornville) famous herd of Shorthorns. The high commendations were Mr. Bolton's Pansy Gwynne, out of Polly Gwynne by King Richard. She is of fine symmetry, and has a rich coat of mossy hair, and so good that the outside judges thought she should have stood higher, but there was no getting over the leading lassies. Then followed Mr. Dunlop's Daisy the Tenth, and his Snowdrop the Second, and the Earl Fitzwilliam's Dandy. A commendation was given Lord Clermont's Lady Emily, bred by Earl Dartrey. However, Lord Clermont's Marchioness by Hercules, out of Myrtle, and Major O'Reilly's Queen Catherine by his prize bull, King Richard the Second, out of Kathleen, are well worth notice.

The section for three-year-old heifers numbered but three. Mr. Dunlop, of Monesterboice House, took both first and second prizes for Jane the Third by Gallant Knight, out of Jane the Second, and Daisy the Ninth by the same bull, out of Daisy the Fifth, respectively.

The section for cows comprised fifteen entries. Mr. Wm. Johnson, of Prumplestown House, Carlow, took first place for his grand wealthy cow May Rose by Prince of Rocklands, a highly-commended bull of 1872, by Lord of Rocklands (22183) out of Amy. She is a remarkably fine cow, and descends from the herds of the late Mr. Anderson, of Grace Dieu, and the late Mr. Jeffrey Barcroft, both of whom spared no expense in procuring the best blood extant. Mr. Dunlop, who exhibited a number of cows in this section not in the best plight, was put second for Snowdrop, which was second also in 1872; she is out of Beauty by Mountbank (24626). Mr. Richard Manders, Brackenstown, Swords, got a high commendation for a nameless cow bred by Mr. Thomas Conolly, M.P.: she is a clever well put together cow, but her pedigree is not clearly set forth. Mr. James Smith's Miss Matilda, the second prize cow at this show last year, and hitherto varying from second to first, though still a fine cow, but growing a little patchy, is unnoticed; as is also Thomas Winder's last year's highly-commended cow, Primrose.

On the whole the show of the younger stock, yearling and two-year-old Shorthorn bulls and heifers, was fully equal to any hitherto held, but with little exception the aged stock was not up to the mark, and we suspect the most of these bulls will find their way to the butchers. Many of our best breeders have retired from those shows, finding it more profitable to sell their young stock at home, by either auction or private sale, thus avoiding the trouble and risk of feeding them up to show condition, so that the grand object to be effected at the spring show of the Royal Dublin Society is the sale of yearling bulls, for which the time of year is admirably adapted.

As usual at this show, in the exhibition of horned stock other than Shorthorns there were but few entries: in all, five Hereford bulls, one of them indeed a magnificent beast, but there were no cows, and one heifer only of that breed, imported by Mr. John A. Farrell, Moynalty. The premiums were taken by Messrs. Johnson, Purdon, and Farrell. There were three polled Angus bulls, and two cows or heifers,

where Messrs. Farrell and Owen were first and first; eight Kerry bulls and fourteen Kerry cows and heifer, of which Messrs. Butler, Purdon, and Robertson had the best; one Ayrshire bull, and fifteen Alderney bulls, cows, and heifers; so that if it were not for the name of the thing, it would be more economical to exclude the miscellaneous breeds altogether.

The show of pigs was limited to thirty-two pens, but these were as a rule of the best breeding; Messrs. Molloy and Manders being distinguished for Berkshires, and Messrs. Molloy (again), Boyle, Napier, Butler, and Lord Cloumel for whites. Amends were, however, made good in the show of poultry, which occupied 238 pens of the most improved varieties, and all in splendid condition and plumage, so that for poultry and plenty of them the Royal Dublin Society Shows stand in the first rank, alike as regards breeding and quality.

JUDGES.

The following acted as judges in the several departments: **SHORTHORNS.**—W. Linton, Sherriff Hutton, York; A. Mitchell, The Walk House, Alloa, N.B.; J. Stratton, Alton Priors, Marlborough, Wilts.

OTHER BREEDS.—H. Haywood, Blakemore, Hereford; J. Keating, Cabra, Moynalty; S. Gilliland, Brook Hall, Derry.

KERRIES.—L. Christy, Carrigeen, Croome; G. Hewson, Ennismore, Listowel; Major Hartley, Clonsilla.

FAT STOCK.—W. Reilly, Kilbarry, Navan; A. Darker, Clonsilla; J. Simson, Cloona Castle, Hollynount.

PIGS.—Major H. L. McClinton, Hillsborough, Co. Down; G. N. Purdon, Lisnabin, Killucan; A. Warburton, Kill, Straffan.

The show of implements and machinery was the best ever held by the Society, alike for numbers and construction; there being no antiquated rubbish to be found, but all in improved form, and so numerous as to cover every available space. Of English manufacturers and dealers there were J. and F. Howard, Bedford; Fairbanks and Co., King William-street, London; Harrison, McGregor, and Co., Leigh, Lancashire; Ashby, Jeffery, and Luke, Stamford; Bradford, Manchester; Rollins, London Bridge; Thomas and Taylor, Salford, Manchester; Osborne, Fox-street, Liverpool; Penny and Co., Lincoln; P. Eastwood, Blackburn; W. S. Boulton and Co., Norwich; Taylor and Wilson, Acerington; Le Butt, Bury St. Edmunds; Clarke, Ipswich; Sharman and Ladbury, Meltou Mowbray; Hathaway, Chippenham; F. and C. Handcock, Dudley; Williams, Rhuddlan, near Rhyl; Busse and Co., Finsbury, London; Nicholson and Sons, Newark; W. A. Wood, 36, Worship-street, London; Samuelson and Co., Banbury; Ransomes, Sims, and Head, Ipswich; Hornsby and Sons, Grantham; Bristol Waggon Works Company Bristol; Page and Co., Bedford; Boby, Bury St. Edmunds; the Reading Iron Works Co., Reading; Haughton and Thompson, Carlisle; Pecksley, Sims, and Company, Leigh, Lancashire; P. and H. P. Gibbons, Wantage, Berkshire; Riches and Watts, Norwich; Beach and Co., Dudley; Davies, Regent-street, London; Davis and Co., Newington Butts, London; Dutfield, Regent's-park, London; Jones, Gloucester; Brown and Co., Blackfriars, London; Bailey Brothers, Chancery-lane, London; McDougall Brothers, Manchester; Isbel C. Bates, Stoke-Newington, London; Fred. Vanstan, Bridport-street, London; John Beesley, Regent's-park, London; Benjamin C. Tipper, Birmingham; Samuel Edwards, Salford, Manchester; W. H. Hilton, Altrincham; E. Archer, Essex-road, London; Maurice de Leon and Co., W. Waide, Leeds; Isaac Dixon, Liverpool. Scotch: Alex. Jack and Sons, Maybole; J. and T. Young, Ayr; Thomas Hunter, Maybole. Irish: W. and J. Ritchie, Ardee; A. Fawcett, Killucan; William

Kerr, Henry-street, Dublin; F. Healy, Hammond-lane, Dublin; Smith and Willstood, Capel-street, Dublin; Paul and Vincent, Dublin; Kennan and Sons, Fishamble-street, Dublin; Thompson Bros., Wexford; Walter Carson and Sons, Bachelor's-walk, Dublin; Dromore Heating Company, Ormond-quay, Dublin; J. Edmondson and Co., Capel-street, Dublin; O'Neil, Telford, and Co., Athy; The Dublin and Wicklow Manure Company, Ballybrough-bridge, Dublin and Wicklow; Fred. Barrett, Stephen's-green, Dublin; Booth Brothers, Upper Stephen-street, Dublin; John Jacques, Capel-street, Dublin and Soho Bazaar, Oxford-street, London; Stephens and Wilson, Stephen's-green, Dublin; The Drogheda Manure Co., Drogheda; Richardson Bros., and Co., Belfast, Cork, and Dublin; The Singer Sewing Machine Co., Grafton-street, Dublin; A. L. Eckford, Sandymount, Dublin; McMasters, Hodgson and Co., Capel-street,

Dublin; Edmond Barnes, Charlemont Mall, Dublin; Mrs. Callan, South Frederick-street, Dublin; Denis O'Brien, Denmark-street, Dublin; S. D. Watkins, Dame-street, Dublin; Fanelly and Son, Hawkins-street, Dublin; R. L. Hughes, Dawson-street, Dublin; National Manure Co., Burgh-quay, Dublin; Walter Fleming, Dawson-street, Dublin; R. E. O'Grady, Dawson-street, Dublin; M'Mahony and Brothers, Camden-quay and Blarney, Cork; Patrick Carroll, Stephen's-green, Dublin; Henry Sheridan, Bridgefoot-street, Dublin; Hugh Atkins, Belfast; John Loughnan, Athy; Martin, Hill, and Co., Usher's-quay, Dublin; H. E. Brown and Co., Redmond's-hill, Dublin; Bates and Sons, Gorey; Messrs. McDonald and Lenaham, Ringsend, Dublin; W. and T. McKinlay, Strabane; James Rutherford, Eden-quay, Dublin; T. Dockrell, Sons, and Co., South Great George-street, Dublin.

SHORTHORN SALES.

SALE OF LORD EXETER'S SHORTHORNS.

On Tuesday, April 7, Mr. Strafford drew a large company of Shorthorn fanciers and breeders together at the Dairy Farm, Burghley Park, for the purpose of disposing of the drafts from the herd of Shorthorns which has been kept up by the present Marquis of Exeter and his predecessors since the commencement of the present century. Its main object is to supply the house with milk and the tenants with bulls. In olden times the large deep Yorkshire-looking cows were the admiration of all who visited that noble park and mansion. Much depends in establishments of this kind on the skill and taste of the bailiffs. About five-and-twenty years ago the stock seemed to fall off, but under the late Mr. Higgs and Mr. Sharpe's management new blood was brought into the herd, and after Lord Ducie's Francisco (12893) was used, Mr. Harvey Combe's Briar (15376) came down to Burghley, as well as one or two cows from Cobham Park. These Bates lines were finally topped with the Fourth Duke of Thorndale (17750) from Mr. Hales, a bull of extraordinary length and thoroughbred appearance, that had been imported from America, and was of the pure Duchess blood. He left his mark on the herd by additional style and length, but the great depth and massiveness of the old cows were sacrificed. The larger part of the herd was sold at the late Marquis' death, including Fourth Duke of Thorndale, who went to Colonel Gunter for over 400 gs. Mr. Walton, from Cumberland, soon afterwards took charge of the herd. Some of the old Gwynne and Charmer blood were bought in, and a comparatively new era started. Nestor, of the Gwynne tribe by Mentor, who combined Fourth Duke of Thorndale and the old Burghley strain, was put to Louisa 9th, and begot Telemachus, who has been well paraded up and down the country, bringing to the coffers about £650 and notoriety to the stock. The old bull, though but six years old, was shown on the sale day, and is somewhat losing form, having dropped in his back and lacking that fresh gaiety of appearance and even shape, which brought him so many admirers. As none of the cows and heifers sold were in calf to him, and only one female in the sale claimed him as sire, it was naturally presumed that his blood is being retained in the herd. Cambridge Duke 5th, of the Red Rose tribe, a costly purchase from Mr. Lynn, is evidently the stud bull. A deep good red he is, with a ponderous dewlap, but de-

fective behind his shoulders and in his flanks. Most of the cows for sale showed age, and consequently no great prices were realised, although there was a fair, even, yet slow sale. Lot 1, Nonpareil 21st, ten years old, and in calf, a good bull-breeding sort, made 51 gs., and went to Captain Ashby. Lot 2, Purple Jar, the finest cow in the sale, but a doubtful breeder, still keeping her old coat, went a speculative purchase to Mr. Mackinder, at 47 gs. Mr. Chirnside, of Rugby, took two lots, Grand Duchess by 4th Grand Duke, and in calf, at 68 gs., and Ada, of the old Lenton blood, carrying a prodigious udder, at 57 gs. Elvira 8th (75 gs., Lynn), a highly bred and stylish looking cow, was rather bare of flesh, and strong in her hips and shoulders. Lady Gwynne, her daughter, and son did not hold the reputation of the tribe, and their black noses deterred any spirited competition. Capt. Williams took the cow into Somersetshire at 50 gs. and Captain Furness the daughter at 32 gs., whilst the bull-calf could only pull 20 gs. Belle of Oxford 2nd seemed a good cow, and cheap at 75 gs. (Langham), and Mr. Casswell bought Blanche Ardenay for 50 gs. A very pretty heifer-calf, called The Queen, from Mr. Chapman's old stock, had taken second honours at the Rutland show, and brought 50 gs. from Mr. Chirnside. The J calf was leggy, plain, and thin, yet she was thought good enough to go to Brampton at 20 gs.

Most of the bulls were in capital condition and well brought out: two out of the sixteen were withdrawn. Six were by Telemachus, most light-coloured like himself; and six by Cambridge Dukes, chiefly reds. Lot 6, Telemachus 5th, a red of the old Nonpareil blood, was fancied by many for his colour, though he wanted softness of hair and handling. Mr. E. Lythall gave 68 gs. for him—the top bull price. Lot 5, Telemachus 4th, a white, handled far better, and was full of hair and of good shapes. Mr. Moscrop bought him for the Aske herd cheap enough at 65 gs. The first bull offered, Telemachus 2nd, rising three years old, was very fat and heavy: he had taken £50 out of agricultural societies, and now Lord Macclesfield got him at 60 gs. Lot 2, a strong-shouldered two-year-old by Telemachus, from the fine cow Purple Jar, brought 3 gs. more from a new breeder—Captain Ashby. Lot 3 was short of hair, and a little flat-sided; still a very useful bull, and by Telemachus' sire: Mr. Fawkes took him at 52 gs. Knight of Gwynne looked better in the house than out it, so that he made but 36 gs. One of the best fore-quartered calves was Telemachus 7th, red with a little white, and

the excellence of his head and chine probably ran him up to 41 gs. (Rowley). Lot 8, Lord Oxford 6th, by Mr. Angerstein's Oxford bull, out of the Louisa tribe, made only 51 gs.; and Henry 2nd, of nice quality and colour, though bad in his girth, realised 52 gs. The other calves went at lower figures, resulting in an average of £47 17s. for the 14 sold; the cows made just over £50 a-piece, and the sale although slow, still made a good average at £49 8s. 5d. For we believe the first occasion Lord Exeter presided at his own table, and very happily he welcomed all present. Lord Kesteven gave his Lordship's health, and what with a large concourse of townspeople to the bazaar in the park, Burghley had with the bright sun, albeit keen wind, quite a gala day.

COWS AND HEIFERS.

Nonpareil 21st, roan, calved May 26, 1864; by Duke of Geneva (19164), dam Nonpareil 20th by Marmaduke (14897).—Capt. Ashby, 51 gs.

Purple Jar, roan, calved April 21, 1865; by 4th Duke of Thorndale (17750), dam Rosamond by Oxford Duke (15036).—Mr. D. Mackinder, 47 gs.

Nestorine, roan, calved Feb. 21, 1868; by Nestor (24648), dam Blonde by Emu (19696).—Mr. Mutheringham, 37 gs.

Grand Duchess, roan, calved, Feb. 28, 1869; by 4th Grand Duke (19874), dam Blonde by Emu (19696).—Mr. Chirnside, 68 gs.

Ada, roan, calved March 27, 1869; by The Yeoman (25305), dam Ada by Economist (21669).—Mr. Chirnside, 57 gs.

Elvira 8th, roan, calved December 21, 1869; by 17th Grand Duke (24064), dam Elvira 7th by 10th Grand Duke (21848).—Mr. J. Lynn, 75 gs.

Lady Gwynne, roan, calved March 22, 1870; by Duke of Cambridge (25940), dam Jenny Gwynne by Duke of York (14461).—Capt. Williams, 50 gs.

Belle of Oxford 2nd, roan, calved April 10, 1870; by General Napier (24023), dam Belle of Oxford by Imperial Oxford (18084).—Mr. H. H. Langham, 75 gs.

Joyful, roan, calved November 12, 1870; by Wisdom (30331), dam Hopewell by Eclipse (23856).—Capt. Cooper, 35 gs.

Lady Honeycomb, white, calved April 5, 1872; by Lord Nelson (26693), dam Ada by The Yeoman (25305).—Mr. Griffin, 95 gs.

Cherry Gwynne, roan, calved September 29, 1872; by Grand Pippin 2nd (28780), dam Lady Gwynne by Duke of Cambridge (25940).—Capt. Furness, 32 gs.

Blanche Arsenay, roan, calved December 31, 1872; by Duke of Arsenay (30918), dam Lady Blanche by Costa (21487).—Mr. J. H. Casswell, 50 gs.

Queen Isabella, red, calved January 15, 1873; by Duke of Arsenay (30918), dam Calypso by Telemachus (27603).—Mr. Lawrence, 32 gs.

The Queen, roan, calved March 28, 1873; by Wisdom (30331), dam Princess by Galen (19805).—Mr. Chirnside, 56 gs.

Jacqueline, white, calved September 25, 1873; by Telemachus (27603), dam Jacqueline by Dandily Dan (23675).—Mr. J. Beasley, 20 gs.

BULLS.

Telemachus 2nd (32649), roan, calved December 4, 1871; by Telemachus (27603), dam Sea Gull by Nestor (24648).—Lord Macclesfield, 60 gs.

Telemachus 3rd (32650), roan, calved May 26, 1872; by Telemachus (27603), dam Purple Jar by 4th Duke of Thorndale (17750).—Captain Ashby, 63 gs.

Beau of Oxford, roan, calved July 30, 1872; by Nestor (24648), dam Belle of Oxford by Imperial Oxford (18084).—Mr. Faux, 52 gs.

Knight of Gwynne, roan, calved October 27, 1872; by Telemachus (27603), dam Gipsy Gwynne by Royal Oxford (27380).—Mr. Wilson, 36 gs.

Telemachus 4th, white, roan ears, calved November 9, 1872; by Telemachus (27603), dam Grand Duchess, by 4th Grand Duke (19874).—Lord Zetland 65 gs.

Telemachus 5th, red, calved November 16, 1872; by Telemachus (27603), dam Lady Penrhyn by 3rd Duke of Wharfedale (21619).—Mr. E. Lytball, 68 gs.

Telemachus 7th, red, calved May 24, 1873; by Telemachus (27603), dam Wild Sage by Nestor (24648).—Mr. Rowley, 61 gs.

Lord Oxford 6th, roan, calved February 22, 1873; by Lord Oxford 5th (31738), dam Louisa 9th by Prince Albert (18579).—Mr. Hill, 51 gs.

Cambridge Jam, red, calved June 24, 1873; by Cambridge Duke 4th (25706), dam Jam Pot by 4th Grand Duke (19874).—Mr. Dainty, 40 gs.

Henry 2nd, red, calved August 19, 1873; by Cambridge Duke 5th (30644), dam Rosamond by Telemachus (27603).—Mr. Maidens, 52 gs.

Achilles, red, calved September 10, 1873; by Cambridge Duke 5th (30644), dam Nestorine by Nestor (24648).—Mr. Rogers, 26 gs.

Duke of Gwynne, roan, calved October 27, 1873; by Cambridge Duke 5th (30644), dam Moll Gwynne by Telemachus (27603).—Mr. Armstrong, 32 gs.

Cambridge Gwynne, roan, calved November, 3, 1873; by Cambridge Duke 5th (30644), dam Lady Gwynne by Duke of Cambridge (25940).—Mr. Walker, 20 gs.

The Banker, white, calved March 8, 1874; by Rutland (29980), dam Ada by The Yeoman (25305).—Mr. Callis, 12 gs.

SUMMARY.

15 Cows averaged	£50 17 9	£763 7 0
14 Bulls	47 17 0	669 18 0
29 head averaged	£49 8 5	£1,433 5 0

SALE OF MR. J. J. HETHERINGTON'S SHORTHORNS.

AT MIDDLE FARM, BRAMPTON, CARLISLE, ON THURSDAY APRIL 9, 1874.

BY MR. J. THORNTON.

This herd had been bred by Mr. J. J. Hetherington during the last six years, partially from some of his fathers' stock, which was sold off at a "great sacrifice" during the time of the cattle plague. Fortunate purchases were made on that day. Mr. Foster, of Killhow, invested in some Gwynnes, which repaid the outlay four-fold, and others were equally fortunate; for Mr. Hetherington had always an eye to a good beast, and though but a poor keeper, had form and quality and good blood in view. His earliest knowledge of the breed was gained through his neighbour, Mr. Calvert, of Sandyeike, a friend of the Brother Colling, whose stock was brought to the Cumberland border and retained as a herd for nearly a century. Quite recently it was scattered, and Mr. Hetherington became the purchaser of those lots which were sold at his son's sale. But the Gwynnes were the cattle for which Middle Farm has been so long noted. From a little calf sold at the '66 sale came now quite a small herd of nine Gwynne females and one bull-calf, and the nine cows and heifers sold averaged nearly £130 each. There were also a goodly number of the Millicent tribe, which were purchased at Mr. Slye's; although tracing to the Farnley herd, the crosses had not given them a distinct character, and some of the heifers had rather a light, shelly look.

Ranged side by side in a long clean cow house we have not for some time seen a cleaner, better lot of cows. They were in blooming condition, not over fat nor in half-starved order, whilst the great size, rich clear colours, and well-shaped udder, told of constitution, flesh and dairy qualities. Among the more taking lots were Princess (lot 2), of the Darlington tribe, and a very fine white cow (lot 8), Camilla, of Mr. J. Fawcett's breed; indeed, there were few, if any, better than this cow. She calved twelve hours before the sale a white heifer-calf, and walked into the ring as robust and strong as possible. Both these go to form the nucleus of a good herd at Edenhall. Lot 10, Polly Gwynne 3rd, was another fine young cow. Her great size and good colour made her conspicuous, and in securing her, although at 125 gs.,

Mr. Charles Howard has a cow that will lay the foundation of another lot of Gwynnes, as excellent, nay, if not better, than those sold at Biddenham four years ago. Her two heifers were the two highest-priced lots of the sale, the three-year-old, another good red and white and heavy in calf, going to Major Webb at 205 gs., and her calf to Mr. Fox at 185 gs. Mr. Fox also got a very good red calf at 100 gs. out of her dam. This cow (Polly Gwynne 2nd) was the matron of the tribe. She combined the Wild Eyes and Gwynne blood in her veins, and the cross seemed to be a happy blend. It brought out great scale and substance, with a fine head and character, totally different to that often seen nowadays: moreover, she carried a large, well-shaped vessel, and gave six-and-twenty quarts a-day. Mr. Fawcett seemed determined to possess her, and at 77gs. she was a bargain, as her fresh look is like producing many of the same kind. Mr. Fawcett afterwards expressed the great satisfaction he had in securing this cow, as she reminded him strongly of the character of the Elvira cow of the same blood which he possessed fully half a century ago. One of her heifers was by his Emperor Maximilian, a bull by Grand Duke 6th, from Policy, a cow full of Farnley Booth and West Rasen blood. It was singular how this cross changed the appearance of the produce to the dam. Polly Gwynne 4th came out a light roan, on shorter legs than the rest, with stronger loins and back. Mr. Harward, of Winterfold, bought this cow as 115gs.; and her calf, very much like herself in colour and form, went for 135gs. to Sir Wilfred Lawson, who was Mr. Fox's opponent for the 9th. Mr. Harward also took her other heifer by Oxford 4th at 76gs. Lot 24, Polly Gwynne 6th, had injured her knees, and, at the request of the auctioneer, was allowed to be kept by young Mr. Hetherington for a fresh start. The first cow, lot 1, Lady Lena, bred by Mr. Jolly, by Mr. Booth's Knight of Warlaby, was a remarkably good breeder and a great milker, and she also came into the ring with a "thumping" red seven months' bull-calf, as big as many year-olds. The cow Mr. Smith keeps in the district at 47gs., whilst her calf brought a guinea more, and goes into Derbyshire. She was twice put to Fourteenth Duke of Oxford, from Holker, and brought heifers, both very fine animals, totally upsetting the general opinion that Booth and Bates won't mix. Lot 19, perhaps the handsomer, a fine large roan cow, became Mr. Fawcett's property at 71gs.; and her other heifer, as well as a two-year-old, which was singularly like her half-sister in form and colour, were purchased for Mr. Attenborough. Lot 9, Elvira 10th, a nice cow of the Princess blood, had calved, since her purchase at Ulverston, a roan heifer-calf, and was giving twenty quarts daily. Mr. Woodburn took her back to her old district at 80 gs., and her calf making half the money goes to Warrington. A very fine cow was Young Nanny, of the Sandysike blood, not unlike the Gwynnes in character, and like them full of Colling blood. Mr. R. Thornton bought her at 65 gs., and Mr. John Todd, of Mireside, who has a great fancy for the blood, got the other two representatives of this admirable sort. Baron Deepdale, from Underley, the bull in use, had swollen knees, and so only reached 44 gs., and for the other bulls there was a slow dreary sale. Indeed, for the females, the sale was at times dragging, but at £61 16s. 6d. average for 42 cows, against £27 for 34 in 1866, was a satisfactory return, and encouraging to young breeders like Mr. J. J. Hetherington, who have steady judgment and care, with a lively though quiet interest in the pursuit. Sir Wilfred Lawson took the chair at the lunch, and was, as usual, as happy in his remarks as he is at a tectotal lecture.

SALE OF MR. ROBERT JEFFERSON'S SHORTHORNS.

This sale took place the day after the Middle Farm Sale, and was numerously attended. It was really a sale of bulls, to which a number of cows and heifers were added, as well as the "small select herd," the property of Mr. Gunson. If Mr. Gunson's "small select" lot was a specimen of what he could do in the way of Shorthorn breeding, the sooner he attempts a herd on a large scale the better. The eight sold were in admirable condition, and averaged £65 10s., with the best lot away with an injured spine. This was a yearling heifer that had run the noted Errant Girl a hard race, though she never got a-head of her, yet it was reported a local admirer was present who would have given 300 gs. for this Sonsie Lass.

Among Mr. Gunson's was Earl of Derwent (28503), a bull full of the old Raine blood, bred by Mr. Marshall of Howes. He stood first at Stirling last year, and had simply to go and win elsewhere. He is a very grand bull, of remarkable flesh, evenly laid on, a fine-tempered coloury beast withal, and one of those grand animals that a breeder or a novice would equally admire. His fine head, full of curly, long hair, indicated his coat in season now shed, and perhaps a little length of quarter might improve him; still, he is a bull who would have run even Commander-in-Chief hard, and we doubt much if there be anything in the country that can stand against him at Bedford, if his purchaser (Mr. Handley, at 76 gs.) please to exhibit him. He was reported among the locals very "smittel," and the herd said "they muuna kep' hay off him," so great was his inclination to feed. The top price of the sale was 105 gs., given by Mr. Toppen for Wild Eyes Gwynne 3rd, a wonderfully good red-and-white heifer, whose only fault apparently was the want of a pocket-handkerchief. Lot 14, Elvira 2nd, another beautiful cow, goes into Cheshire cheap enough at 85 gs. (Messrs. Williamson Brothers), and Phyllis 10th, a very fat three-year-old, went to Mr. Blackstock at 65 gs. Among Mr. Jefferson's was Sonsie Duchess, a rare good breeder, which Mr. Fox got at ten years old for 61 gs. Lot 10, Fickle Fanny by Edgar, from the Knightley Walnut tribe, went to Mr. J. Wilson Wilson cheap enough at 75 gs., and he also got Sweetheart 26th, a nice red heifer-calf at 47gs. Lot 11, Roseanne Gwynne, was not in a breeding state, and so Mr. Mossop got a bargain at 43gs.; Prelude, one of Royal Cambridge's heifers, ran up to 57gs., and Village Ghost, four years old and just served, could only scale 50gs. from Mr. Atkinson of Bywell. There were three nice calves which made as much as the cows.

The bulls were mostly after Knight of the Shire, hired, like many others, by Mr. Jefferson, from Mr. Booth, of Warlaby. As soon as they came in, the company rallied, and bidding became more brisk. Lot 45, of the Fame tribe, followed by request Earl of Derwent into the ring. He was a nice light roan hairy calf out of Colleenette, a very massive cow of the Fame tribe. After smart bids between Mr. Grimes and Mr. Hoddinot, of Hampshire, he goes to the latter breeder at 110gs. Mr. Anthony Metcalfe bought True Briton at 45gs. from Mr. Cleasby, but the *white* began to tell. Yet they were the best. Knight of the Shire had left several after himself, both in colour and in very thick thighs and massive hind-quarters. Smiling Morn from Mr. Wood's Coral touched 50gs. (Mr. Hindson), but another, Simon the Cellarer, could only reach 26gs. (Hodgson). Certainly the best bull, First Wrangler, was ill. His swollen jaw indicated it, and he looked all wrong. 35gs. was Mr. Jefferson's reserve, but it was soon topped, and we very much question whether Mr. George Atkinson has not got any cheap bull at 60 gs. Lot 36, from Mr.

Barnes' Speranza, a fine cow, doubtless sent her son up to 55 gs. (A. Bell). First Justice by Vain Hope (now in use with Mr. Downing's herd at Fermoyle), a large fine red and white bull out of Fickle Fanny, goes into Scotland at 55 gs., and Mr. Gunson's highly-bred but empty-bellied Cumberland Worthy reached the same price from Mr. Robertson. He was a nice calf, but probably "out of sorts." Magnano made 26 gs., a cheap purchase to Mr. Smith of Goole. With this calf the sale really ceased, with a total showing £2,219 14s. for 48 head, or a general average of £46 5s., about a guinea below the average for the seventeen bulls. Mr. Thornton was the auctioneer.

MR. WILEY'S LEICESTER FLOCK.

SECOND SALE AT BRANDSBY, ON TUESDAY, MARCH 31.

The remainder of this celebrated flock of pure Leicesters was brought to the hammer at the Warren House Farm, Brandsby, by Mr. Thornton, of London, and Mr. Walker, of York. It comprised the lambs from the ewes that were sold last autumn at an average of nearly ten guineas each, and the rams, most of which had been let privately. The few gimmers were admirable: they came out in capital condition, and with enormous fleeces, which the cold, blustering, windy day showed to much advantage. The first pen of three went to Mr. Cock, of Westmoreland, at 7½ gs. For the next lot, a splendid pen of three and quite the pick, being of great size and very fine quality, caused brisk competition between Mr. Hutchinson (of Catterick), Mr. Cresswell and Mr. Jefferson (of Preston Hows, Whitehaven), who finally got them at 16½ gs. Lots 3 and 5 were purchased by Mr. F. Danby at 6½ gs. and 5 gs. Mr. Strickland gave 8 gs. for the last pen of those, and the remaining three pens of five went to Mr. Usher at 5½ gs., Mr. Riccall at 6 gs., and Mr. W. Fox at 4 gs.

The tup hogs were equally as good as the gimmers, the quality and length of staple of many of them being excellent, and they showed strong, robust constitutions, as well as great size. Lot 3, a fine young sheep, with a grand back and neck, brought out sharp biddings, and was finally secured by Mr. Meade, of Co. Cork, for 42 gs. He also took lot 5, perhaps a more elegant lamb, with a beautiful fleece, at 25 gs. Mr. Riccall gave 17 gs. for lot 10, and also purchased several others. Lot 13 was another favourite lamb, and Major Stapylton's agent and Mr. Cresswell hung well over it, until the latter secured it for his old flock in Leicestershire at 40 gs. The remaining lambs ranged from 4 gs. to 11 gs., and one shown out of the wool brought 2½ gs.

The highest prices among the twenty shearlings was 18 gs., lot 36 (used by Mr. Tindall), sold to Major Stapylton. Lot 40 (used by Mr. Borton), 19 gs. (Dobson). Lot 43, 15½ gs. (W. Fox, Whitehaven). There were thirty two-shear and old sheep, the pick of which went to Mr. Hutchinson for 40 gs. It was a very grand ram, and had been hired by Mr. Wheatley Tindall, of Lincoln. Lot 60, a two-shear, hired by Lord Feversham, was bought by Mr. Stamper, at 25 gs. Mr. Stephen Franks gave 10½ gs. for one. Mr. Dobson, 16 gs. for lot 30 (used by Mr. Borton), and the two last went to Cumberland, Mr. Jefferson taking one good sheep at 20 gs., and Mr. Cock the last, at 5 gs. So ended the last of the Brandsby flock. It is remarkable that in the North of England the West Coast is now taking that prominence both for Shorthorns and sheep that years gone by was held by breeders on the East Coast. The thirty-two gimmers averaged about £7 3s.; the thirty-six tup hogs, £9; the twenty shearlings, £7 6s. 6d.; and the thirty old sheep, £8 15s.

The cattle were merely a few well-bred dairy cows, a fine lot of in-calf heifers, and some grand bullocks. A young cow by Breastplate brought 42 gs., and Alfred, a pedigree bull from the Albina tribe, sold for 44 gs. (Mr. Mason). The heifers went from 13 to 24 gs. each, and the steers, which were forward and in prime order, sold well. A roan three-year-old pure-bred, preparing for show, and reckoned at 30 stones, was purchased by Mr. Harland, of Sowber Hill, for £50 10s. Some implements were also sold; but the remainder of them and the household goods and chattels were dispersed on Thursday.

It was the general opinion that the sheep would have sold better last autumn. Mr. Wiley, however, preferred to keep up his old custom of having his friends around him to the last, and letting them privately. With the exception of those named, many of the rams in the wool went only at butcher's prices, and doubtless in the autumn would have fetched more money. There was a large attendance, though not equal to the assembly that saw the first act of the Brandsby Sale last September. A slight cold and a very rough March day prevented the appearance of Mr. Wiley. He removes to his son's house at Winterfield, near Bedale, where, as he remarked, "he should still feel proud to see his old friends and well-wishers."

SALE OF THE LATE MR. BURGESS' SHORTHORNS,

AT EDENHAM, ON WEDNESDAY, APRIL 15, 1874.

BY MR. THORNTON.

The late Lord Willoughby d'Eresby occasionally purchased a good bull for his tenants at Edenham, and this doubtless led Mr. Burgess to breeding a few Shorthorns. His first attempt was with some cows, having a dash of the old Lenton blood, and he occasionally picked up a few well-bred animals at the sales within easy reach, that he was so fond of frequenting. Several came from Burghley, and these were descendants of stock from Mr. Lynn's, Mr. Roberts', and Mr. J. G. Dixon's herds. As Mr. Burgess had always upheld the old Burghley blood, going there first for his bull Rampion (16784) and others, so he in later years went to Lady Pigot's herd, and bought three bulls, Prince Rupert (20604), Cheery Chap (21404), and Flag of Orleans (23957), all sons of bulls hired from Warlaby. He soared a little higher, as means allowed, towards the end, and got Prince Boabdil (27120), of the Bliss tribe, and Job (31438), of the Farewell, a bull good in form and flesh, but a harlequin in his spangled red and white colour; yet oddly enough, with one or two exceptions, all the calves by him were nice roans, and very good-looking. Truly blood tells. A farm adjacent to well-preserved woods and overrun with game is no place for high farming or rearing good cattle; yet he struggled against it, and did his best as far as circumstances permitted. The cattle were nice hairy animals, particularly the cows. The heifers, put to calve down at two years old, were rather small, and certainly very thin; but the calves, with a more generous diet, gave promise of better things. Lady Pigot put ten lots into the sale, some of which she had purchased privately for milk years ago from Mr. Burgess, and two or three cows and heifers, which by their absence of calves had a doubtful appearance about them.

Death gives a peculiarly solemn tinge to business that is usually of a bright and cheery nature. Stricken down with congestion of the lungs, Mr. Burgess passed away ere three score years had elapsed, and he left an orphan family behind him. For them the herd was realised, and it brought for the thirty head close upon £1,200. At

the lunch Mr. Picaver, the executor, was very happy, but as happy as sad when he spoke of the painful duties incurred for his departed friend. The sale, too, had just the same tinge. One very beautiful cow, Baroness Milcote, ran up to 95gs. (Mr. Wortley), notwithstanding her black-nosed calf; Mrs. Colling, one of the old Caistor breed, a hairy, nice cow, realised 55gs., and her calf 20gs. Mr. How gave 40gs. for May Dew, a white cow, of the Zelluria tribe, and also took her calf at 36gs. Lot 31, Queen Farewell, bought at Childwick, made 54gs. (J. Looker). Job, notwithstanding his sire and his head, went to Mr. Tweedie at 67gs., and a red yearling bull brought 38gs. (R. Godfrey). Lady Pigot's lots sold for just as much as they were worth; white Bellona and Milky Way, both fashionably bred, but *very* doubtful breeders, were both bought by Mr. R. Kinder at 60gs. and 36gs. The 200gs. reserve on Sidus was not covered; so he returns to Wytham-on-the-Hill, where some very beautiful animals are preparing for this year's show. The 39 head sold made within a few shillings of £40, and most of the company adjourned to Bourn, for Laughton on the following day.

SUMMARY.

	£	s.	d.	.....	£	s.	d.
33 Cows averaged	41	1	0	.....	1,354	10	0
6 Bulls „	31	1	3	.....	186	7	6
39 Averaged	£39	10	2	.....	£1,540	17	6

MR. JOHN HENRY CASSWELL'S HERD,

AT LAUGHTON, FOLKINGHAM, ON THURSDAY,

APRIL 16, 1874.

BY MR. THORNTON.

A very wet night brought a fine day, and with it a good company; for every longwooled breeder knows Casswell's sheep, which have grazed the rich grass round ancient Laughton for more than a century. Mr. John Henry Casswell got his father's farm, and with it a "useful lot of beasts," which were descended from six cows and heifers bought at Ostler's sale, 1831. "A red bull of Mr. Dixon's of Caistor," and "a roan bull of Mr. W. Smith's of West Rasen," indicated sufficiently the record of the breeding in early times; these were, however, succeeded by two sons of pedigree bulls, and finally Young Vanguard (30203), Fitz-York (28612), and Baron Panton (23377), from Panton, were all recorded. Some time after the son got the farm he made a few purchases of cows from Burghley, and Mr. George Bland, of Coleby, and his friend, John Lynn, sold him Baron Grantham (27940) of the Mystic-Charnier line. Then he went to Gaddesby, and got a very useful and well-bred bull in Baron York (30500), of the Bates and Foggathorpe line; indeed, he was a son of old Seventh Duke of York, and gave his stock all the gaiety and elegance imparted by the grandsire. Whatever the blood of the herd may have been, the animals were certainly brought out in a way we have rarely, if ever, seen surpassed. They were well and cleanly bedded in warm, comfortable crews, hardly a hair awry, and in beautiful condition. The heifers might have been put in a line, to do credit to the county show; for, as many remarked, it was quite a *show* to see them. The ring in the orchard by the neat and tidy drive to the house, the clean new hurdles, the capacious stand, all betokened the quiet forethought and finish which characterised the whole proceedings. The lunch, laid for 300 in a capital booth, was as tastefully and quietly decorated, not alone with flowers to please the eye, but with solid good dishes and sweets to tempt the dainty appetite. Contrary to usual habit, neighbours, not breeders, filled the chair and vice-

chair, and which possibly accounted for the peculiar wandering, still funny speeches at the lunch. But Mr. Thornton led the way to business at two sharp, and soon despatched it. The second cow, one of Rowland Wood's breeding, but of Pawlett's blood, through her sire, made the top price, 90 gs., and goes to Mr. Braikenridge in Somersetshire. The cattle list, however, gives the prices throughout, and the cattle were all alike, and so even and good that the prices ruled accordingly, and it is difficult to particularise. Most of those who bought the dams bought also the calves, and perhaps Sir Thomas Whichcote took three of the ripest plums to Aswarby. The average was very good for the entire lot, and about 5 gs. over general expectancy. Mr. Casswell reserves a dozen to go on with, and if a good beginning makes a good ending, fortune, with success, smiles on the wa.

SUMMARY.

42 Cows averaged	£47	15	6	.....	£2,006	11	0
21 Bulls „	40	17	0	.....	857	17	0
63 averaged	45	9	4	.....	£2,864	8	0

SALE OF MR. CRUICKSHANK'S
SHORTHORNS, AT SITTITON.

At this annual sale there were in all entered in the catalogue fifty-five bulls and fourteen heifers. Of the bulls, one had been previously sold, and five, having been slightly lamed, were not offered; and of the heifers, one was not offered. The bulls used in the herd are all more or less well known. They are Baron Colling Bredalbane, a son of Champion of England; Master of Arts, also a son of Champion of England; Lord Lansdowne, a son of Caesar Augustus; Scotland's Pride, by Grand Monarque; Royal Duke of Glo'ster, Caesar Augustus, Earl Granville, Knight of the Whistle, by Knight of the Garter; Lord Lancaester, Young Englishman (Uppermill), Masterpiece, a son of Champion of England. Mr. Mitchell, St. John's Wells, was the auctioneer, disposing of the whole stock in an hour and a-half, and Mr. Philip, Boynds, was judge of the sale. The first two bulls sold were two-year-olds, the rest yearlings. The following is the sale list:

BULLS.

Loyalty, red, by Baron Colling, dam Lustre 6th.—Mr. Black, Linhead, Ellon, 24gs.
Blair Athole, red, by Breadalbane, dam 13th Duchess of Glo'ster.—Mr. Bruce, Myreton, Inch, 30gs.
Plum Pudding, white, by Master of Arts, dam Passion Flower.—Mr. Maitland, Little Methlick, 39gs.
Guardian, roan, by Lord Lansdowne, dam Orange Blossom.—Mr. Meldrum, Dairsie, Fife, 46gs.
The Judge, red and white, by Scotland's Pride, dam Butterfly 10th.—Mr. James M'Kenzie, Belscampie, Slains, 29gs.
Reputation, red, by Scotland's Pride, dam Butterfly 33rd.—Mr. Duncan, Aberdeen, for Messrs. John Thomson and Son, Newark, Sanday, Orkney, 40gs.
Robinson Crusoe, red, by Royal Duke of Glo'ster, dam Charade.—Mr. Douglass, Ardboll, Ross-shire, 70gs.
Chromometer, red, by Caesar Augustus, dam Chastity.—Mr. Hector, Collyhill, 27gs.
Ferdinand, red, by Earl Granville, dam Flora 2nd.—Major Ramsay of Barra, Straloch, 41gs.
Phoenix, roan, by Cesar Augustus, dam Victoria 41st.—Provost Wood, Banff, 46gs.
Framework, roan, by Lord Lansdowne, dam Vellum.—Mr. Duncan, Aberdeen, for Mr. James Gunn, Sibster, Wick, 32gs.
Golden Knight, red, by Knight of the Whistle, dam Golden Days.—Mr. Howie, Nether Comisty, 35gs.
Schoolmaster, roan, by Scotland's Pride, dam Sybil 6th.—Mr. Maxton Grahame, Redgorton, 52gs.

Juryman, red, by Lord Lancaster, dam Lovely 12th.—Mr. Lumsden, Braco, Grange, 35gs.
 Nimrod, red, by Young Englishman, dam Goldie 4th.—Mr. Leith, Standstill, Caithness, 33gs.
 Sir Charles, red, by Cæsar Augustus, dam Sibyl 2nd.—Mr. Dunbar, Dysartbank, 26gs.
 Londoner, roan, by Scotland's Pride, dam Lavender 9th.—Mr. Moir, Knockhall, 25gs.
 Marcus, roan, by Cæsar Augustus, dam Matchless 12th.—Mr. Harvey, Pitgersie, 41gs.
 World Wide, red, by Lord Lansdowne, dam Russian Violet.—Captain Smith, Minmore, Glenlivet 72gs.
 Plato, red, by Lord Lansdowne, dam Lady's Pride.—Mr. Abel, Ley Lodge, Kintore, 29gs.
 Thistle-dome, white, by Masterpiece, dam Lucy.—Mr. Cumming, Corthienuir, 24gs.
 Southesk, red, by Scotland's Pride, dam Stinet.—Mr. Gray, Roeberry, 23gs.
 Gold Coin, red, by Cæsar Augustus, dam Golden Princess.—Mr. Rust, Potterton, Belhelvie, 23gs.
 Quartermaster, red, by Scotland's Pride, dam Queen of Forth.—Mr. Alex. Henry, Ankerville, Ross-shire, 8 gs.
 Romulus, roan, by Scotland's Pride, dam King Dove.—Mr. Stephen, auctioneer, Cutler, 46gs.
 Barrister, red, by Lord Lancaster, dam Louisa Buckingham.—Mr. Stoddart, Aryburn, Oldmachar, 26gs.
 Borealis, red, by Lord Lansdowne, dam Butterfly 12th.—Mr. Douglass, Clyth, Caithness, 41gs.
 Vanquish, roan, by Royal Duke of Glo'ster, dam Violet's Pride.—Mr. Braud, Auchintin, Cruden, 48gs.
 Roman Empire, roan, by Scotland's Pride, dam Arabella.—Mr. Davidson, Mains of Cairnbrogie, 42gs.
 The Scholar, red and white, by Cæsar Augustus, dam Sprightly.—Mr. Morrison, Newseat, Schivas, 32gs.
 Templemore, red, by Lord Lansdowne, dam Lucy Buckingham.—Mr. Duncan (for Mr. Edmonston, Uist, Shetland), 19gs.
 Hamlet, roan, by Lord Lansdowne, dam Hebe 27th.—Mr. Heatherwick, Mains of Auchnagatt, 29gs.
 Lord Prudhoe, roan, by Senator, dam Victoria 43rd.—Mr. John Milne, Mains of Lathers, Turriff, 36gs.
 Orlando, roan, by Lord Lansdowne, dam Oak Garland.—Mr. Ledingham, Braeside, Rothmaise, 36gs.
 Lord Milton, red, by Lord Warden, dam by Lady Morpeth.—Mr. James Henderson, Whitecains, Belhelvie, 29gs.
 William of Orange, red and white, by Royal Duke of Glo'ster, dam Orange Blossom 9th.—Mr. James Smith, Goyal, New Machar, 33gs.
 Welcome, roan, by Lord Warden, dam Valentinia.—Mr. Russell, Kininmouth, 35gs.
 Loweswater, roan, by Lord Warden, dam Lavender 13th.—Mr. Ironside, Inghiston, Laverurie, 35gs.
 Columbus, roan, by Royal Duke, dam Cassandra.—Mr. John Leys, Blair, Fintray, 32gs.
 Moonlight, white, by Masterpiece, dam Orange Blossom 6th.—Mr. Anderson, Fingask, 20gs.
 Sensation, roan, by Scotland's Pride, dam Sunset.—Mr. Shepherd, Craigies, 29gs.
 Vivian Grey, roan, by Lord Lancaster, dam 11th Duchess of Glo'ster.—Mr. Godsmau, Anquhadley, 25gs.
 Diogenes, red, by Royal Duke of Glo'ster, dam The Beauty.—Mr. Shepherd, Craigies, 62gs.
 Astrakan, red, by Scotland's Pride, dam Water Nymph.—Mr. Hutcheon, Upperton, Turriff, 21gs.
 St. Clair, roan, by Masterpiece, dam Butterfly 31st.—Mr. Scott, Glendronach (for Mr. Ledingham, Drumblair), 32gs.

HEIFERS.

Magenta, red, by Scotland's Pride, dam Mysie 26th.—Mr. Nares, Bructor, 28gs.
 Boquette, red, by Masterpiece, dam Butterfly 8th.—Mr. Duthie Collynie, Tarves, 34gs.
 Bloomer, red, by Lord Warden, dam Birthright.—Mr. Douglass, Calrossie, 32gs.
 Orange Jelly, red, by Lord Lansdowne, dam Orange Blossom 13th.—Mr. Drummond, Black Ruthven, Perth, 27gs.
 Bellflower, roan, by Masterpiece, dam Butterfly 7th.—Mr. Wallace, Chapel of Seggat, 31gs.
 Rhoda, red, by Masterpiece, dam Rosleaf.—Mr. Hector, Collyhill, 19gs.

Gazelle, red, by Lord Lansdowne, dam Graceful!—Mr. Maxton Graham, 29gs.
 Juliet, roan, by Lord Warden, dam Beauty's Pride.—Mr. A. O. Stevenson, Careston Castle, Brechin, 30gs.
 Amaryllis, white, by Royal Duke of Glo'ster, dam Ayrshire Rose.—Mr. Valentine, Aillock, Skene, 13gs.
 Woodbine, red, by Scotland's Pride, dam Woodflower.—Mr. Cowie, Cairnhill, Monquhitter, 20gs.
 Lustre, 7th, red, by Lord Lansdowne, dam Lustre 6th.—Mr. Stewart Bain, Caithness, 18gs.
 Orange Leaf, roan, by Lord Lancaster, dam Olive Leaf.—Mr. Jas. Rust, Powbutts, Strachan, 30gs.
 Gaiety, red, by Cæsar Augustus, dam Galaxy.—Mr. Drummond, Black Ruthven, Caithness, 38gs.
 The average price of the 45 bulls sold is £38 2s.; and of the 13 heifers, £28 3s. 9d. The total proceeds of the sale amount to £1,981 2s.

SALE OF MR. SLYE'S SHORTHORNS,
 AT BEAUMONT GRANGE, LANCASTER,
 ON WEDNESDAY, APRIL 22ND,
 BY MR. H. STRAFFORD.

This was a draft from Mr. Slye's well-known herd, which contains many fashionably and highly-bred animals of the Bates blood. The catalogue was very rich in high pedigree, the twenty-five animals being of the Duchess, Barrington, Waterloo, Lady Walton, Charmers, Knightleys, Gwynnes, and other fashionable sorts; but on inspection they were not found quite up to show condition. Most of the cows were old, and only recently served; two or three of the heifers, especially Gloster Gwynne, and Lady Oxford Bates were looked upon as doubtful breeders, and this, coupled with the patchy red-and-white of several animals, caused a want of competition, resulting in prices, although good in themselves, considering the state of the animals, nevertheless not up to the anticipations of those interested. There was a numerous and distinguished company of breeders present, including Mr. Bowly, Siddington; Mr. Beauford, Mr. J. Fawcett, Sealey; Mr. Drewry, Holker (agent to the Duke of Devonshire); Mr. Roper (agent to Lord Skelmersdale); Mr. Kello (agent to R. Pavin Davies, Esq.); Mr. Burnett (agent to Col. Kingscote), Mr. Kirkell (agent to Lord Chesham), Mr. Punchard (agent to Earl of Bective), Captain Heaton (agent to the Earl of Ellesmere), Mr. Bowstead (agent to Sir R. C. Musgrave), Mr. Walton (agent to the Marquis of Exeter); Messrs. Casswell, Lincolnshire; Ashburner, Lancashire; Dickinson, Wigan; Thompson, Penrith; Hetherington, Middle Farm; Whalley, Cragg, Bromley, Allen, of Leicester, Fair, White-shide, Rev. J. Swarbrick, Dalton, Carlisle, Bell, Metcalf, Heskett, Thornton, of London; Perelle, of Liverpool; and Major Webb. The following is the list of animals, prices, and buyers' names:

COWS AND HEIFERS.

America, by Marmaduke (14897), out of Asia by 2nd Grand Duke.—Mr. Barr, 27 gs.
 Countess of Barrington 2nd, by 9th Duke of Oxford (17738), out of Countess of Barrington by 3rd Grand Duke.—Mr. Dugdale, 39 gs.
 Wellingtonia, by 3rd Duke of Thorndale (17749), out of Waterloo 24th by 3rd Grand Duke.—Mr. W. Heskett, 28 gs.
 Oxford Gwynne, by Oxford (20450), out of Sophy Gwynne by Young Benedict.—Mr. J. Dalton, 50 gs.
 Dulcimer, by Oxford (20450), out of Czaria by Second Grand Duke.—Mr. J. Heskett, 44 gs.
 Grand Duchess of Fawsley, by Grand Duke of Lancaster (19883), out of Chrysalis by Earl of Dublin.—Mr. W. Ashburner, 37 gs.

- Royal Charmer 4th, by Barrington Oxford (25607), out of Royal Charmer by 2nd Duke of Cambridge.—Mr. J. W. Wilson, 80 gs.
- Gloster Gwynne, by Grand Duke of Lightburne (26290), out of Orphan Gwynne by Duke of Gloster.—Mr. J. H. Casswell, 46 gs.
- Lady Oxford Bates, by 17th Grand Duke (24064), out of Lady Bates 3rd by 4th Duke of Oxford.—Mr. J. Fawcett, 120 gs.
- Rose of Oxford, by Barrington Oxford (25607), out of Moss Rose 2nd by Oxford.—Sir R. C. Musgrave, Bart., 41 gs.
- Duchess of Kent, by Grand Duke of Kent 2nd (28759), out of Lady Walton 2nd by Earl of Gloster.—Marquis of Exeter, 97 gs.
- Duchess of Gloster, by Grand Duke of Thorndale (31297), out of Lady Walton 2nd by Earl of Gloster.—Mr. J. H. Casswell, 150 gs.
- Dulcibella, by Grand Duke of Thorndale (31297), out of Dulcimer by Oxford.—Mr. J. H. Casswell, 46 gs.
- Royal Thorndale Charmer, by Grand Duke of Thorndale (31297), out of Royal Charmer 4th by Barrington Oxford.—Mr. W. B. Ray, 33 gs.
- Royal Cambridge Charmer, by Grand Duke of Thorndale (31297), out of Royal Charmer by 2nd Duke of Cambridge.—Mr. J. W. Wilson, 51 gs.
- Lady Clarence Bates, by Grand Duke of Thorndale (31297), out of Lady Thorndale Bates by 4th Duke of Thorndale.—Mr. J. Fawcett, 250 gs.
- Duke of Thorndale, by Grand Duke of Thorndale (31297), out of Lady Thorndale Bates by 4th Duke of Thorndale.—Mr. J. G. Bell, 50 gs.
- Geneva's Duke, by 9th Duke of Geneva (28391), out of Lady Bates 3rd by 4th Duke of Oxford.—Earl of Ellesmere, 120 gs.
- Fawsley Duke, by Grand Duke of Thorndale (31297), out of Grand Duchess of Fawsley by Grand Duke of Lancaster.—Mr. N. Eckersley, 33 gs.
- Farnley Grand Duke, by Grand Duke of Thorndale 2nd (31298), out of Rose of Oxford by Barrington Oxford.—Mr. Wodehouse, 19 gs.
- America's Duke, by Grand Duke of Thorndale 2nd (31298), out of America's Oxford by 18th Duke of Oxford.—Mr. Thomas, 30 gs.
- Charming Duke, by Grand Duke of Thorndale (31297), out of Royal Charmer 4th by Barrington Oxford.—Mr. Brackley, 27 gs.

SUMMARY.

16 cows averaged	£74 14 11	.....	£1,195 19 0
8 bulls	„ 71 15 10	.....	574 7 0
—			—
24 head	„ £73 15 3	.....	£1,770 6 0

SALE OF MR. SENIOR'S DEVONS.—This herd was sold by Gadsden and Son at Broughton, near Aylesbury, on Thursday, April 9. The cows and heifers made from 12gs. to 31gs. each, but some of the highly-fed beasts made better prices, one intended for exhibition reaching to 48 gs., and another to 33 gs. Mr. Farthing, from Bridgewater, was the only purchaser from beyond the district.

THE PRICES OF PURE-BRED STOCK IN THE NORTH.

The sales of Shorthorn bulls for the season came to a close last week. In most of the Shorthorn herds there appears to have been a full average of bull-calves. Both old and young stock benefited greatly by the rich pasture of last summer, and by an abundance of nutritious turnips during the winter. To these influences may in some degree be attributed the good condition in which young bulls were generally able to be brought to the sale ring. Similar influences, of course, acted in favour of breeders of stock for the fat market, and in consequence there was greater ability and readiness to pay full value for the fresh strains of blood. It is noticeable that the number of bulls sold by auction during the season just closed is considerably in excess of the number sold publicly on former seasons. In some degree this is due to the action of agricultural associations in promoting joint sales by breeders of a limited number of animals. It will be observed that some of the highest prices paid during the season have been for animals exposed at these sales. There have been indications of a tendency to take advantage of these sales for the offer of animals of inferior

quality, but the advantage of breeding only from good sires is now so generally accepted that a good standard of quality has been found to be essential to securing a remunerative sale. It will be seen, from a tabulated statement given below, that in the season just closed 334 Shorthorn bulls have been publicly disposed of by breeders in the northern counties. That number is 74 more than the number tabulated as having been disposed of in the previous season. Prices have also been considerably higher this season than they were last year, having attained to a somewhat higher rate than was paid for young bulls in the spring of 1872. In the season just closed, about £10,720 have been paid for young Shorthorn bulls; while last year the sum paid at the sales scarcely amounted to £7,700, the increased payments this year being over £3,000. The average price obtained for the 334 bulls sold was about £32 2s. The average price of 260 bulls sold last season was about £29 11s. There is thus a rise on the average price of about £2 11s. for each bull disposed of. The average is certainly satisfactory, and must be generally remunerative to breeders. The following shows the number of bulls disposed of at the various sales throughout the season, and the highest and average prices paid for each lot:

BREEDER.	SHORTHORN BULLS.		Highest Price.	Average Price.
	Date of Sale.	No. Sold.		
The Duke of Richmond, Gordon Castle	Sept.24	12	45 3	28 7 0
Mr Marr, Uppermill... ..	Oct. 23	27	54 12	29 10 0
Mr Cantlie, Keithmore	Oct. 22	8	43 1	29 2 0
Mr Wood, Midtown ...	Feb. 10	13	47 5	25 5 7
Mr Scott, Mains of Towie (at Turriff).....	Feb. 24	8	20 9	24 3 0
Turriff Joint Sale.....	Feb. 24	13	42 0	28 12 0
Mr Scott, Glendronach (at Huntly)	Feb. 26	8	34 13	30 1 0
Mr Cruickshank, Comistry (at Huntly) ...	Feb. 26	5	44 2	36 19 0
Huntly Joint Sale.....	Feb. 26	15	36 15	29 7 5
Buchan Agricultural Society's Joint Sale ...	Feb. 28	10	36 15	28 3 0
Mr Longmore, Rettie ...	Feb. 28	11	49 7	35 16 0
Alford Agricultural Association's Joint Sale	Mar. 3	9	34 13	27 10 8
Mr Wm. Mackie, Petty, Fyvie	Mar. 5	16	40 19	28 0 0
Mr John Durno, Sunnyside, Fyvie	Mar. 5	4	25 4	23 2 0
Mr Bruce, Newton of Struthers (at Forres)	Mar.17	6	43 1	37 19 6
Mr Lawson, Braelossie (at Forres).....	Mar.17	7	37 16	31 7 0
The Duke of Richmond (at Forres).....	Mar.17	5	48 6	35 1 5
Mr Geddes, Orbliston (at Forres).....	Mar.17	12	52 10	39 19 0
Forres Club Sale.....	Mar.17	10	44 2	31 5 9
Mr Cochrane, Lit. Haddo	Mar.18	12	50 8	33 6 9
Mr Cruickshank, Sittyton	Mar.19	45	87 3	38 2 0
Mr Milne, Mill of Allathan (at Ellon)	Mar.20	5	28 7	23 14 7
Mr Thomson, Newseat of Dumbreck (Ellon)	Mar.20	10	47 5	38 9 12
Mr Davidson, Mains of Cairnbrogie (Ellon)	Mar.20	9	39 18	29 3 4
Ythanside Club Joint Sale at Ellon.....	Mar.20	24	40 19	29 3 7
Mr Lumsden, Braco ...	-----	6	33 12	29 1 0
Mr Campbell, Kinnellar	Mar.26	17	69 6	26 7 7
Mr Marr, Cairnbrogie (at Perth)	Mar.11	7	31 10	28 4 0

No Shorthorn herd has been dispersed during the season; but a draft of sixty cows from the Sittyton herd was disposed of in the autumn. About the usual number of young females were sold, and brought considerably higher prices than the lots sold last season. The following shows the prices obtained:

BREEDER.	SHORTHORN COWS.		Highest Price.	Average Price.
	Date of Sale.	No. Sold.		
The Duke of Richmond	Sept.24	4	32 11	28 13 0
Mr Cruickshank, Sittyton	Oct. 9	60	68 5	37 9 0
Mr Cantlie, Keithmore	Oct. 22	2	26 5	25 4 0
Mr Wood, Midtown ...	Feb. 10	6	42 0	31 13 0
Mr Cochrane, Lit. Haddo	Mar.18	6	30 9	26 19 0
SHORTHORN TWO-YEAR-OLD HEIFERS.				
The Duke of Richmond	Sept.24	4	40 19	35 3 6
Mr Longmore, Rettie...	Feb. 28	8	40 19	35 3 6
Mr Cochrane, Lit. Haddo	Mar.18	2	30 9	26 5 0
SHORTHORN ONE-YEAR-OLD HEIFERS.				
The Duke of Richmond	Sept.24	5	33 12	29 12 0
Mr Cantlie, Keithmore	Oct. 22	3	24 3	20 6 0
Mr Wood, Midtown ...	Feb. 10	12	31 10	21 14 0
Mr Cochrane, Lit. Haddo	Mar.18	7	31 10	24 12 0
Mr Cruickshank, Sittyton	Mar.19	13	39 18	28 3 9
Mr Campbell, Kinnellar	Mar.26	4	30 9	24 18 9
SHORTHORN HEIFER CALVES.				
Mr Cantlie, Keithmore	Oct. 22	5	21 0	17 3 7

Sales of Polled stock are, of course, less numerous. During the season there were two sales of surplus stock and one displesh sale. The prices have been excellent,

the prices for cows and heifers in several instances being higher than for Shorthorns, the highest average, indeed, for cows for the season being for polled animals:

BREEDER.	POLLED BULLS.		Highest Price.	Average Price.
	Date of Sale.	No. Sold.		
Mr Walker, Portlethen	Oct. 1	5	39 18	19 13 0
Mr Skinner, Drummin...	Oct. 16	5	33 12	27 6 0
Mr Barclay, Auchlossan, M.P. (at Alford) ...	Mar. 3	5	31 10	25 12 0
Alford Agricultural Society's Joint Sale ...	Mar. 3	8	42 0	26 5 0
Dispersion of Bognie Herd	Mar.10	4	38 17	29 13 0
POLLED COWS.				
Mr Walker, Portlethen	Oct. 1	5	37 16	30 17 0
Mr Skinner, Drummin...	Oct. 16	9	73 19	43 15 0
Dispersion of Bognie Herd	Mar.10	12	46 4	33 1 6
POLLED HEIFERS.				
Mr Walker, Portlethen (two-year-olds)	Oct. 1	5	53 11	41 15 9
Ditto (one-year-olds)...	Oct. 1	2	29 8	25 14 6
Ditto (calves)	Oct. 1	6	30 9	24 11 9
Mr Skinner, Drummin (two-year-olds)	Oct. 16	5	55 13	44 10 5
Ditto (one-year-olds)...	Oct. 16	5	42 0	34 13 0
Ditto (calves)	Oct. 16	5	36 15	26 17 7
Dispersion of Bognie Herd (2 and 3-yr-olds)	Mar.10	3	32 11	28 6 0
Ditto (one-year-olds)...	Mar.10	8	28 7	18 8 4

—The Banffshire Journal.

BRAMPTON SPRING FAIR.—This fair was held on Monday, on the sands, in proximity to the town. There was an unusually large display of both cattle and sheep, and the former were generally in poor condition, showing the effects of a scarcity of food and turnips. For good three-year-old heifers, with plenty of condition, there was an excellent demand, and prices showed no abatement compared with the quotations of last year, but for younger cattle and cows of a doubtful age, that had little flesh, there were few or no inquiries. In fact, this department of the fair proved a complete drug. Stirks especially were very bad to sell, and would be down from 30s. to 35s. per head. Jobbers seemed to act with great caution, and we never saw fewer cattle in their hands. The season being too early yet for grass, and hay and roots being almost consumed, many were anxious to sell their stock, but few willing to buy. The same dulness pervaded the sheep department. Some lots of half-bred hogs were exhibited, for which from 50s. to 55s. each were demanded, and there were crosses, Cheviots, and Cheviot ewes and lambs for sale. There were, however, few bargains reported, and if owners had forced sales there would have been little or nothing remaining for wintering. Pigs, on the contrary, were in great demand. A large number was brought to market, and no kinds with any pretensions to size and quality could be obtained under 38s. or 42s. each.

CARLISLE SPRING FAIR.—This annual fair was held on Wednesday. The supply altogether, in point both of quality and numbers, was the worst seen at a spring fair for many years. There were no Irish to speak of, and supplies of milk cows, Shorthorns, Galloways, and Ayrshires were so mixed and scattered that it is difficult to speak of them separately. The main portion were young Galloways and Shorthorns, many of them were of bad quality, but also including some two-year-olds that showed very well. There was a large attendance of buyers, and although business was slow at the beginning, yet anything of good quality found a ready sale at good prices. The Shorthorns began to go first, stirks selling at £9 10s. to £11; two-year-olds £12 to £15; and a few three-year-olds, fat, at £26 to £27 10s. Galloways took a good deal of picking up, and it was not until nearly three o'clock that the last lot was driven off. This class varied much in quality, and prices ranged from £7 10s. for the youngest and most indifferent up to £14 and £16 for the best two-year-olds. Milk cows were rather scarce and in demand, selling at £18 to £25. Ayrshires were so few that they are not worth quoting.

THE MODERN FARMER.

The civil war now raging so bitterly in the East has served to revive the old cry or complaint against the modern farmer. According to the picture drawn by the True-blue, Conservative *Standard*, instead of living in his kitchen, eating fat bacon and smoking a long pipe, the tenant has now a piano in his drawing-room, has a taste for champagne or claret, and very possibly has paid a visit to Paris. And why not? Has not a similar change come over almost every class in society? The city tradesman, whose father lived over the shop, content with an occasional voyage to Greenwich or to uttermost Gravesend, has built his country-house as a very necessity, with a stable of hunters, and a yacht lying at the mouth of the river. Or to draw the analogy yet closer, if the farmer lives better than he did, what shall we say of those who live through him, the implement makers, the manure dealers, and so on? And still, with such other modern instances before us, the world is ever inclined to resent any improvement in the social condition of the farmer, as if refinement did not imply education, and education the first of means towards the due development of Agriculture. Knowledge must direct capital, as it is simply by a combination of the two that we have been enabled to achieve that improvement in the cultivation of the land, so noticeable during the last thirty years.

"I have from the beginning held that the landlords of England have as deep and even a more permanent interest in the labour question than the tenants." So said Mr. James Howard at Bedford the other day, and so have we continued to say from the very time of the first strike. But this is clearly a mistake, for, as we gather elsewhere, the main question at issue is whether the farmer, as a farmer, shall or shall not cease to exist? Thus, according to the *Pall Mall Gazette*, another of our daily journals, "the middle man is only a convenience. Somebody must own the land, and somebody must cultivate it. These are primary necessities. But the contractor between the two, as the farmer really is, is a later invention. It does not signify what system of land tenure you adopt. You must have ownership in some shape or another, and you must have either tillage or pasturage. Proprietors, then, on the one hand, and ploughmen, shepherds, or herdsmen on the other, are inseparable from the existence of land in any civilized community. But the tenant farmer, as we know him in the present day, is a modern development of agriculture, and decidedly not essential to it in the sense in which the other two are." This is tolerably strong, and we give it here in order that our modern invention may see what the rest of the world thinks of him. When Mr. Howard said that the labour was a landlords' question, he probably implied a question of rent, together with the more regular discharge of certain duties properly devolving upon ownership. But, by the *Pall Mall Gazette*, it is by no means likely to come to this; on the contrary, the modern farmer will in so many words have to go, and we shall return to the good old days of long pipes, strong beer and other primitive customs—"The landowner, if driven to reduce his rents, will say to himself that, if it must be so, he will have the advantages of poverty as well as its drawbacks; and, with a reduction in his own style of living, he will restore the old race of small farmers who gave him no trouble about anything. Such a change as that would very soon settle the game difficulty, which arises not so much from the destructiveness of game as from the coveted privilege of shooting it. This and several other rather troublesome questions would be set at rest for half a century by exchanging the present race of farmers for a smaller, poorer, less ambitious, and more dependent class of occupiers."

This, of course, is but another fling at the fine gentleman farmer, with his champagne, his piano, and his parlour; but the question naturally arising here will be—Is such a change altogether feasible? For some reason or other, very possibly it may be poverty, a great majority of the landed estates in this country are not so well provided with buildings as they should be; but when rents fall, *as fall they must*, and the landlord "restores the old race of small farmers," he will simply have to multiply homesteads as he multiplies occupiers; while instead of "in the long run getting the best of the bargain," we have no hesitation in saying that he would be worse off than ever. Small farming in Great Britain means, as a rule, low rents badly paid; small farming implies small capital and indifferent cultivation; as where the holdings are the smallest there the labourers are the worst off. It is true that if the landlord would wish to keep his tenant in the condition of a serf, who would not "trouble" him about game or rights, let him go back to the *smaller, poorer, less ambitious, and more dependent occupier*. What a terrible, what a shameful picture of a farmer in this age! But happily neither the landlord nor the country can afford to return to such a state of things, and if the landlord have to bear his share of the burden, this must be adjusted in some other way.

The labour question is a landlords' question. Some of those who are now talking the loudest in the Eastern Counties of duties and sympathies, and so forth, offer a strange contrast between their words and their acts. These philanthropists have for years been systematically clearing the labourers off their estates; while their rents are screwed up to the very highest the land will bear, a case occurring even within the last few days where a kind, considerate nobleman was asking for something more per acre. And who makes high rents, or keeps rents as high as they ever again fairly can be? Not the small, poor, dependent occupier, but the educated man of means, to whom we have no hesitation in saying the marked improvements of the last thirty years or so are almost altogether due. And he has accomplished so much not always under encouragement from the landowner, but in the face of such difficulties as old obsolete agreements, or no agreement whatever, against game-keepers, lawyers, and stewards, who would often prefer to ruin than to help him, especially if he be "ambitious."

There is one lesson which this dispute should teach the employer. Come what may of the controversy, the Labourers' Union will never again be thoroughly stamped out. It may die away for a time, but all precedent tells us that these associations are imbued with vitality. The workman, in a word, has been taught to fight his own battle, as it is pretty evident, from all that is going on just now, that the landlord knows how to look after his interest. On the other hand, did the farmer, despite his capital, education, and energy, ever hold so pitiful a position in public as he does at this moment? Look at the Budget, analyse the Malt-tax division, listen to the roars of laughter with which his claims are greeted. The farmer deals resolutely with his servant, but how does he act towards his "representative" or his landlord? One great effect of the Chambers of Agriculture, one result of this "bringing the two classes together," has been to reduce the farmers to a condition of sheer nonentity. They do just what their representatives tell them when in council, and their representatives do just as they please when they go elsewhere. The labourers have their Unions and the landlords have their Unions, but, say what they will, the farmers have none.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

In the cattle trade during the past month nothing of interest has transpired. The supplies of stock have been about the average, and have included some well-conditioned animals. The Norfolk season has thus far been a very favourable one, and the graziers of the Eastern Counties have managed to acquit themselves very creditably. From Scotland the arrivals of beasts have been again limited, but the quality, as usual, has been excellent. Ireland has sent a moderate number of beasts, but their condition has not demanded any particular notice. As regards our foreign receipts, the show has been tolerably good as regards number, supplies having been received from Denmark, Holland, and Spain; the condition about the average. With reference to the trade, the tone at the commencement of the month was one of firmness; occasionally the best Scots made 6s. per 8 lbs., but since then much less firmness has prevailed, and a reduction of 4d. per 8 lbs. has taken place.

In the sheep-pens a fair number has been exhibited, and the quality has been good. As in the case of beasts the demand has been alternately steady and depressed, and the closing prices show a decline on the month. At the commencement the best clipped Downs and Half-breds were making 5s. 8d., but the top price at the present moment does not exceed 5s. 4d. per 8 lbs.

The lamb trade has been tolerably steady, and prices have ranged pretty evenly from 7s. 4d. to 8s. 6d. per 8 lbs.

Calves have been dull, and have fallen from 4d. to 6d. per 8 lbs. on the month.

Pigs have been a nominal market.

The imports of foreign stock into London during April of the current and past year have been as under:

	1873.	1874.
Beasts	4,480	3,281
Sheep and Lambs	48,822	37,216
Calves	1,444	1,212
Pigs	172	5,015

The arrivals of beasts from our own grazing districts, as well as from Scotland and Ireland, have been as under:

	1873.	1874.
Norfolk, Suffolk, Essex, and Cambridgeshire	6,800	7,100
Lincolnshire	104	80
Other parts of England	1,250	1,700
Scotland	245	356
Ireland	500	200

The total supplies of stock exhibited and sold at the Metropolitan Cattle Market during the month have been as under:

	1873.	1874.
Beasts	16,010	15,420
Sheep and Lambs	132,750	137,760
Calves	1,970	1,770
Pigs	410	355

COMPARISON OF PRICES.

	1873.			1874.		
	s.	d.	s. d.	s.	d.	s. d.
Beasts	4	6	to 6 0	4	4	to 6 0
Sheep	4	10	to 6 0	4	2	to 5 8
Lambs	8	0	to 8 6	7	4	to 8 6
Calves	4	10	to 6 0	4	0	to 5 10
Pigs	3	8	to 4 10	4	0	to 5 0

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

After the previously fine weather, the first fortnight in April was drier than usual, as well as cold; the third week brought great changes of temperature, with some roughness, but a good fall of rain; and, on the fourth week, summer seemed suddenly to come upon us, the heat on the 21st being like that of July. Such a change, after the previous rain, did wonders as regards vegetation. The hedges became instantly clothed with verdure, the fruit-trees with blossom, and the meadows immediately promised an abundant crop of hay, while the wheat and early-sown spring corn participated equally in the benefit, suggesting both an early and abundant harvest. The same splendid weather has taken its course over Europe, producing the like effects; but stocks of wheat, as well as of all sorts of corn, have become so low that prices have as yet been little shaken, though the gain of 2s. to 3s. on foreign red American has become doubtful; and several markets in England, though but scantily supplied, have yielded to the extent of 1s. per qr., after remaining very firm all through the holidays. At Paris, holders have given way 1s., and in Belgium about as much. In Germany, the decline has scarcely equalled this, and fine wheat at Dantzic has become so scarce that it has rather improved in value, being worth 60s., free on board. The same state of things has occurred in Hungary, in spite of the aversion of millers to pay unusual rates. Till the last rains drought was threatening Algeria, Spain, and Italy. But at New York, where monetary matters seem on an unsettled basis, there has recently been a decline of about 1s. per qr.; though extensive inundations from the Mississippi have ruined thousands of people so completely that they have been compelled to apply to Congress for temporary relief, and it will take fully two months before the subsidence of the waters will permit the renewed cul-

tivation of the land. But the fine weather, while checking the trade and producing a temporary depression in prices, does not multiply the ricks in the country or increase the imports from abroad, and with the past changes we have had there may be others less propitious ahead; and this so fully impresses the majority of holders of foreign that the last market, with brilliant sunshine, found very few disposed to accept 1s. less money, and a few hail-storms or night-frosts might suddenly alter the present aspect. The following rates were recently paid at the places named: Native red wheat at Paris 67s., white 70s.; native at Bordeaux 68s. 6d., at Louvain 68s.; red Wolgast at Brussels 63s.; Zealand white at Rotterdam 63s.; Saale at Hamburg 63s. 6d.; high mixed at Danzig 61s.; red at Berlin 58s., at Cologne 62s. 6d.; American spring at Zurich 68s., Bessarabian 72s.; white at Santander 60s., at San Francisco 59s. 6d. c. f. i.; red spring at New York 48s. 5d. per 480lbs.

As Monday, the 6th April, was a holiday, and Monday, 30th March, was not included in the last review, we commence with the latter day as the first of the present four weeks. The market in London then opened on small English supplies, but those from abroad were good. The show of fresh samples this morning on the Essex and Kentish stands was very short, and the condition fair. The best then went off steadily, at the previous week's currency; but inferior qualities were dull. The business in foreign was limited, though there was to be only one more market in the week, and red American with difficulty maintained its former value. Cargoes afloat were generally held at 1s. per qr. improvement, with bids at 6d. more, which holders refused. Notwithstanding the holidays, the country trade, though limited, was very firm, and many places showed a rise of 1s. per

qr., as Boston, Bristol, Derby, Exeter, Louth, Lincoln, Market Rasen, &c., while foreign at Liverpool was 1d. per cental higher on Tuesday, and at Manchester 3d. Leith, Edinburgh, and Glasgow were very firm in the business done, and Dublin tended upwards for Irish qualities.

On the second Monday, April 13th, the English supplies were again limited, but the foreign were rather increased, the market from the absence of business having double supplies. The show from the near counties remained small, and the better tone noted in the country enabled factors to realise an improvement of 1s. on the fortnight for all good qualities. All sorts of foreign were improved to the same extent, and holders of American red were able to sell at 1s. to 2s. per qr. more money than on Monday, March 30th. Floating cargoes sold pretty freely, at an improvement of 1s. per qr. The wheat trade in the country still pointed upwards, generally to the extent of 1s. per qr.—as at Ipswich, Sleaford, Spilsby, Melton Mowbray, Market Rasen, Leeds, Lynn, &c., and the improvement of 1s. to 2s. per qr. was realised at Gainsborough, Hull, Manchester, Louth, Rotherham, Sheffield, Wakefield, &c. Liverpool was 2d. to 3d. per cental higher on Tuesday, with a further rise on Friday of 3d. to 4d. per cental. Leith was 1s. dearer, Glasgow 1s. to 1s. 6d., and Edinburgh 1s. to 2s. per qr. Foreign was 6d. per brl. higher at Dublin, and native held at rather more money.

On the third Monday the English arrivals were short, with a great falling off from abroad. The quantity on the Essex and Kentish stands was short, and the condition fair; but a change to wonderfully fine summer weather checked the upward tendency of prices, and sales were only sold slowly at the previous Monday's rates. The foreign trade lost its buoyancy, but 1s. over the previous quotations was still made, though sales were neither free nor extensive. The floating trade, without many cargoes unsold, held at the terms of the previous week. The summer weather had some influence also in the country, and though some places were dearer, others rather gave way. Still at some markets supplies were so short that 1s. more was paid, as at Sleaford, Market Rasen, Sheffield, &c.; while Spilsby, Gainsboro', and Thirsk were 1s. to 2s. higher. Liverpool gained 2d. to 3d. on Tuesday, but it was lost on Friday. Several of Saturday's markets gave way 1s. per qr. The Scotch markets were steady, but not dearer. Dublin was firm at the commencement of the week, but subsequently rather gave way.

On the fourth Monday the English supplies were very limited, with much less foreign reported; the weather, however, having been quite summer-like and forcing for an entire week, business was slack, though but few fresh samples were exhibited from the near counties. The best English sold very slowly, at the previous currency, but a good portion was left over. Though but few cargoes of foreign were offering, millers seemed resolved to hold back, and had sales been forced some concession in prices must have been made.

The arrivals for four weeks into London were 11,995 qrs. English, 99,825 qrs. foreign, against 17,323 qrs. English, 75,258 qrs. foreign in 1873. The imports into the kingdom for four weeks ending 11th April were 2,711,879 cwt. wheat, 525,434 cwt. flour, against 2,148,951 cwt. wheat, 214,397 cwt. flour for the same period in 1873. The month's exports from London were 11,656 qrs. wheat, 1,076 cwt. flour. The London averages commenced at 62s. and closed at 64s. per qr. The general averages opened at 60s. 10d. and ended at 60s. 6d. per qr.

The flour trade on the whole has been quiet for the past month, but on 30th March town millers reduced

their top price from 57s. to 54s., at which it has since stood. Country sorts, however, as well as foreign, have rather improved, say about 1s. per sack, and 6d. to 1s. per barrel; at New York they have fluctuated, closing for extra state at 25s. 1d., while fine here is worth about 33s. per barrel. The four weeks' imports into London were 65,625 sacks English, 14,194 sacks 27,492 barrels foreign, against 73,638 sacks English, 13,484 sacks 6,769 barrels foreign for the same time in 1873.

The supplies of barley, both English and foreign, have been moderate all through the month, and values have been tending upwards, but the malting season being near its close prices cannot now be relied on, though nominally as high as 56s., and for Saale at Hambro' 54s. free on board has been paid, while low sorts here, from the scantiness of stocks and high prices of maize, have been very firm, and advancing, so that foreign grinding has been worth 34s. to 37s. per qr. Everywhere stores seem to be pretty well cleared out, and though the demand must diminish as summer advances, prices are likely to rule high up to harvest. The month's imports into London have been 17,578 British, 22,650 qrs. foreign, against 5,430 qrs. British 20,029 qrs. for the same period in 1873.

Malt throughout the month has ruled high as the necessary consequence of the high rates paid for the best barley, but business of late has been quiet.

The supplies of maize have been moderate, and rates, after advancing 1s. to 2s., finally lost some ground, the high rates lessening its consumption, but good mixed is still worth 41s. to 42s. The imports for four weeks were 27,090 qrs. against 21,634 qrs. in 1873.

The oat trade has ruled very firm, with prices further improved 1s. to 2s. from the falling off of foreign supplies. The small receipts of English, and the constant and increasing demand, 35lbs. Swedes have become worth 27s., 40lbs. 29s., and 40lbs. Russian 31s. There seems every prospect that a high range will obtain all through the season, as prices abroad have very generally increased, while stocks are universally low. In France, in Belgium, and Germany, good heavy sweet corn has become worth 30s. free on board. The imports into London for four weeks were 1,243 qrs. English, 200 Scotch, no Irish, 82,331 qrs. foreign, against 2,222 qrs. English, 87,091 qrs. foreign for the same period in 1873.

Beans, though not largely in demand, have gained about 1s. per qr. from the lightness of the supplies, ticks being worth 40s., harrows 45s., small 48s., while Egyptian bring 43s. per qr. The receipts into London for four weeks were 2,679 qrs. English, 6,784 qrs. foreign, against 2,296 qrs. English, 3,596 qrs. foreign in 1873.

Peas, from a still greater falling off in the receipts, both English and foreign, have participated in the improvement say 1s. per qr., though the demand for boilers has become very limited, and the high price of those for hog feed have reduced the consumption. Boilers are worth about 47s., duns 41s., maples (very scarce) 47s. per qr. The imports into London have been 422 qrs. English, 740 qrs. foreign, against 661 qrs. English, 3,828 qrs. foreign in 1873.

The supplies of linseed also continuing small, prices have rather hardened, with but a small consumption, but there has been a free demand for cakes at full quotations.

The seed season being nearly over, prices are not to be depended on. The little still doing being confined to fine qualities of home growth, though some quantity of inferior is still left. Tares, too, have been but little inquired for, though not dear during the season, and from the value of beans those left over may be worth as much as if sold for seed.

THE FARMER'S MAGAZINE.

C O N T E N T S.

MAY, 1874.

PLATE.—THE CUP PEN OF PIGS : AT THE SMITHFIELD CLUB SHOW, 1873.

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AND

AGRICULTURAL JOURNAL

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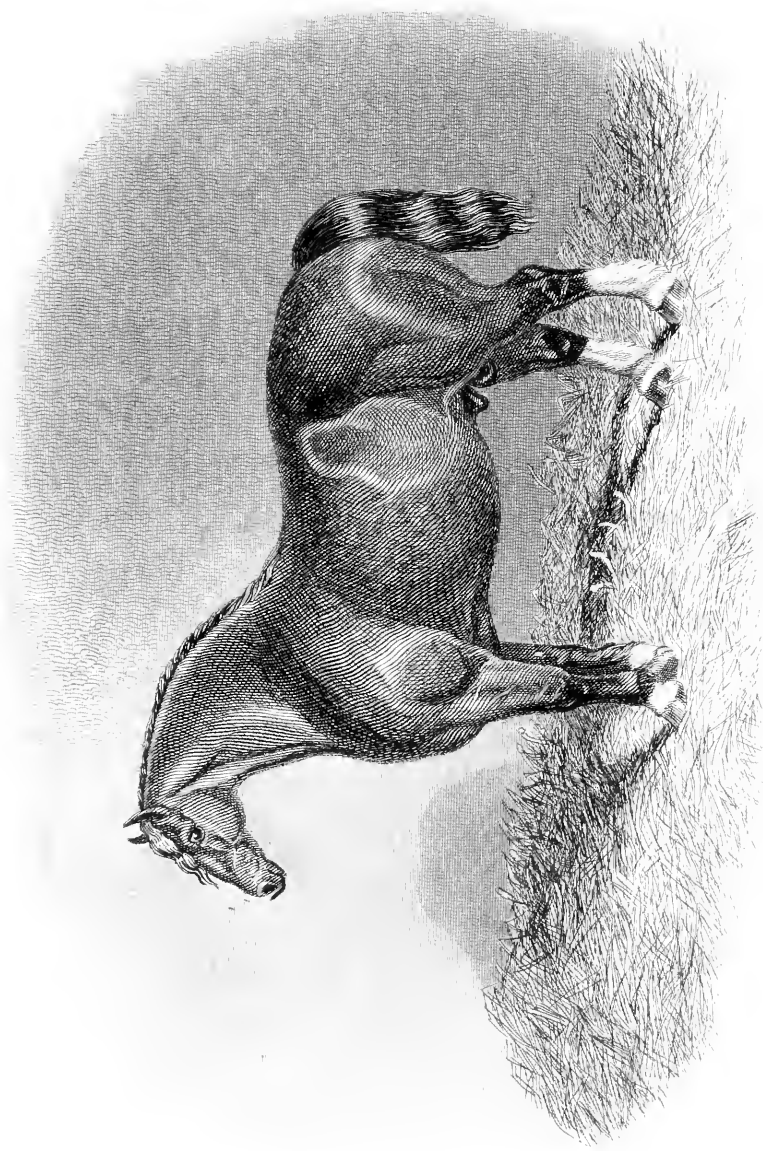
THE FARMER'S MAGAZINE.

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W. Bull

THE FARMER'S MAGAZINE.

JUNE, 1874.

PLATE.

LE BON: A ROYAL PRIZE CART STALLION,

THE PROPERTY OF MR. C. SHARPLEY, OF KELSTERN HALL, LOUTH, LINCOLNSHIRE.

Le Bon, bred by Mr. Thomas Fullard in 1868, is by Wiseman's Wonder, dam by Hemmant's Thumper, grand dam by Seward's Major.

Le Bon was broken to ordinary farm work at two years old upon strong clay land, and was shown once during that summer at the Lincolnshire Society's show, held at Sleaford, where he took the first prize. After leaving the show he went back to plough with other horses, and was shown again the following year at Wolverhampton Royal, when, as a three-year-old, he took the third prize in the all-aged class to Honest Tom; as also the second prize at the Lincolnshire show, held at Brigg, and

second at the Yorkshire, held at York. In 1872 he was twice shown, taking the second prize at the Royal show at Cardiff, to Honest Tom, and second also of the Lincolnshire at Spalding. In 1873 he was again only twice shown, taking first prize at the Royal show at Hull, and first at the Lincolnshire show at Gainsboro', thus having fairly succeeded Honest Tom as the champion horse of his time.

At Cardiff we said, Le Bon is "the nicest sized horse for agriculture;" and, again, at Hull, that Le Bon is "a model of a cart stallion in size and form."

THE FARMERS' CLUB.

LAND LAWS AND LANDLORDS.

The last meeting of the Club for discussion prior to the usual summer and autumnal recess, was held on Monday, May 4, in Salisbury-square. The chair was taken by Mr. James Howard; and the subject was introduced by Mr. H. Clark, of Eford Manor, Plymouth.

The CHAIRMAN said: Gentlemen, I regret to have to inform you that Mr. Major Lucas, the Chairman of the Club for this year has been prevented by severe indisposition from coming here this evening, and I am quite sure I express the feelings of every member of the Club when I say I hope that Mr. Lucas' illness will prove to be only of a temporary character, and that he will soon be restored to his wonted state of health (cheers). The subject which was discussed at the last monthly meeting was "The Farmers' Interest in the new Parliament," while that appointed for consideration this evening is "Land Laws and Landlords." It may be thought by some that these two questions are rather closely allied, but although cognate, it appears to me that their importance is a sufficient justification for the committee's having chosen both for discussion in the same year (cheers). I think no more important questions can occupy the attention of this Club, or of any other agricultural association of a like character, than the laws relating to the occupation, ownership, and transfer of land (Hear, hear). At the present time there is a very widespread interest among various classes of the community on what is popularly called "the land question," and there appears to be a very general concurrence of opinion that certain changes in the land laws are necessary for the future well-being of the community; indeed, the owners of the great estates in England have, through the House of Lords Committee, expressed an opinion that things cannot be allowed to remain just as they are (Hear, hear). Lord Cairns has, as you are aware, introduced in the present Session a bill for facilitating the transfer of land. His lordship has touched only the mere fringe of the question; but, perhaps, we ought not to be surprised that he has not endeavoured to grapple with the whole question, considering that our legislators, if not the public, have made up their minds to a season of repose (laughter). No one appears at present to

be in a very great hurry to disturb that repose. Should, however, the dozing extend to an undue length, perhaps the slumbers of our legislators will be disturbed in a ruder fashion than is anticipated. It may appear a trite remark if I say that events now-a-days follow each other in rapid succession, and when once public opinion is turned in any particular direction, the tide rises high and very rapidly. I have said events occur rapidly; for instance, who could have foreseen or foretold the breaking-up throughout a large part of England of the ancient relations between employed and employers in agriculture—a revolution as unlooked-for as it has been sudden? I would ask, may not the very difficulties by which the farmers in a considerable portion of England now find themselves surrounded be the means of hastening legislation on the land question? (Hear, hear). With the prospect of dearer labour, is there not more reason than ever why the capital of the tenant sunk in the purchase of such labour, and expended upon or invested in land, should be protected by legislative enactment? I think this is, and in time it will be generally felt to be, a very forcible reason for legislation. I will not, gentlemen, trespass any longer on your attention, nor anticipate Mr. Clark. I wish to remark with regard to Mr. Clark, who is a stranger among you, that he is a gentleman who is learned in the law, and feels the more interest in this subject on account of his being himself a landowner. I will now introduce him to your notice (cheers).

Mr. H. CLARK said: The Chairman has remarked in introducing me that I am "learned in the law;" by this I feel flattered, and I hope I have some knowledge of the law; but in appearing before you this evening I do so as a limited landowner who takes a deep interest in this question. Let me first explain the circumstances which have led to my presenting myself before you as the introducer of this question. Some time ago your excellent Secretary Mr. Corbet asked me if I would say something at a meeting of the Farmers' Club. Being a new member, I naturally hesitated at first. Not knowing what subject I could introduce, I asked whether a history of the potato disease would be of any use; to which Mr. Corbet replied that he thought that I had better write an essay in competi-

tion for the premium of the Royal Agricultural Society. I then thought that the law of bankruptcy might have something to do with farmers (great laughter). But Mr. Corbet shook his head. It next occurred to me that I might possibly say something interesting about imprisonment for debt (laughter); when I got the answer that that was a drearier subject than either of the others (renewed laughter). At last it occurred to me that I would leave the selection to Mr. Corbet himself; whereupon he suggested "Land Laws and Landlords" as the subject for the meeting in the present May (cheers). Now, this is a very large question indeed, and I cannot help thinking that at the present time the land question is exciting throughout England the greatest interest (Hear, hear), not only among landlords, many of whom do not want the thin end of the wedge to be got in, but also on the part of tenant-farmers and the public, who are interested in the land being made to produce all that it possibly can, on account of the population being continually on the increase. Now in dealing with this question I shall touch upon five points, it being of course impossible that I can enter into each branch of the subject at any great length. I shall speak first upon land transfer; then upon the law of settlement; then upon the question of Tenant-right; next upon the subject of waste lands; and lastly upon the Game-laws. I might have included the law of distress in my divisions. I will only say, however, that I think there can be no doubt that that law ought to be repealed. I cannot conceive what good it does to the landlord beyond this—that in consequence of its existence he occasionally catches a Tartar (laughter)—that is, a tenant who is sharper than others, and from whose occupation he does not derive much benefit (Hear, hear). The law of distress often inflicts great injury on seed merchants and others, and I would have it wiped out. As to the law of primogeniture, many persons think that its existence is hardly worth taking into account, because, if it were done away with, nearly every landowner would probably make a will which would produce the same effect. But it does seem rather hard that in the event of a man owning freehold, and dying without having made a will, everything should go to his eldest son, while, if he leaves personalty, that will be divided equally among all his children. I fear, gentlemen, that in opening this subject I shall fall very short of your expectations; but, if I do, I shall have the consolation of knowing that the people who read the report of the discussion are apt to say, "It is no matter what anyone says in introducing subjects at that Club: a discussion follows in which practical men take part, and everything comes out right then." Now, sir, the land question ought, in my judgment, to be most carefully considered, and opinions with regard to it ought to be most carefully expressed. It has been truly said that Englishmen are not a philosophical race, but are rather remarkable for their common sense and common justice; and I trust that I shall show common sense and common justice in opening this question. I am not going to discuss what has been called by John Stuart Mill "the unearned increment of land." I wish to deal with the subject in a practical manner, and, if possible, to find a practical remedy for the evil which prevails. Nor am I going to enter into the origin and nature of property in land. I give credit to all who are present for having paid for their apparel (laughter), and it is consistently with such assumptions that I am going to discuss the land question. I am not going to abuse the landowners, nor am I going to abuse the lawyers. I am a barrister as well as a landowner, and I think it would be bad taste in me to abuse either. I say that no one has a right to abuse agriculturists, whether he be a Tory, whether he be a Liberal, or a Radical. The agricultural interest is, as everyone knows, one of the largest and most important interests in this country, and I say that no political party in the State can afford to neglect it. Further, I say that the agricultural interest must depend on three things—the landlord being secured in his property; the tenant being secured in the capital, skill, and industry which he has invested in the soil; and the labourer being adequately rewarded for his toil. No doubt, a great deal has been done for agriculture, but a great deal remains to be done. In saying this, I am not speaking without authority. A select committee was appointed by the House of Lords for the purpose of inquiring into the facilities afforded by the existing law to limited owners for the investment of their capital in the improvement of the land, and to report whether any alteration is requisite in order further to encourage

such improvement. That committee made, in its report, the astounding statement, on Mr. Baily Denton's authority, that out of twenty millions of acres of land in England and Wales that required draining only three millions have been drained. Still, it further appeared from that statement of Mr. Caird that one-fifth of the land in this country was in the state in which it required to be in order to make it fit for cultivation. [A VOICE: "What is the date of that report?"] The date is 1873. It is the report of the Committee of which Lord Salisbury was chairman, and I repeat that to my mind the statement which I have given, seems most astounding. A Committee of the House of Lords, selected for their fitness to deal with the question, would never have made such a statement without positive and reliable evidence. No doubt many limited owners have availed themselves of the power given them by various Acts of Parliament to make improvements; but the expense of applying those acts is very great; and considering how the cost of provisions is increasing, because the labouring classes are much better paid than they were formerly—considering how the demand for meat and other agricultural produce is continually augmenting, it cannot be right that so much of the land of the country should remain unimproved, and that capital, energy, and enterprise should thus be stopped in their free action. I have heard of cries for free land. Some persons have contended that all the land of the country ought to be subdivided. But not only would compulsory subdivision be contrary to freedom—the expression meaning that a man's land belongs not to him, but to someone else—but it is manifestly not for the interest of the country that it should be carried out. I would ask anyone who advocates subdivision to consider what is the state of things in France, where subdivision has been carried out. In that country the amount of the produce is not half as much as it is here; and therefore I say the argument for subdivision falls to the ground. Look at the peasantry of France. I have it on good authority that the peasantry of France are poor; that the farm-buildings are utterly dilapidated. Therefore I do not think the remedy for the evils connected with land in England is to be found in subdivision. But can nothing be done to remedy this state of things? I think a great deal can be done. I will, with your permission, gentleman, call your attention to the Land Transfer Bill now before Parliament. We are told, and no doubt it is true, that land can be handed over more easily and cheaply by the owners in France, Belgium, and America, and in fact, almost every other country than in England, and that this is due to the existence of registration and other laws which have been constantly resisted in England, chiefly in the interest of the lawyers, who are said to "most obstinately cherish abuses, and most successfully resist reform," a soft impeachment, the truth of which Lord Cairns denies. In fact, landowners are the real opponents of reform, as was shown by their strenuous opposition to the measure brought in by Lord Campbell many years since, having for its object the registration of contracts affecting land. Now the aim of English land reformers is to make the transfer of land as safe, quick, inexpensive, and simple in this country as it is in other countries. England stands now almost alone among civilised nations as a country in which there is no public registry of titles to land and in which all transfers of land are matter of private arrangement. The title to various kinds of personalty is, on the other hand, registered, and the ownership passed by more or less public and simple methods. Consols pass by transfer in the books of the Governor and Company of the Bank of England; shares in joint-stock companies pass by the alteration of a name in the company's register. But the transfer of land is still an occult performance, which can only be carried out by skilled persons at a great expense and after protracted delay. The ordinary course in a sale of land—that of conveyancing by deed, as distinguished from conveyancing by registration of title—has been so graphically described by Lord Cairns, when he was Sir Hugh Cairns, that I cannot do better than quote from his speech in the House of Commons in 1859. I will not stop to argue the necessity of a cheap and easy mode of transferring land, for on this point all are agreed. Before doing so, however, I will proceed to give an outline of what has been done with reference to land transfer. The question of applying to estates and interests in land the principle of conveyancing by registration of title received early attention in the Farmers' Club, and has since been often discussed in the House of Commons. Besides Lord Cairns it has been referred to in the lower house by Sir Robert

Torrens, who explained very fully the system which exists in Australia; and I cannot help expressing my regret that that gentleman has not been returned to the new Parliament, because I am sure that if he had been he would have rendered most valuable service there in connection with this question. Australia is a new country, and as a new country takes the best means to the end, untrammelled by prejudice and tradition. There no less than 18,233 distinct titles (a considerable proportion of them complicated or blistered) have been placed upon the record without practical injury or injustice to any one. Under the system there in force, the requisitions which the applicant for registration is required to satisfy are: 1st. That he is in undisputed possession. 2nd. That in equity and justice he appears to be rightly entitled. 3rd. That he produces such evidence as leads to the conclusion that no person is in a position to succeed in an action of ejectment against him. 4th. That the description of the parcels of land is clear and accurate. These being satisfied, advertisement and the service of notices calling upon all claimant's to show cause against the applicant's title within reasonable time, are found to be sufficient safeguards against risks arising out of technical defects, and (in accordance with an ancient practice under English law), in the event of nonclaims within the prescribed periods, indefeasible title is issued to the applicant. Sir R. Torrens says, "A few weeks back a friend of mine expressed surprise at meeting a gentleman whose arrival from Australia was not expected for some months. 'Yes,' said this gentleman, 'it is all owing to that admirable Act of your friend Torrens that I am here so soon. Only two days before the packet sailed I had an offer for my estate. The intending purchaser went with me to the Lands Title Office, and in less than an hour the business was transacted; I got a cheque for the purchase money, and he got an indefeasible title to the land, and as we did the business ourselves, the cost was only three or four pounds.' Again, a gentleman residing in Launceston, Tasmania, writes to me as follows: 'Your Act has proved a great blessing to us here.'" It may be said that all this is very well in Australia, a new country, where there are no complications, but it would not do here. "As to the argument from the more recent origin of titles in the colonies," says Sir R. Torrens, "it is only necessary to observe that many of the titles there dealt with, and those amongst the most valuable, date back forty years or upwards, and that, owing in part to unskillful conveyancing in the earlier days, and in part to the frequency of dealings with land in new countries, complications and difficulties no less grievous than those which oppress the landed interest in this country had been superinduced upon comparatively recent titles." As this question may be new to some of my hearers, I will commence by endeavouring, in as few words as possible, to explain the radical distinction between "conveyancing by deed" and "conveyancing by registration of title." "Title by deed," we are informed, by probably as high an authority upon the subject as any in England (Mr. Freshfield), can never be demonstrated as an ascertained fact; it can only be presented as an inference more or less probable, deducible from the documentary and other evidence accessible at the time being." This condition involves, in the first place, the employment of highly-skilled and therefore costly professional assistance. 2ndly, An element of uncertainty through the admitted possibility of a wrong inference being drawn from the evidence even by the most skilful conveyance, (2) and from the difficulty of ascertaining beyond doubt that all the evidence is fully and clearly before him. 3rdly, This examination involves delay, sometimes such delay as entirely to frustrate the object of the party dealing; and lastly, It has the disadvantage of being cumbersome from the mass of documents that have to be preserved. In contrast to this, "title by registration" is a tangible ascertained fact. The entry in the record is conclusive. There is nothing to deduce or infer, or, in the conduct of ordinary dealings, to necessitate professional assistance. The time occupied in such dealings need not exceed that required for transacting the like dealings with railway scrip, or with property in shipping, and the instrument evidencing title would rarely exceed the size of a sheet of letter paper. As regards this Club, I think I cannot do better than commence with the interesting introduction of the question by Mr. Fisher Hobbs in 1853. The question was, however, incidentally discussed in 1851, when the simplification of land transfer was insisted upon, the subject for discussion being, "The best means of

inducing capital to be more freely invested in the land." Mr. Hobbs brought this question before the Club in an able, lucid address: "The many difficulties which oppose the Transfer of Land, and the improvements that would result from facilitating the process." Among other things he said, "If we are to have free trade in produce we should have free trade in land. To the farmer land is raw material, and it is only common justice that he should be able to procure it on the easiest and most advantageous terms." After an interesting debate the following resolutions were adopted—I believe it is not customary now to pass resolutions in this Club: "1. That the difficulties attending the transfer of land have generally become so many and embarrassing as to demand the serious attention of the Legislature, with a view to removing them." 2. "That the effect of these difficulties is in the highest degree injurious—to the owners of the land, who, encumbered with them, can seldom make the most of their property; to the cultivators of it, who are thus too often denied that aid and encouragement in the way of permanent improvements—such as buildings and draining—that should properly come from the landlord; and to the public at large, who are consequently deprived of those opportunities for investment, and the advantages of increased production, they would otherwise enjoy." 3. "That the first and most direct means for removing these difficulties would be the improvement of the law of real property, the simplification of titles and forms of conveyance, together with the establishment of some effective system for the registration of deeds." No doubt we may take for granted, in 1874, much of what Mr. Fisher Hobbs had to prove in 1853. I pass on to 1859, when Sir Hugh Cairns, then Solicitor General, in a forcible speech graphically described the results of conveyancing by deed, and when he introduced a bill to effect conveyancing by registration of title, this bill being founded on the report of the Royal Commission on registration of title in 1857. Unfortunately, a dissolution of Parliament prevented and interrupted the progress of this bill, and it never became law. In 1862 Lord Westbury brought in a bill which proved a complete failure. In 1865 a Commission was appointed to suggest a workable scheme, and upon the Report of the Commissioners was based the bill of Lord Selborne last session and also that now introduced by Lord Cairns. The Land Titles and Transfer Bill, which has been presented to the House of Lords by Lord Cairns, and has thus far met hardly a shadow of opposition, has for its attendants the Real Property Limitation Bill and the Real Property Vendors and Purchasers Bill. The two main objects are: (1), the confirming of the titles of present holders of land, and (2) the simplification of future sales; and in dealing with these measures I will endeavour to point out how far I think these measures go to remedy the grievance, and how far they ought to go. The principle of Lord Cairns' bill is the principle of the Merchant Shipping Act register, that there should be one person or an aggregate of persons on the register capable of selling. The first object of the bill is to obtain a real registration of titles, that a man should register a title such as it is, the effect man puts on a title which by degrees clears itself off. Lord Westbury's Act registered indefeasible titles only. Besides the title of an estate there were all the charges on the land, hence it was, as Lord Cairns says, a registration not so much of titles as of deeds. Another cause of failure was its mode of dealing with boundaries. Lord Westbury departed from Lord Cairns' principle, and made registration with absolute title the basis of his bill; but his scheme was so expensive and cumbersome, partly arising from its making out indefeasible title only, that it became almost a dead letter. Lord Cairns' scheme on the contrary is to register merely the titles; but as all the titles are not of equal validity he divides them in three classes: 1, A title absolute or indefeasible; 2, A title limited, that is a title certified to be good from a particular date, but not beyond it; and 3, A simple title of the proprietor in possession, and asserting himself to be the owner. Lord Cairns discards Lord Selborne's phrase, "Good holding title," as too vague a term; he will, however, allow the registrar to disregard mere technical imperfections, provided they are notified in the register itself. No title, as you are aware, is now considered by the Court of Chancery marketable which has not its root 60 years back. Lord Cairns' bill will cut this down to 40 years, and will hold 40 years of ownership instead of 60 years to constitute a valid title. Lord

Selborne would be satisfied with 20 years, but Lord Cairns has not the courage to adopt such a change. When a man registers his title it will be duly investigated by the public officers in the office, and notice given in the papers that the registration is about to take place. Persons who have claims against the property will be able to attend, and then it will be decided who is to be put on the register as the owner of the property. The chief difficulty of ascertaining this is that almost all the estates in England are settled, most of them entailed, and the greater part mortgaged. As regards boundaries, Lord Cairns goes further than Lord Selborne, since he will not consent to burden the register with the settlement of boundaries, but merely have them described. It was shown before the Royal Commission in 1865 that in practice boundaries never created any difficulty in buying and selling land. The kinds of property which Lord Cairns would register include three descriptions—absolute ownership, leaseholds, and such charges as mortgages; besides, you will have on the register a description of the property, where it is situated, what it is called, and, as far as possible, its boundaries. Lord Cairns does not propose that the registration should be compulsory, and he is unwilling to disturb the prejudice against compulsion. The bill is not to come into operation until January, 1876, and then it will be optional for the owners of lands on sale to register or not. For three years no kind of compulsion will be used. At the end of that time registration on every sale will be compulsory; or, to use Lord Cairns' own words, "a mild kind of compulsion will be used" in the case of every new sale. It will be compulsory in this sense that the purchaser, if he does not register, will have an estate in equity only; a legal title he will not have until he registers. Legal ownership is good against all the world; equitable ownership is only good against certain persons. The proprietor, once registered, will have "a land certificate" given him of his title. He will be able to sell and give a good title without the expense of preparing an abstract. As to the expense of the purchaser it will be next to nothing; for there is a form of conveyance given in the schedule to the bill which is only three lines in length, leaving out the description of the property, whereas the simplest possible form of conveyance now in use is from two to three hundred lines. The machinery to be used will be that of the Land Office Registry, which was framed by Lord Westbury. The Judicature Act, which constituted one central court, would seem to shut out a tribunal, such as the Landed Estates Court in Ireland, specially concerned with the transfer of real estate. The next question is, whether there should be one register for the whole country or a series of local registers. At first there is to be one registry only in London. There is power given to the Lord Chancellor to create distinct registers whenever it is thought there will be business enough to pay the expenses of a registry. Lord Cairns' reason for adopting the centralised system is, that the advantage of a local register in each county would be small in these days of rapid travelling, when a man can reach London almost as soon as he can reach the capital of his county. Moreover, the greater part of the dealings will be in London; so that persons from London would otherwise have to go down and make examinations at local registries. It will be seen that if this bill becomes law the greater portion of the landed property in this country will still escape registration for many years; because even after three years, at the end of which such registration is to cease to be optional, such registration is only to take place after fresh sales, and not to be compulsory on all landowners. Still, considering the amount of prejudice which has to be overcome before the slightest advance can be made in this important matter, it is to be hoped that the country will acquiesce in the measure as an instalment. If the system works well, it may be possible in a few years' time to pass a general Act for compulsory registration. The present gain in respect of such consequences as will take place under this Act when once it gets into working order will be enormous. However, two things may induce people to register—first, the facility thus obtained for borrowing, and, secondly, that the title improves every year. Having said how far Lord Cairns' bills do go, I will now say how far in my opinion they should go. I think it should be compulsory on all landowners to register their titles; but if the country is not ripe for this, then it should be compulsory for all sales to be registered which take place more than six months after the passing of the Act. I think also that in preference to adopting a centralised system of registries, which in my

opinion would not work well, it should be provided that registries should be established throughout the country. There should, I think, at all events, be a local office in each county, if not in each county court district, for doing the business on the spot. I also think it is a mistake to attempt to utilise Lord Westbury's machinery. It seems to me that it would have been far better to have swept it away, and established an independent office, with local registries throughout the country. It may be, however, that motives of economy influenced him in this. Possibly if what I contend for had been adopted the Government would have had to pension Lord Westbury's staff. Now how much good can we hope will arise from the introduction of these measures? I see nothing to indicate that any other measure is to be introduced. To the public no doubt the affording increased facilities for the transfer of land will be a great advantage; but, looking at you members of the Farmers' Club, I ask how much good will it do you if it stands alone? Incidentally if it does what is hoped it will make it easier for the farmer to purchase an estate if he is able to do so (laughter). But, then, if you cannot purchase an estate, what good will it do? I look around me, and I say that in my opinion alone it will not work as well as might be expected. The Land Transfer Bill will benefit owners and purchasers by affording facilities for transfer—it will benefit Dick, Tom, and Harry by increasing the facilities for transferring land; but if you happen to be a yearly tenant, subject to six months notice to quit, and with no legal claim to compensation for unexhausted improvements when you give up possession, your position may be made worse. I deeply regret, therefore, that when this Land Transfer Bill was introduced it was not accompanied with a Tenant-Right Bill. A Tenant-Right Bill should go hand-in-hand with a measure for facilitating the transfer of land, and in that bill provision should have been made for securing to tenants adequate compensation for unexhausted improvements. That is my view of the matter. In conclusion, upon this part of my subject, I will say that the main and most serious objection to the bill is that it does not strike at the real root of the evil. What is wanted to cheapen land transfer is to limit the power of settlement. I now go on to speak on the question of the position of limited owners. Everyone is agreed that in the case of land the great want is the want of capital applied to the cultivation of the soil, and it is only by an increase of capital that we can increase that fund which will yield a larger rent to owner, larger profit to the farmer, larger wages to the labourer, and at the same time give more and cheaper food to the public. Now is there anything in the present state of the law which discourages the application of increased capital to soil? The law of entail, in spite of some measures intended to mitigate its injurious operations, hinders the application of capital to the soil very greatly. The Lords' Report states the case fairly. It says: "The case for Parliamentary inquiry lies in this, that the improvement of land in its effect upon the price of food and on the dwellings of the poor is a matter of public interest, but that as to investment, it is not sufficiently lucrative to offer much attraction to capital, and that, therefore, even slight difficulties have a powerful influence in arresting it." What are the difficulties? The Lords admit the limited ownership created by law of entail. Let me give an illustration of the effect of the law of entail. Take the case of a tenant for life in possession. I have, say, an estate (A voice: "Where?"). In the West of England, where I am pretty well known. A limited owner in my position is not unlikely to find that his income under the law of settlement is barely sufficient to meet his inevitable wants and it leaves him very little to spend. If I have an entailed estate, it goes to my eldest son. I have five children, and I have to ask myself how I shall provide for the younger ones. Assuming I have to provide for my younger children, I can only meet the requirements of the estate in the way of improvement by borrowing money, and how can I be expected to do this? If a man in my position has several daughters, and no son, the landed estate will go to a distant kinsman; and will he spend money for the benefit of such a remote heir? No; he will, if he be worthy of the name of man, save as much as he possibly can for his daughters. Or, again, if a man be childless, will he spend money for the benefit of the heirs of entail? Rather, will he not keep it for those whom he intended to benefit under his will? Supposing that he has an eldest son, who is irretrievably in debt, will he spend money to benefit usurers by-and-

ly? In such cases there can be no doubt that capital is diverted from the land by the law of entail. Now, what is the remedy? The Lords' report says the Legislature ought to lessen the difficulties which limited owners meet with who wish to spend capital on their estates. Some say that the prohibition of settlement would remove difficulty; but their lordships say that if it were compatible with national feelings, it would fail for two reasons: 1. Improvement would not have much attraction as a commercial investment. The limited owner looks forward for his descendants, and, if settlement is abolished, his solicitude will cease. 2. Settlements are not the worst limitation: mortgages are still more serious. If owners cannot give land companies priority, they cannot borrow advantageously. The payments now annually made on lands charged with improvement loans are: 1. Interest on outlay; 2. Instalments on sinking fund on outlay; 3. Interest and sinking fund on the preliminary charge. The annual burden depends on the length of time over which the payments are spread. The limited owner can only charge for twenty-five years. The Lords who made the report suggest that he should be enabled, with the consent of his trustees, to charge the lands with trust money for ten years more than his own expectation of life, according to tables to be selected, being required only to endorse the charge with a certificate from a surveyor, approved by the Court of Chancery or the Inclosure Commissioners, that the improvement is beneficial; provided that no such term should be less than twenty-five, or more than forty, years; that where he has the consent of the tenant in tail, he shall be able to do so without certificate, and to spread the charge over forty years; and that trustees should be able to defend the inheritance, and charge the estate with the costs. All this is not sufficient: it would only be an imperfect remedy. Sir William Vernon Harcourt, whose views on this subject appear to me well worthy of greatest attention, and whose efforts to secure legal reforms are the result of a careful study of the whole subject, says: "What is really wanted is to unite the actual dominion more completely with the nominal possession—to give to each generation a fuller control, and therefore a greater interest in the improvements it may make to emancipate land from the restraints incident to a limited ownership." I would go further and say that the owner should have power to say to whom property should go at time of death, but no more, except when the object of the bounty is under disability and cannot take it immediately. Now, as to the question of Tenant-Right, I have told you that I believe a Landlord and Tenant Bill should go simultaneously with the Transfer Bill. Any Government which attempts to deal with this measure must deal with the whole question. For many years this question has been prominent to the minds of agriculturists. If I go back to the time of Mr. Shaw, of this Club, or to the time when Mr. Corbet, your excellent Secretary, introduced this subject, and adduced arguments in his Essay, which have never been answered, they contain the whole basis of the observations I am about to make to you. Now I am perfectly aware, in bringing this matter before you, that the agricultural body of England are not as united as they should be on the question of Tenant-Right. Since I introduced the subject in Devonshire in 1868, I find that though the farmers when they assemble in public meeting are in favour of Tenant-Right, when they are put to the push they show the cold shoulder to it. I may be wrong, but although I am not going in for anything like disturbance of good-will, I simply ask this of the landlords and of Parliament, that they should give the tenant fair compensation for the unexhausted improvements he may have made on his farm. I was a delegate to the Central Chamber of Agriculture for Devon and Cornwall, and I made what is supposed to have been an inflammatory speech, and I declined to continue to be the delegate, as I could not go with the views of the Central Chamber. On the Tenant-Right question I have never heard this answered: that compensation for unexhausted improvements must be beneficial to the owner, must be beneficial also to the tenant and to the labourer. No tenant-farmer out of Bedlam can say compensation would not be beneficial, because a farmer secure in the capital laid out on his land would be able to give his labourers better wages, and wages such as he ought to have. The Central Chamber of Agriculture and the landlords throughout England admit that the tenant is entitled to compensation for unexhausted improvements, but they say also "You must not compel us." That is the sting

of Mr. Howard's bill. What is the result? If you have a bill without the compulsory clauses, men will enter into agreements which will give less than the bill and they will say, "Oh yes, we have an agreement, and though it does not come up to the bill, it satisfies the tenant, and you have no right to interfere." But I go further and say I have a right to interfere, as one of the public. If I can show that such an agreement is an injury to the public, that under it the land does not produce the amount of food, that I, as one of the public, am entitled to, as a matter of right I am entitled to interfere; and will any man gainsay that? (Hear, hear). I will tell you my own experience. In 1863 I introduced in Devonshire a very imperfect form of agreement with a compensation clause. The pith of the whole thing was the compensation clause, no doubt. From statistics I found that there were only six properties which had leases with compensation clauses. These properties I admit, were the largest in the country, including those of the Molesworth, the Duke of Bedford, and the St. Aubyn properties. What was the result? Every man who was a wise man farmed according to his lease; that is, if he had no compensation clause he farmed close up to a certain period and then took out (Hear, hear, and laughter). Quite right, and I would have done the same. But supposing he had a compensation clause, he would have farmed up to the last day of his tenancy, so that the land should have produced the greatest possible produce up to the time he left. I am not going to talk about confiscation; only if the natural fertility of the soil is the landlord's, the improvement by good farming is the property of the tenant. I am told throughout the country lots of gentlemen have estates to let. I find also there are no compensation clauses, and week by week the tenants had been farming back. When the estates were thrown on the landlords, the tenants offering asked for compensation clauses. "Oh, no!" said the landlords, "that would be setting up a separate interest in the land." I have no more to say about Tenant-right than the question as to the working classes. The working classes are competitors for food, and they say, "The land produces a certain amount; cannot it produce more, so that we may get food at a lower price?" You cannot deny this if you believe what Lord Derby said (laughter). Why does not the land produce more? The farmer's reply is, "Because we have no security for our capital;" and the labourer then replies, "Why not then have security? and if you don't ask it for yourselves, the time will come when we shall ask for it in a very rude fashion." Now I will pass to the question of the waste lands, which is a very important matter. I may be a will talker; but before you condemn me, perhaps you will listen. If I may believe the agricultural statistics of 1873, I find that in Great Britain out of an area of 56,815,000 acres, only 31,000,000 are cultivated. 2,000,000 are used for woods and game, leaving 23,000,000 acres in a state of nature. Now in Scotland there are 14,000,000 uncultivated acres, in Wales 2,000,000, and in England 7,500,000. If these statistics are not true, Parliament is wrong in issuing them. No doubt the greatest quantity of waste land is in the northern counties, and in Devon and Cornwall, while there are 4,000,000 acres of uncultivated lands in the most fertile parts of the kingdom. Then comes the question whether these 23,000,000 of acres in Great Britain would reward the husbandman for his toil. Has the experiment been tried? I say it is the owner's interest that the experiment should be tried. I am not going to say all these lands would be productive. The Chairman, Mr. Howard, thinks that these waste lands should be classified. In Devon and Cornwall, including Dartmoor and part of Exmoor, some of the waste lands have in some degree produced a profit. Thousands of sheep and cattle are fed on Dartmoor and Exmoor, and large quantities of bullocks are kept there during summer. To attempt to keep cattle there in the winter would, of course, not do. To use the expression of a Dartmoor man, in winter it is cold enough there to "cut the ears off an iron crock" (laughter). But that does not dispose of the question. Are these uncultivated lands capable of being tilled? I think some of them are. How is this to be done? I say boldly, by giving the person willing to cultivate them, not a lease of twenty-one years, because that would not pay; but a lease—say of sixty years with a compensation clause for the unexhausted improvements he may make on this land. Any owner who did that, though he may lose control of the land, would be money in pocket, because at present these lands fetch little or nothing. If these leases were negotiable,

all the waste lands available for cultivation would be employed, I believe, for cultivation. I may be wrong upon that, but I believe I am right. What do the outside public say upon this question. Mr. Mundella at Sheffield said: "Are not men now thinking of the Land-laws, and of the waste lands of which the poor labourers have been defrauded?" And Joseph Arch at Nottingham said: "If England shall be made secure and safe, her agricultural labourers must have a stake in the soil." Now I will go to the question of the Game-laws, which is one on which, I dare say you will not agree with me. It is said the Game-laws is a question which is beginning to run itself clear; but if so, it has been running itself clear for the last twenty-five years, and I believe it will not do so unless the proposal I am about to make is adopted. I am going for abolition. I have seen what Mr. Cross has said about Mr. McLagan's speech being a sweeping measure. Some say, "We shall get on admirably well if you let the landlords and tenants alone." But I am not content to leave them alone, as I have seen great injustice done by Land-laws. I was told 15 years ago that public opinion would cure the difficulty, but I don't think it has or ever will until the Game-laws are abolished. I know it is said that game is a matter of contract between landlord and tenant. It is said that by the laws of England game belongs to the tenant if it is not covenanted between him and the landlord to the contrary. But if the landlord wishes to have the game it has its value and is taken into consideration in the rents. It stands to reason if the tenant insists on having the game as well as the land the rent would be proportionately increased. But I have evidence which proves that, supposing there were a revaluation the tenants would rather pay a higher rent and have everything on the land his own. But there is something behind this. It is said if you abolish the Game-laws you will have no shooting. I don't believe it. I believe the tenants would find the landlords a fair amount of game. It is said you must have a more stringent law of trespass. I believe the present law of England will meet that, for you must, according to the present law, prove actual damage, and nothing is easier at the present time before a bench of magistrate (laughter). Assuming that you are to have a more stringent law of trespass I still say, "Abolish the Game-laws." You cannot patch them; they are too rotten. And if partridges and pheasants must be protected, place them under the "Wild birds preservation bill," and it will be sufficient to have a close season. I may say that I have been a sportsman all my life. In conclusion let me add that the current of agricultural opinion is so broad and deep, that it cannot be impeded. To effect the object which the farmers have in view, however, can only be done by increasing their power in Parliament, but the cost of becoming a member of Parliament deters many men from the contest. Still if the agricultural interest wanted to be represented in Parliament by men who would do them justice they must elect men from amongst themselves, or who had sympathy with their interest. I know that some people said, "Put the expenses of elections on the rates," but I will not support that proposition. The farmers, however, want better representatives, and if they did not get them the tenant-farmers of this country may be "squeezed out" (loud cheers).

Mr. OWEN WALLIS (Bradley Hall, Newcastle-on-Tyne) said it was some years since he had addressed the Club, owing to circumstances over which he had no control. They were indebted to Mr. Clark for introducing so important a subject. He agreed in many things which Mr. Clark had said, though perhaps not all. He agreed in the evils which resulted from the law of entail, and with regard to the want of an honest Tenant-Right. On the latter point the tenants did not want anything in the shape of confiscation; all they wanted was to be paid a reasonable sum for the unexhausted improvements they had made in the soil. It was clearly the interest of the public that the land should be well cultivated. As long as the outgoing tenant had no claim on the landlord, or the incoming tenant, the land would be badly cultivated towards the end of a tenancy, and the land would not produce what it ought to. Taking the whole of England, the land ought to produce one-fourth, and perhaps one-third, more than it did. Next, as to position of the landlord, so long as the law of entail remained as it was the tenant for life would have no direct interest in improving the soil, because in order to provide for the younger members of the family he was obliged to restrict his outlay on the land of which he was only nominally the owner. Then he incurred also an enormous

loss in the borrowing of money, for which he had to pay 4½ per cent. in order to get 3 per cent., and there was in that alone a clear loss of 30 per cent. on every £100 borrowed. That was a ruinous system. The law of entail was then a clear barrier to a full development of the productiveness of the soil, because the landlord could not, except at great loss, make those outlays, which the tenant ought not to be called on to make—such as building and drainage. Then, also, the law of entail cut in another way. It was intended to be beneficial to the successor, but was often the means of enabling young noblemen to ruin themselves by borrowing money, because if the jew-jobbers knew there was no entail they would not lend their money.

Mr. W. BROWN (Tring) said as the learned gentleman had given his politics and calling, he (Mr. Brown) might also state his. He was a thorough Conservative, a land-agent, and remarked that Mr. Clark had spoken in favour of abolishing the law of distress. If he supposed the landlords would agree to that he was mistaken; but at the same time he (Mr. Brown) agreed that the present law was not satisfactory, as it enabled landlords to distrain for six year rents, when he thought one year would be sufficient. In regard to Tenant-Right, he happened to be one of a committee in the county of Hertford on that subject, and there they had agreed that certain conditions should be introduced into all leases and agreements hereafter, by which it was stipulated that the tenant was to be paid for all improvements of which he really had not received the full benefit. If such covenants were adopted throughout the country it would aid to the production of the soil. He, however, as a land-agent, protested strongly against being forced to any agreement of the kind by Act of Parliament. Then, with regard to entailed estates, he should like to know what were the impediments at the present time, as he knew cases where, under the present acts, limited owners had charged the estates with the erection of cottages, and drainage, and all those permanent improvements which a tenant ought to have nothing to do with; so that the hardships complained of did not appear to be so great as represented.

Mr. CLARE SEWELL READ, M.P., said the introducer of the subject might be called an abolitionist. He would abolish the game-laws, the law of primogeniture, the law of entail, and perhaps most of the institutions of the country (laughter). Now, if he were to abolish the game-laws, what good would he do to farmers? He would do the farmers very little good indeed unless he went further, and restricted the right of the reservation of the ground game by the landlords. If he did not do that, there would be no reason why on large estates there should not be as many hares and rabbits as at the present time; but while they as farmers ought to go against ground game, they need not in any way reduce the legitimate sport with winged game, which did little or no harm at all to the farmer, and at the same time provided a fair amount of excellent food, and furnished a good deal of excellent sport. He did not understand how it was that if a statement was repeated a great many times, it came at last to be believed. This was the case with the repetition of the statement that there were only three millions of acres of land in this country drained. What was meant by that was, that only three millions were drained by engineers or government officials. Thousands of acres besides were drained by landlords and tenant farmers. It was said that twenty millions of acres required drainage at the present time, but he supposed no one in the room would believe it, and everyone would understand why some land was left undrained, viz., because it would not pay to drain it. It was all very well to say the outside public had a right to interfere and dictate how the farmer should farm his land; but the first business of the farmer was to farm so as to live (Hear, hear). Let him do that first, and then he could look after the interest of the nation. If we were in the days of protection he could understand the cry, but he could not understand it now we had a vast portion of the world sending us agricultural produce. He quite agreed if there were any impediments by which capital was diverted from the land—as he was quite sure there was in the insecurity of tenant-right—the outside public might help them very much, and he for one would be glad of their support; but when they interfered, and said the farmer should keep his land as arable land when the farmer knew it was a loss, he said the farmers must look to themselves, and take care of their own interest first. As to the transfer of land, he knew no one who objected to cheapen the transfer of land,

unless it was the lawyers (laughter). It must be to the interest of landowners to make the transfer cheap and expeditious; but if made cheap and expeditious, it would not be for the benefit of the tenant farmers. As the introducer of the question had said, the transfer to Tom, Dick, or Harry would be a bad thing as a rule for the tenants. Whenever there was a change of landlords by sale, it was invariably worse for the tenant; and often they saw in advertisements how the eligible investment was accompanied by the statement—"All the tenant farmers have received six months' notice to quit" (Hear, hear). When he was first in Parliament they had several bankruptcy bills introduced, and it was said that those measures would cheapen bankruptcy; but had creditors benefited by the cheapness, and did not the lawyers still continue to eat the oyster and give the shell to their clients? (laughter). The result of cheapening the transfer of land would simply be to pay the lawyers more for doing less work. Entailed estates had been spoken against, but was not the best farming carried on upon entailed estates? There might be hard cases where a man had a small property and several daughters; but as a general rule the entailed estates were more cheaply rented and better farmed than any other land in the kingdom. The Paper referred to many subjects, but left the landlords a good deal out in the cold. They had had a great deal of reform sketched out, and he hoped they might get some of it; and when they had some he hoped they would profit so much that they would not require more (renewed laughter).

The O'DONOGHUE, M.P., thought they were much indebted to the introducer of the subject. Like the learned gentleman, he (the O'Donoghue) was a limited owner of property in a double sense; limited as to its control and as to its extent (laughter). He had about 130 tenants, and twenty years ago he gave to those tenants a lease for thirty-one years and three lives, the three lives by the Prince of Wales and his two brothers, and, notwithstanding this, there was none who more heartily said "God bless the Prince of Wales" than he did. During that period he had never given a notice to quit, and had scarcely ever asked for an abatement of rent, and not more than one or two tenants had given up the holdings and left. No country could produce a more excellent set of men, and he believed they were a sample of the tenantry of the whole of Ireland. He stated this, not for his own glorification, but in order to show that he approached the subject of Tenant-Right with clean hands. While in the House of Commons he had warmly advocated every measure brought forward for the benefit of the Irish tenantry, and he was therefore an enthusiastic supporter of the Irish Land Act; because he felt that a short time only would bring about an alteration in the position of the occupiers of land in Ireland, and raise them from a position of dependence to independence peculiarly, locally, and politically. He agreed to a great deal of what Mr. Clark had said, but he could not commit himself to the whole of it. He agreed that there would be advantages in having the transfer of land made cheap and easy; but, under certain circumstances, it would work injuriously to the occupiers of farms in this country. He agreed that a measure of that kind ought to go hand-in-hand with any measure of Tenant-Right. Anyone acquainted with Ireland would know that in certain cases the Landed Estates Court worked most harshly to the occupiers; because it frequently happened when estates were bought that the first thing done was to get rid of the tenantry, and where the tenants could make no claim for compensation that was an easy matter. Some of the meeting might be aware that he had introduced a bill into the House of Commons to extend the provisions of the Irish Land Act to England and Scotland (Hear, hear). The motives which induced him to do this were various. He had given the subject great consideration, and came to the conclusion that it would be desirable to do so. No doubt he was anxious to associate himself with a great measure. He believed also that the farmers of England and Scotland needed protection such as had been afforded to the Irish farmers by the Irish Land Act. And he was anxious that these benefits should be conferred in some degree through the instrumentality of Irishmen (Hear, hear). His aim also was to produce a similarity of position and an identity of interest among the farmers of the three kingdoms, and thus lay the foundation of a friendship which he hoped to see flourish through the present and similar objects (Hear, hear). His object was to secure Tenant-Right, however this could best be done; and he was prepared to listen to any advice that might be given him. What he

contended, however, was, that any measure that was introduced ought to be adequate. The principles embodied in the Irish Land Act seemed to him to be the very least the farmers ought to demand. He was willing to serve under any captain, and if Sir William Vernon Harcourt was chosen, he was sure if he undertook it he would do the work well. But they must take care if they launched the ship to have no treacherous pilot on board (cheers). There would of course be great opposition to contend with, and it would of course be contended that the Irish Land Act was applied to exceptional circumstances. This, however, he entirely dissented from. The only exceptional thing he could see about it was, that the farmers raised their voices and demanded justice in tones which could not be denied; and if the English and Scotch farmers took the same course like results would attend their efforts. He did not think it necessary they should have farmers largely returned as members of Parliament, but farmers should take care to support such members as would attend to their interests (Hear, hear).

Mr. FOWLER (Aylesbury) remarked that, in regard to improvements on estates which were entailed, the great obstacle was the large expense consequent on borrowing money from Government for that purpose. The cost of a loan of £1,000 was, in a case he knew, no less than £100. He advocated a reduction in these expenses, and a lessening of the rate of interest charged.

Mr. CROSKILL (Beverly) bore testimony to the able manner in which the question had been introduced by Mr. Clark. On the question of Tenant-Right he wished to say that he took a deep interest in it. Mr. Brown had taken the landlords' view of the question. The landlords agreed that security ought to be given, but they objected to be made to do it. He believed the feeling of the country was going in the direction that the landlords would have to submit to be made to do it (Hear, hear, and laughter). As a matter of fact, it must be part of the common law that the tenant should be entitled to reasonable compensation for unexhausted improvements. The 12th clause of Mr. Howard and Mr. Read's bill must become the law of the land. Mr. Read had said very little about the landlords, but the position of the landlords was at the real root of the matter. The ownership of land was unlike the ownership of any other property. It has been said, "Cannot we do as we like with our own?" But public sentiment was against that view of the matter. Land could not, like money, be taken up and thrown away. Land had peculiar obligations connected with the commonwealth, and the fact was that the time was coming when the owners of land would have to submit to limitations.

Mr. BARCLAY, M.P., in response to a call from the chairman, said he had heard with great satisfaction the important but somewhat startling speech of Mr. Clark, though he could not quite agree in all he had said. The chairman, who he regretted had not returned to Parliament this session, had said they were likely to have a period of repose. He agreed with him in that, but he thought that a time of repose was precisely the time when the opinions of the farmers should be matured upon those questions affecting agriculture, so that when the time for action arrived they might be ready to put their shoulders to the wheel and move it in the right direction. He also thought that the present contest going on between farmers and labourers will tend to move that opinion to decided action on the questions discussed by Mr. Clark. If the English agricultural labourers gained their point—and no doubt to a certain extent, by getting increased wages, they had gained their point—the farmers, on the other hand, would very soon find their own position untenable. There ought to be no difficulty in putting things in a much better position than they were. The interests of landowner, farmer, and labourer were the same. The more taken out of the soil the better for the landlord—the farmer's profits were greater, and the labourer could be paid higher wages. What they ought to obtain was a fair way of arranging their different duties for the benefit of the whole. He was glad to hear the meeting approve of the abolition of the law of distress. They had a law in Scotland known as the law of hypothec, which was nearly identical with the English law of distress. About ten years ago the farmers of Scotland called public attention to it, but many years before then they used to hear the cry that the landlords would never submit to that law being interfered with. It was curious to hear that same cry raised in the meeting on behalf of the English law. Seventy years ago they were used to that in

Scotland. The landlords would not have it interfered with. Well, he would tell them a curious fact. They had recently had a general election in Scotland, and without one exception there was no candidate in the Liberal or Conservative interest who did not declare himself to be in favour of the total abolition of the law of hypothec (applause). So much for the pressure the farmers brought to bear on the landlords of Scotland, who had been educated up to this point in spite of themselves by the farmers. He had no doubt if the farmers in England would adopt the same means and display the same interest they would achieve the same results (applause). They used to be told in Scotland that the law of hypothec was the salvation of the small farmer. In the county where his farm was, and it was *par excellence* the country of small farmers, they did not want the law of hypothec: they only looked upon it as a means by which they could be squeezed up with the rent. There was no doubt they knew in Scotland as well as in England that the transfer of landed property from old landed proprietors into new holders was attended with disadvantages to the tenants. The changes were usually accompanied by "five per cent." (laughter), and the first effort was to raise the rents. They must not, however, despair at the length of the struggle before them. Look at the years that passed before Bright and Cobden were able to convince the manufacturers of the wisdom of free trade. Difference of opinion will always exist, but they must still press on (Hear, hear). The other question to which he should allude was the question of the Game-laws. He had introduced a bill into the House of Commons purporting to deal with the Game-laws. He was not going into the discussion of that question, but he agreed very much with Mr. Read, that the property in the ground game should be vested in the tenant, but it should be conferred on him in such a way that he could not divest himself of it (Hear, hear). He should have a concurrent right to kill it and to own it. At the same time he had thought it right to have a provision in the bill in regard to trespassing against wild animals generally. He was sorry to hear Mr. Clark draw such a sad picture of the condition of the English county representatives—first, that their seats cost them so much, and second, that so many calls were made on their purse after they were returned, for country charities, &c. (laughter). Well, he (Mr. Barclay) had represented a county constituency numbering about 4,000 electors, and during the whole of that time he did not recollect having had a single application from a tenant-farmer for any place of profit (applause).

Mr. CLARK: Not from a tenant-farmer?

Mr. BARCLAY: I said perhaps I had one or two applications, and that was about all, for subscriptions; but he could assure that meeting of English farmers that his refusal to subscribe to any of the applications—and they were almost invariably from private individuals—would not in the least have affected his chance of re-election (cries of "Hear, hear"). As regarded the question of expense of electing a representative of the farmers, which seemed to have frightened Mr. Clark, all he could say was that in the constituency which he represented of 4,000 electors, the total expenses did not exceed £600. If farmers wanted their claims attended to they must see to it themselves; but unless they took a lively interest in their representation in Parliament, he did not see any solution of their difficulties. He begged to thank them for the hearing they had given him (applause).

After some remarks by Mr. HENRY NEILD, Mr. CLARK briefly replied.

A vote of thanks to Mr. Clark was proposed and carried on the motion of Mr. Congreve, seconded by Mr. Neild; and a vote of thanks was also given to the Chairman, on the motion of Mr. Newton, seconded by Mr. Snythies.

NEW MEMBERS.

J. Barrugh, Charleston, York.
 B. Buss, Horsmonden, Staplehurst.
 E. Cotterell, Anstey, Buntingford.
 J. F. Jordan, Eastbourne, Driffield.
 G. Simpson, Wray Park, Reigate.
 J. Steriker, Great Driffield.
 H. Guy, Whitechurch, Aylesbury.
 E. Scriven, Wormleighton Hill, Leamington.
 W. Stimson, Bedford.
 G. Taylor, Leighton Buzzard.
 J. F. Bott, Canmass Hall, Dunmow.
 W. S. Brown, Northwood, Old Trafford, Manchester.
 J. Carpenter, Lake, Salisbury.
 E. Corbet, 22, Walpole Street, London, S.W.
 S. B. L. Druce, 10, New Square, Lincoln's Inn.
 J. Dawson, Bearsted, Maidstone.
 J. Gatley, 110, Jernyn Street, St. James', London.
 W. Gibson, Bowdon, Altrincham, Chester.
 R. Martin, Clynton, St. Austell's, Cornwall.
 M. Scarle, 2, Bond Court, Walbrook.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

At the annual general meeting, on Friday, May 22nd, in Hanover Square, the chair was taken by the President, Mr. E. Holland.

The first business was the election of members of the Council to supply the vacancies arising from retirement by rotation. The result was that the House-list was adopted, the only new members being Mr. John Hemsley, of Shelton, Newark, Notts; Colonel Loyd-Lindsay, M.P., Lockinge, Wantage, Berks, and Mr. George Henry Sanday, Holme Pierrepont, Notts.

Mr. W. EGERTON, M.P., said he had great pleasure in moving the election of the president for the year 1875. It had been the general habit of that Society to elect as president one of the most distinguished agriculturists in the part of the country where the country meeting was to be held in the year for which the election took place. The country meeting in 1875 was to be held in the district comprising the counties of Cornwall, Devon, Somerset, Dorset, and Wilts, and the Council thought that no one in that district was more fitted to be the President than Lord Bridport (cheers). His lordship had been for a long period a very active member of that Society, a governor and a trustee, and he had also been for a considerable time the Chairman of the Finance Committee, and had ably presided over its proceedings. Lord Bridport was well-known as a leading agriculturist and a breeder of stock, while he had for a very long period had the management of Her Majesty's farm. It will, therefore, I think, be only a fitting compliment to elect his lordship President for the year 1875.

Sir WALTER STIRLING seconded the motion, and it was agreed to.

Mr. DENT, in moving the re-election of the trustees and a

vice-presidents, said it had been customary to propose that motion without making any remark, but on that occasion he wished to deviate from the rule by alluding to the great—he might almost say irreparable—loss, which the Council and agriculturists generally had sustained through the recent death of Sir Harry Stephen Meysey-Thompson, better known as Mr. Thompson of Kirby, who was for many years a leading member of the Council of that Society, and whose writings on agriculture would live as long as the records of agriculture itself lasted (Hear, hear). For twelve months before his death, during which period he endured great suffering, one of his greatest recreations was the study of some agricultural questions. It was a great source of regret to him that in consequence of the state of his health, he was not able to go about him farm with him (Mr. Dent) to show him the improvements which he was making in laying down strong land for grass, and during the latter part of his life he had hoped to write an essay on that subject for the *Journal of the Society*. On that very day he was placed in his grave close to the farm where he carried on so many experiments, and where amid the love of his family and the esteem of the inhabitants his life was so well and usefully spent, and he was sure that his memory would long be revered in that Society (Hear, hear).

Mr. BOTLY seconded the motion, which was then put and carried.

The SECRETARY then read the Report of the Council, which was as follows:

Since the general meeting last December, 3 governors and 88 members have died, and the names of 39 members have been removed from the list by order of the Council, as well

as of 167 who resigned in the course of the year 1873. During the same period 1 governor and 151 members have been elected, so that the balance on the half-year is a reduction of the list by 2 governors and 143 members. The Society now consists of 76 life governors, 58 annual governors, 1,914 life members, 3,756 annual members, 12 honorary members. These numbers make a total of 5,846, and when compared with those reported at the annual meeting last May, show a decrease of 2 governors and 68 members. The accounts for the year 1873 have been examined and certified by the auditors and accountants of the Society, and have been published in the last number of the *Journal*, together with the statement of receipts and expenditure connected with the country meeting at Hull. The funded capital of the Society remains the same as at the last half-yearly meeting, namely, £24,112 7s. 8d. New Three per Cents. The following sums are in the hands of the bankers, towards defraying the current expenses of the establishment, and of the forthcoming country meeting at Bedford, namely, on deposit, £2,000, and the balance of the current account, which, on the 1st instant, amounted to £3,682 19s. 2d. The Bedford local committee are cordially co-operating with the Council to promote the success of the ensuing country meeting. In conjunction with the Bedfordshire Agricultural Society, they have added to the Society's prize-sheet offers of prizes for agricultural horses; for cows and heifers, in-milk or in-calf; and for long-wooled and short-wooled ewes, lambs, and wethers. The Society's list of prizes offered for horses has been considerably augmented by the addition of classes for geldings and fillies for agricultural and hunting purposes, as well as for hackneys and ponies; and Mr. Pease, of Darlington, has continued his liberal offer of prizes for asses and mules, on the same terms as were attached to those offered at the Hull meeting. The total amount of the prizes for live stock offered for competition at the Bedford meeting, is £3,935. At the general meeting, held last December, a suggestion was made by Mr. H. Corbet, on behalf of Mr. C. S. Read, M.P., that the Council should offer a special prize for the most efficient guard to the drum of a thrashing machine at work. The Council have carefully considered this suggestion, and have offered for competition at Bedford, the large gold medal of the Society, "for the best guard or appliance to the drum of a thrashing machine for preventing accidents to people employed." The offers of prizes for the two best-managed farms in Bedfordshire, by Lord Charles Russell and the Society, have called forth an entry of twelve. Considering the restricted area of the competition, this must be considered a very satisfactory entry. The judges have already made two inspections of the competing farms; and they are instructed to pay their final visit in time to report their award at the general meeting of the members of the Society, which will be held in the show-yard at Bedford on July 14th. The Council are desirous of increasing the usefulness and importance of these farm-prize competitions, especially with a view to the more complete description, in the *Journal* of the Society, of the best examples of farm-management in the locality in which the country meetings are held. They have, therefore, resolved that the prizes to be offered annually for the best managed farms, with the conditions upon which they are offered, whether by individuals or by the Society, shall be published immediately after the July Council in each year; and they have requested the *Journal* committee to consider annually a scheme of prizes and conditions, and to report the same to the Council at their July meeting in each year. The district assigned for the country meeting in 1875 comprises the counties of Cornwall, Devon, Somerset, Dorset, and Wilts. The Council, having received an invitation from the authorities of Taunton, appointed a committee to inspect the site of the proposed show-yard and trial-fields, and to confer with the local committee in reference to the accommodation offered. This committee reported in favour of the acceptance of the invitation by the authorities of Taunton, and the Council thereupon decided in favour of the country meeting for 1875 being held in that locality. The Council have also to announce that, in accordance with the rotation of districts at present followed, the country meeting for 1876 will be held in the district comprising the counties of Derby, Leicestershire, Lincoln, Northampton, Nottingham, Rutland, and Warwick. The special committee on the potato-disease, the appointment of which was reported at the last general meeting have carefully considered this important question from a scientific as well as a practical

point of view, and with special reference to the recommendations of the judges of the Essays which were sent in to compete for Lord Cathcart's prize of £100, offered for the best essay on the potato disease and its prevention. This committee eventually recommended a thorough inquiry into the whole subject, under the following heads: (1) By the appointment of Professor de Bary to undertake a special investigation with a view of discovering, if possible, that portion of the life-history of the potato fungus which is at present unknown. (2) By the offer of prizes for potatoes that will resist disease for three years in succession in twenty different localities of the United Kingdom, with a view of testing the truth of the assertions made by growers and essayists that they possessed disease-proof potatoes; and at the same time of ascertaining the influence of climate, soil, and methods of management on the growth, productiveness, and ability to resist disease of different varieties of the potato. (3) By sending a schedule of questions to large potato-growers in different parts of the United Kingdom, with the object of obtaining from them the results of their past experience on the cultivation of the potato, with special reference to the potato disease. (4) By the announcement that, in 1879, the Council will offer prizes for new varieties of potato, raised from seed in the meantime, which shall be found to resist disease during three years' trial, under the same conditions as the present competition. The Council adopted these recommendations, and they are able to announce that Professor de Bary has undertaken the proposed scientific investigation; that six varieties of potato, sent in to compete for the prizes offered, are at present being grown in twenty different districts of the United Kingdom, namely, ten in England, two in Wales, four in Scotland, and four in Ireland. A list of questions, carefully prepared by the committee, has also been sent to about 300 potato-growers in the several potato-growing districts of the United Kingdom; and it is proposed to publish a report, based on the replies that may be received to them, in the next number of the *Journal*. The Council have called the attention of the Secretary of State for the Home Department, and the President of the Local Government Board, to the present unsafe condition of many bridges throughout the country for the passage over them of ploughing and traction engines, the increased use of which in agricultural operations is becoming more and more necessary. Ten candidates, out of twelve who had entered, presented themselves for the usual educational examination on April 14th and following days. Mr. R. Rich, of the Royal Agricultural College, Cirencester, obtained a first-class certificate, the life membership of the Society, and a prize of £25. All the other candidates failed to satisfy the examiners in chemistry, and, with one exception, each candidate also failed in at least one other necessary subject. The examiner in agriculture reported very favourably of the papers written and the answers given in the *vis à voce* examination by the majority of the candidates, and considered that great credit was due to them for their proficiency in practical agriculture. The examiners in chemistry regarded the results of the examination in that science as very disappointing, and much below the standard attained by the candidates last year; they added that the knowledge of general principles and common facts of general chemistry shown by the candidates was very imperfect, and that this deficiency was not compensated by practical acquaintance with analysis or technical details, while the papers on agricultural chemistry were particularly unsatisfactory. The results of the examination in book-keeping were beyond the average of former years. The examiner in mechanics and natural philosophy and in mensuration and land surveying, reported unfavourably of the results of this year's examination in those subjects, and called attention to the fact that those who failed in mechanics failed in the most elementary questions. In the optional subjects, one candidate passed in geology with fifty-three marks, one in botany with fifty, and one in anatomy and physiology with fifty, fifty being the minimum pass-number in each of those subjects. The education committee have recently had under consideration the question of the possibility of encouraging technical education, in subjects applicable to agriculture, in middle-class schools. The Secretary has also attended, by invitation, a conference of the head-masters of such schools, when the following resolution was adopted: "That a sub-committee be appointed for the purpose of communicating with the other members of this conference, and with the Royal Agricultural Society, with a view to the framing of some plan of examination for encouraging the preliminary study of agri-

culture in the middle-class schools." The education committee have held interviews with this sub-committee of headmasters, and they have proposed the following scheme, which has been accepted by the Council, and by which they hope to encourage in these schools the study of the rudiments of chemistry, mechanics, and other sciences as applied to the practice of agriculture :

I. That, in addition to the present yearly examination of advanced students, a more elementary examination be held annually by the Royal Agricultural Society.

II. That ten scholarships of £20 each shall be given on condition that the scholar spend the ensuing year at a school, or with a practical agriculturist, to be approved by the education committee, or at one of the agricultural colleges, such as Cirencester, Glasnevin, or the agricultural department at Edinburgh.

[NOTE.—In the event of the scholar proceeding to Cirencester, he will be entitled (subject to the regulations of the college as to age) to compete for one of six middle-class scholarships, given by the Council of the Royal Agricultural College, of the value of £10 per annum, tenable for two years.]

III. That the scholarship be not paid for any year until after a testimonial as to good conduct and industry be produced after the expiration of that year from the head-master of the school, principal of the college, or the practical farmer under whom the scholar has studied.

IV. That candidates for the scholarships be not less than fifteen years of age.

V. That the candidates shall be members of one of the following schools, viz.: Ardingley College, Bedford Middle Class School, Bloxham (All Saints' School), Devon County School, Dorset County School, Hurstpierpoint College, Norfolk County School, Framlingham (Albert College), Middle Class Corporation Schools, Surrey County School, Trent College, Whitgift School (Croydon), or of schools hereafter to be approved by the Council of the Royal Agricultural Society.

VI. That annual examinations shall be held simultaneously in the month of November, at such schools as have candidates, and that to the boys who stand highest the scholarships shall be awarded.

VII. That the subjects for examination for the scholarships be: 1. Land surveying. 2. Elementary mechanics, as applied to agriculture. 3. Chemistry, as applied to agriculture. 4. The principles of agriculture, especially with reference to the rotation of crops, the nutrition of plants and animals, and the mechanical cultivation of the soil.

VIII. That for the conduct of the examination a local secretary be appointed by the Royal Agricultural Society. That to the local secretary sealed packets of the examination papers shall be sent; that these packets shall be opened and distributed to the candidates in his presence, or in the presence of some one specially deputed by him. That during the time the papers are being answered there shall be present the local secretary or his deputy, who shall, at the end of the time appointed by the examiner for answering, collect the papers, seal them in packets, and forward them to the Secretary of the Royal Agricultural Society.

IX. That this scheme do not interfere with the Royal Agricultural Society's senior examinations already in operation.

In reference to this subject, the education committee have reported that of two candidates who came up from the Surrey County School at the recent examination, one passed a very good examination, although not fully qualified in practical agriculture.

Mr. BOTLY, in moving the adoption of the Report, said the only unsatisfactory part of it was that which announced a slight diminution in the number of members.

Mr. T. WILLSON, in seconding the motion, called attention to the fact that neither Leicestershire, Northamptonshire, nor Rutland had a single representative on the Council. He regretted that a suggestion which he made some time ago, that voting papers for vacancies on the Council should be sent to the members, had not been acted upon, feeling satisfied that that would have caused the members generally to take greater interest in the proceedings of the Society.

The SECRETARY observed that a new Charter would be required for that purpose.

Mr. NEVILLE-GREVILLE, M.P., thought the least satisfactory part of the report was that which related to the examination

for the Society's prizes (Hear, hear). It appeared that candidates in mechanics "failed in the most elementary questions," while "in the optional subjects one candidate passed in geology with 53 marks, one in botany with 50, and one in anatomy and physiology with 50, fifty being the minimum pass number in each of those subjects." That result seemed to him anything but satisfactory; but the Society was not to blame, for no society that he was acquainted with had afforded such opportunities for obtaining a really practical agricultural education. As regarded the cottages of labourers, he rejoiced that so many labouring men had of late years availed themselves of saving banks, and acquired dwellings of their own by means of building societies. He would like to see part of the Society's enormous accumulated fund of £24,000 spent for the advancement of agriculture. He was not one of those who wished to see such a large sum retained permanently, and he believed there could be no truer economy than to spend a portion of it for the benefit of agriculture (Hear, hear).

Lord DENMAN thought that some effort should be made to increase the number of members. As regarded the Council he could not help personally regretting the loss of Lord Berners, who was one of the most enterprising agriculturists he had ever met with.

Sir WALTER STIRLING observed that one cause of the want of general interest in the Society among the members might be the silence of the Council with regard to one of the most interesting and vital questions of the day. He would himself have been glad to hear some expression of feeling on their part, though it were of the most moderate character, in regard to the antagonism which existed at that moment between farmers and labourers. He thought that without taking part with either side the Council might have done something to mitigate the severity of the struggle which was now being carried on with so much temper and acerbity. Not long since the Society was almost equally dormant with regard to a question which at that period was deeply interesting to all agriculturists, namely, that of the cattle plague, more especially as regarded local insurances; and he really believed that if the Council were now to intervene in the dispute to which he alluded it would be looked up to by many of the members for counsel and guidance.

Mr. W. STRATTON concurred in the opinion that one cause of the lack of interest in the Society's proceedings was to be found in the manner in which the members of the Council were elected; and if the Council wanted to resuscitate the Society, or to increase the number of members, they should, in his opinion, make arrangements by sending out voting papers in future to all the members.

Dr. CRISP said he had no doubt that he had been regarded by many as a sort of firebrand in that Society (laughter); but in his opinion the greatest enemies of a society like that was those who gave a blind adherence to all that was done by the Council, and praised where blame was deserved. With regard to the potato disease it appeared that 80 persons competed for the prize of £100 offered by Lord Cathcart for the best essay on that subject, and that not one of the essays was considered worthy of the prize. In his opinion the Council should offer a prize of £500, as it might easily do out of the fund of £24,000, and then they might expect that competitors would make experiments which would prove very beneficial to agriculture (Hear, hear). As regarded education he had always protested against the course pursued by the Council. There should be a national system worthy of the country, instead of the piecemeal system hitherto followed. The persons who had obtained prizes hitherto were chiefly land-agents, and he did not see how their success was to benefit agriculturists. There was one very important omission in the report. Two or three years ago, when the wages dispute first arose between the farmers and their labourers, he suggested that a committee should be formed to inquire into the condition of the agricultural labourers and to report as to whether anything could be done towards removing the strife and difficulty between the employer and employed. He was told at the time that the Charter precluded that, but he was of opinion that if a committee consisting of good practical men had been appointed at that period and had been appealed to during the present strike, much good might have been effected, and possibly the decision of that committee might have given as much satisfaction as the one announced in the papers of that morning with respect to the Lincolnshire strike (Hear, hear). He had certainly no ill feeling towards farmers, his father and his grand-

father both having belonged to that class, while he had brothers who also belonged to it; but he believed that farmers had taken a very mistaken course in rejecting Union men (Hear, hear). If he wanted his house painted he had to pay five-and-twenty per cent. more than was charged 20 years ago, and farmers must expect to pay more than they did at that time for labour. There was nothing illegal in belonging to the Union, and by rejecting men simply because they were Unionists farmers had deprived themselves of sympathy which they would otherwise have obtained. He would now move, "That in the opinion of this meeting the general condition and amount of wage of the agricultural labourers are so intimately connected with agricultural progress and profit, and, as stated in our Charter, this society was established partly for the labourer's welfare and benefit, it is desirable that a committee be formed of members of the Society competent to investigate the subject, to whom all matters of dispute between farmers and labourers connected with wage might be referred." He moved this as an amendment to the motion for the adoption of the report.

Mr. MASTERMAN, in seconding the amendment, said, having been engaged in farming operations for about ten years, he agreed with the preceding speaker that it was a great pity that farmers had taken the stand that they had done with regard to the Union. They none of them liked Unions, but there had long been Unions in every trade, and sooner or later agriculturists throughout the country would be members of a Union. It would be better for farmers at once to face the danger and to try and make such terms as would be best in the long run for both parties. There had been of late years a tremendous rise in the cost of the common necessaries of life both in town and country; and it was natural that that should produce an effect even in the remotest parts of the country. Under these circumstances he thought it desirable that such a committee as had been proposed should be appointed to consider the matter. He believed that the carrying out of the suggestion which had been made with respect to the election of the Council would supply a like fillip that was wanted to make the members take more interest in the proceedings.

Mr. WELLS said, as a member of the Council, he could declare that they would always be glad to have a large attendance of members on such occasions as that: only that there might be criticism, which was in his opinion the life-blood of the Society (Hear, hear). With regard, however, to the labourers' strikes, he thought that, on reflection, it would be seen that that was a very difficult question for them to entertain (Hear, hear). Under their charter they were obliged to abstain from dealing with any political subjects, although, of course, questions involving the welfare of the labourer might in some points of view be discussed in that Society—for example, labourers' cottages and garden allotments; yet there could, he thought, be no doubt that the question of strikes was a political question, and a political one of the most difficult character (Hear, hear), and he did not think it would conduce to the welfare of that Society for it to mix itself up with such a matter (Hear, hear). The Central Chamber of Agriculture was, he believed, instituted partly to supply a want arising from that Society's not being able to entertain such questions as that, and he was not aware that even that Chamber had taken up the subject of strikes (Hear, hear). As regarded the distribution of members of the Council among different counties, he might remark that there was in some cases great difficulty in filling up vacancies with reference to area. It had often been found that members who lived at a great distance were not able to give the same amount of attendance as persons who lived nearer, and it was sometimes very difficult to get gentlemen who were most qualified to serve the Society to attend a monthly Council meeting. As Chairman of the Chemical Committee, he regretted that no allusion was made in the report to the recent action of that committee. He was sorry that what took place at Hull had not been endorsed, as it were, by the Council, as the committee ran considerable risk by entering into disputes with manufacturers.

Mr. T. DUCKHAM did not see what good could result from the adoption of the amendment. Everyone present must deeply lament the sad strife which was now going on in the Eastern Counties. The farmers of that district were condemned by many for having set their faces against the Union; but although he had himself never

asked a single labourer whether he belonged to the Union, feeling that so long as a man did his work properly he should rest satisfied, yet he could scarcely blame the employers of labour in the eastern district for the course which they had pursued. When the leaders of strikes had spoken of midnight surprises, beacon fires, and even civil war, no one could feel astonished that employers should have set their faces against the Union. As regarded the increased cost of articles of consumption, it should be recollected that tea, sugar, and other articles of common use were much cheaper than they were a quarter of a century ago.

Mr. DENT said he thought it just as well that the Council had not attempted to interfere in the dispute between the labourers and their employers (Hear, hear). Such disputes had arisen in every trade, and were sure to have come in the case of agriculture. He looked with much more satisfaction than Sir Walter Stirling appeared to do on what was mentioned in that morning's papers—the close of the strike in Lincolnshire, and he thought he saw in that the omen that the strike in the Eastern Counties would soon be over (Hear, hear). He was satisfied that farmers were wrong in ignoring the Union. Agricultural labourers had quite as much right to try and improve their condition as any other class of labourers. Farmers had no more power to stamp out unionism than other classes of employers. At the same time he thought they had had so much provocation that he was not surprised that they had attempted to do it. Some of the leaders of the agricultural labourers had in their organ made attacks on the landlords, on the clergy, and on almost all classes of persons connected with agriculture except the labourers,—attacks which would perhaps in the end recoil on their own heads; and he must say it seemed to him to speak well for the good sense of the labourers that they had not been misled by the language used (Hear, hear). He was old enough to remember a time when incendiary fires were not unfrequent, but now there was nothing of the kind. When machines began to be first introduced on a large scale in agricultural operations, the labourers rose in almost all directions and destroyed them; but, notwithstanding the improper suggestions made to the labourers of the present day, there had been no outrages of that kind. It was the testimony of correspondents of the London press and of others who had visited the scenes of strikes, that the labourers had behaved in an exceedingly peaceable and orderly manner, and he must say that, instead of the bitterness of hostile feeling, there appeared to have been great moderation on both sides. He believed that the thing would soon right itself without any interference on the part of that Society, and was by no means disposed to take a gloomy view of the future of agriculture (Hear, hear). As regarded that Society, he thought the small diminution of members purely arose from the increase of large local Societies, such as the Bath and West of England and the Lincolnshire and Yorkshire Societies, and the attempt which was being made to convert them into a kind of travelling Societies. That movement naturally tended to divert abstract members from the Royal Agricultural Society, but notwithstanding that, they held their own. He had always wished that there was a more popular mode of electing the Council. He had always thought that it would be a good thing if a certain number of members of the Council retired compulsorily every year; but, on the other hand, it was desirable to retain the services of men who were well acquainted with the important duties to be performed in connection with the exhibition of implements and other matters (Hear, hear), and it was possible that through compulsory retirement the Society might be deprived of the assistance of some of its most useful members (Hear, hear). The Committee of Selection would only be too grateful if gentlemen were to send up the names of men who would be good representatives of agriculture on the Council. It having been said that Lincolnshire was over-represented, they had struck off that morning two Lincolnshire men, and put on two Norfolk ones. On the other hand, Berkshire had not been represented at all, and that defect was now removed. As Chairman of the Journal Committee, he felt grateful for the laudatory observations which had been made; but he might remark that within the last fortnight he had heard the *Journal* described as the dullest and stupidest publication that was produced (laughter). The *Journal* Committee would be most grateful for papers from gentlemen who were qualified to write, and who took interest enough in agricultural topics to go to the trouble of writing. Unfortunately, a great many men of that

kind preferred sending what they wrote to the weekly agricultural press, because it was published so much earlier there than it could be in the *Journal*, and thus many things of great interest which would otherwise reach the Committee were snapped up by others. With regard to education, it certainly appeared to him most unsatisfactory that out of eight or nine hundred students so very few could come to that Society for examination. As to the remark that some of the students who did present themselves belonged to the class of land-agents, he could not regard that as any objection (Hear, hear). He thought it very important that they should have persons examined who would form an intermediate class between landlords and tenants. If farmers had not a skilled agent to deal with, they would fall into the hands of the old family solicitor, who was, generally speaking, disposed to throw impediments in the way of all improvements (Hear, hear).

Mr. T. WILLSON thought the Council had very wisely abstained from taking any part with regard to the strike. He agreed with previous speakers that the question was in reality a political one [A Voice: "It is a question of political economy"]. At all events all those who were opposed to the farmers were on one side of politics (cries of "No"). He did not say that all Radicals were opposed to the farmers, but he said that nearly all those who were opposed to them were Radicals. He was the chairman of a Farmers' Defence Association, and he must say that he thought such associations had done a great deal of good. He did not at all blame the farmers of the Eastern Counties for what they had done, and he hoped they would succeed. He was sorry to find what had just occurred in Lincolnshire, especially as the settlement came from men who were enemies of farmers. With regard to the wages question he might remark that it was only three years and six months ago since he entered upon his present farm, and that the cost of the labour upon it had risen 10s. an acre without the interference of agitators. That appeared to him quite sufficient. If the owner of the farm had asked him 10s. an acre more before his occupation commenced he should not have taken the farm (Hear, hear).

Lord DENMAN hoped that the mover of the amendment would withdraw it. The question was an extremely delicate one, and he did not think it could be entertained there. The late Mr. Joseph Hume was the person who proposed the withdrawal of the combination laws, and soon after their withdrawal Lord Jeffrey proposed as a toast at a dinner at Edinburgh, "The rights of labour, so long as those rights do not interfere with the rights of others" (Hear, hear). If labourers said that all men should be paid at the same rate, that was an unjustifiable interference with the rights of others. He hoped to see a thoroughly good feeling established between agricultural labourers and farmers, but there must be freedom of contract. If that society were to interfere in the present quarrel it might realise the truth of the words—

Those who in quarrels interpose,
Will often wipe a bloody nose.

Dr. CRISP observed that in proposing the amendment he desired to promote the interest of both farmers and labourers, and as he believed that its adoption would tend to do that he could not withdraw it.

The amendment was then put and negatived by a large majority.

On the motion of Mr. MASTERMAN, a vote of thanks was given to the auditors.

On the motion of Lord DENMAN, seconded by Dr. CRISP, thanks were also voted to the chairman.

The CHAIRMAN, after acknowledging the compliment, alluding to the suggestion made with a view of increasing the attendance of members and their interest in the proceedings of the Society, observed that the holding of the general meeting on that day was fixed by the charter, and the Council had no power to alter it. They would be very glad of any arrangement which would secure a better attendance of members. He admitted that there should be some amendment in the mode of electing members of the Council, though having sat on the Council year after year he must say that he did not think it would be possible to collect 50 gentlemen together who would work more heartily for the advancement of the

interests of agriculture, and that was done, too, without the slightest tinge of political feeling (Hear, hear.) The constituency of the Council was already a large one; but they would be glad if it were larger still, and the only impediment to that was the want of greater communication between the members. With regard to what Mr. Wells said respecting the labours of the Chemical Committee, he must say that though no mention was made of them in the report, agriculturists as a body were greatly indebted to them for what they had done for the prevention of frauds in feeding-stuffs and manures. He concurred in the opinion expressed that the *Journal* had been much improved under the management of the present Editor, and he hoped that it would be not merely severely criticised, but also diligently read (hear, hear), and, perhaps, one thing which would conduce to its being read was that the leaves were now out. As regarded the question of labour he would observe that the Council were precluded by the charter from entertaining it. In conclusion, Mr. Holland expressed his concurrence in the remarks of Mr. Dent with regard to the loss which the Society had sustained by the death of Sir Harry Stephen Meysey-Thompson.

The meeting then separated.

THE LONDON CATTLE MARKETS.—A statement has been prepared by the Chamberlain of the total receipts and expenses in respect of the Metropolitan Cattle Market, for the years 1869, 1870, 1871, 1872, and 1873, distinguishing the amount paid for interest on loans; and a like statement in respect of the Foreign Cattle Market at Deptford, for the years 1871, 1872, and 1873, and showing the amounts (if any) in hand of moneys borrowed on account of the said markets. It appears that the average annual surplus revenue of the Metropolitan Cattle Market, exclusive of interest on loans for the years 1869, 1870, and 1871, being the three years immediately preceding the opening of the Foreign Cattle Market at Deptford, amounted to £13,970 10s. 3d., and the average annual net deficiency for those years, after the payment of the interest on loans, amounted to £6,309 10s. 9d.; and that the average annual surplus revenue of that market, exclusive of interests on loans for the years 1872 and 1873, subsequent to the opening of the Foreign Cattle Market, amounted to £16,151 16s. 8d., being an increase of £2,181 6s. 5d., and the average annual net deficiency for those years, after payment of the interest on loans, amounted to £3,860 4s. 9d., showing a reduction in the deficiency of £2,449 6s. With respect to the Foreign Cattle Market, it appears that the surplus revenue for the year 1872, exclusive of interest on loans, amounted to £9,216 2s. 2d., but in 1873 there was a deficiency of £1,613 9s. 10d., and that after payment of the interest on loans, the average annual deficiency amounted to £1,955 6s. The average annual financial result of the Contagious Diseases (Animals) Act, 1869, from the opening of the Foreign Cattle Market to the end of the year 1873, appears therefore to be that, excluding the moneys paid for interest on loans, there has been an increase in the surplus revenue of the Metropolitan Cattle Markets of £2,181 6s. 5d., which added to the average surplus revenue in respect of the Foreign Cattle Market of £3,801 6s. 2d., makes a balance in favour of the Corporation since the opening of the Foreign Cattle Market of £5,982 12s. 7d. But taking into account the amount paid for interest on loans, the average annual deficiency in respect of the Metropolitan Cattle Market has been reduced by the sum of £2,449 6s., and that the average annual deficiency in respect of the Metropolitan Cattle Market since the opening of the Foreign Cattle Market, amounting to £3,860 4s. 9d., added to the deficiency in respect of the latter market, amounting to £1,955 6s., making together £5,815 10s. 9d., shows an increase in the annual deficiency in respect of both markets of £2,606, whilst prior to the opening of the Foreign Cattle Market the deficiency in respect of the Metropolitan Cattle Market alone amounted to the sum of £6,309 10s. 1d. The work done at the Metropolitan Cattle Market during 1873 consisted of the conversion into slaughter-houses of three of the sheep lairs, the formation of an additional sheep lair, and the covering in of one of the avenues of the bullock lairs.

THE STOW MARKET FARMERS' CLUB.

FOOD OF STOCK AND ITS IMPURITIES.

At the last meeting the subject for discussion was "Food for stock, and its impurities," introduced by Professor Tuson, of the Royal Veterinary College; the Rev. Henry Hill in the chair.

Professor Tuson then delivered a lecture of about an hour's duration. He said the subject he had chosen for an address was "The food of stock, and its impurities," and in the term stock he should, to a certain extent, on this occasion introduce the horse. The subject of food and its impurities had attracted the attention of many chemists and many scientific men of various denominations. It was a most important one in a practical sense, one with which every farmer should be more or less intimately acquainted—the more intimately the better. The subject was so vast that it would be impossible for anyone to do full justice to it in the course of an hour's lecture; so what he proposed doing was to speak of linseed-cakes, point out the characteristics of good and bad, and adulterated cakes, and then to pass on, in compliance with a request from his friend Mr. Sutton, to make a few remarks on the subject of kiln-dried oats, having understood that there were many members of the Club who would like to hear some remarks upon this article of food. The plant from which linseed was obtained was grown in various parts of the world, but we derived our chief supplies from India and from Russia. This linseed came into the country in various states of purity. It was generally mixed either with a small or a large amount of foreign seeds, such seeds as grew in various crops in this country. Professor Voelcker had made a calculation of the seeds from various parts of the world, and he had found the impurities, such as wild mustard, dodder, &c., to amount from a half to 20 and 25 per cent. Linseed therefore found its way into the market with 25 per cent. of impurities, and this large quantity of impurity was added by dishonest merchants. He (Professor Tuson) would first point out what was the composition of pure linseed, describing the nature of the substances found in the pure seed. This he did accordingly, making frequent reference, by way of explanation, to a statement written in large characters, and hung up in the room. The following is a copy:

CAKES.

	Pure Seed.	High Albi.	Medium Albi.	Low Albi.
Moisture	9.01	11.72	11.55	11.71
Flesh-formers—albumenoids ...	22.62	32.64	27.91	24.11
Heat and fat producers:				
Oil mucilage	33.66	12.09	13.20	11.12
Digestible fibre, &c.	22.25	25.29	27.22	33.15
Indigestible fibre	8.67	11.79	11.77	12.57
Ash	3.29	6.47	6.33	7.34
	100°	100°	100°	100°

There was, he explained, a moisture which naturally adhered to all substances of the earth, and then there were found in the seed a number of bodies called albumenoids, white-of-egg-like substances, highly nutritive, from which the growing ox or the growing sheep made its own muscle and its own meat. Then there was the oil and mucilage or gum, the digestible fibre, and the other fibre, a great deal of which would not dissolve in an animal's stomach. The kind of work performed by these substances was to produce in the living animal heat and fat. We often found ourselves and farm stock very warm, as compared with the atmosphere. This heat was necessary to the maintenance of life, and it was kept up by the burning in the body of the oil, or digestible fibre. Some were burned away. Others were stored up in the body. Pigs were frequently fattened by feeding upon rice-meal. The chief ingredient of rice-meal was starch, and starch was first cousin to gum. It passed into the intestines, was transformed into fat, fattened the animal and by-and-by burnt away, and during the burning away the heat was gone, and directly the burning process ended death ensued. Then there was an ingredient in linseed termed ash. If you took a small portion of seed and experimented upon it, it would be found that nearly the whole of it would burn away, but there was a portion left behind that

would not burn, and this was called the ash. This, ash, when analysed, was found to contain mineral ingredients, such as chalk, chalk, carbonate and phosphate of lime, showing that in linseed there was mineral matter, necessary to the formation of bone. Professor Tuson explained the figures given above, and proceeded to remark, that in order to convert linseed into cake, it was ground to powder, and then put under presses. Sometimes it was heated slowly, and in a kind of copper. At all events it was ultimately subjected to pressure, which had the effect of squeezing out some of the oil, in all, in putting it roughly, about one third, when it was subjected to intense pressure by the seed crusher. He produced a sample of cake made from good seed, in which the albumenoid properties were high. It had been carefully and repeatedly examined by the microscope and no foreign impurities could be discovered, but yet it was not of the first quality. In the pure cake of first-rate quality there was an agreeable odour and flavour, so that when you smell it you almost regret that you are not a cow to partake of it. He warned his hearers never to be deceived by observing whole linseeds sticking on the outside of the cake. Cakes were sometimes made of a most inferior quality, and sometimes mixed with a little linseed which could be seen outside, and in this way the purchaser was often deceived. The cake should consist entirely of crushed seed, and having such qualities that when about an ounce of it was crushed to fine powder and covered with half or three-quarters of a pint of water it should form a glutinous matter, as they would see from the specimen he had before him. [Professor Tuson had three different specimens in an ordinary half-pint tumbler.] Cakes when mixed with other material, did not show the results which the good cake would do. That which became glutinous on being mixed with water might be used for purposes of food. If a cake was analysed and it contained twenty-seven to thirty-two per cent., then the oil should be eleven to thirteen per cent., and the ash should not exceed about 7 per cent. The cake which belonged to the variety he held in his hand was deficient in odour, and it had about 8 per cent. of ash, and he believed it was made of Bombay linseed and other seeds. Impure cake was produced in a variety of ways. It might be made from unscreened linseed. Many manufacturers did not take the trouble of screening their seed. They even went so far as to buy siftings from other persons, and added them to the linseed before it was crushed into the cake. He showed the gentlemen present a specimen of an impure cake partly made from siftings. If smelt and tasted, it would be found to be different altogether from the other specimen. Though this cake was kept in a dry room, it had become mouldy, which was most dangerous to cattle. In all probability the mould would be productive of the greatest possible injury, and even death. Very often the veterinary surgeon was puzzled to account for this death of animals, and had frequently to attribute the death of the animals to food given to them. Very often various kinds of cakes were sent for analysis, and if kept a little while they it turned mouldy, and he had no doubt but that it was this kind of linseed cake which was often productive of injury to the stomach of the animal. In the specimen he had before him there was a "P" marked on it, indicating that it was of pure make, and yet it was the dirtiest cake he had seen, and was an instance of the manner in which the farmers were cheated by the merchants and other persons. Many of the seeds which mixed naturally with the linseed, and which were added purposely, were perfectly harmless. But sometimes it happened that they were exceedingly poisonous. Cakes had been met with which had been sold as pure linseed, in which it was easy to detect a quantity of castor beans, the seed from which castor oil was made. The husks of the seed were intensely poisonous—and was a nasty irritant poison, diseasing the bowels and the stomach, and ultimately producing death. It frequently happened that wild mustard was mixed with the linseed, but not in such large quantities. Most of us knew what was the effect of an application of a mixture of mustard and water to the flesh; and mustard and water was the common plan for making people sick. Therefore it would be easy to understand what would be the effect of an

redient of this kind upon the stomach of an animal. If given in large quantities it would produce death. About 12 months ago a farmer sent him a cake, stating that it had been bought for pure linseed cake. On examining it he (Professor Tuson) found it to consist largely of mustard husks, with a small amount of pure mustard added. The farmer lost a number of sheep, and the death of the animals was to be attributed to the mustard, of which the cake was composed. Mustard in cake might be detected by the bitter and biting which was imparted on tasting it. Another way of detecting mustard was mixing the cake in a little warm water, and if mustard was present there would be in a few minutes the pungent smell with which we were all perfectly familiar. Another substance which was often mixed with the ground linseed and connected with the cake was bran. There was nothing hurtful in bran itself to the animal, but there was something hurtful to the farmer if he paid the same price for it as he would for linseed. Linseed-cake should never contain a particle of bran, inasmuch as linseed-cake should never contain a particle of starch, for the reason that starch was never contained in the linseed itself, and if any was discovered in the cake it might be concluded that there was bran in it. Bran was frequently added because of its cheapness. Professor Tuson gave an illustration by way of experiment of the manner in which the presence of starch in a cake could be discovered, and in continuation he said he had been asked by the chairman if he had ever discovered sawdust in linseed-cake? He (the lecturer) might say that sometimes mahogany dust was applied; and if he were to stop to give a description of all the ingredients which were found in some cakes he should tire the patience of his hearers. However, as he had said, if starch was found in linseed-cake it might be known that it did not exist there naturally. Sand and dirt swept up in warehouses, and containing nobody knew what, were often mixed in the cake. These sweepings very often contained poisonous substances, sometimes saltpetre, salamoniac, and even sometimes arsenic. These sweepings were brought together and made up into feeding material, and in this way it would be understood how numberless impurities often found their way into linseed-cake. A merchant in Essex once told him that he was commissioned by some seed-cake makers to buy up any seed he could provide they were cheap. There was no doubt that certain grave evils existed, and had the farmer no remedy for these evils? His strong advice to farmers was that if they did not want to be cheated they had better go to the honest cake maker—there were some, as well as honest chemists, though there were, he was sorry to say, some dishonest—and if they did not know a good honest seed crusher, let them take a little pains to find one out, and if they did not do so the chemist's occupation, so far as the farmers were concerned, like Othello's, was nearly gone. They must be prepared to pay the full price for the article. If they attempted to buy that which appeared to be a bargain, they must examine it or have it examined first, or nine times out of ten they would be let in. There was another exposure which he must make, and that was the difference between the meaning of the terms "pure" and "genuine" as applied by the trade. The pure cake was made from sifted linseed, and genuine cake was made from linseed as it came in. It might contain 20 or 25 per cent. of impurity. If they bought a cake without a guarantee as to its quality any action in law afterwards would fall to the ground. He remembered a case in which a farmer brought an action against a merchant, the farmer having bought the article which was called genuine cake. He found it consisted of one-third of bran, and the action failed because there was no guarantee, and he had to submit to a nonsuit. It must be very gratifying to farmers to know that adulteration was not so extensively employed as it was a year or two ago. He (Professor Tuson) thought this better state of things was due to the energy displayed by the Royal Agricultural Society, which had been instrumental in exposing certain articles which had been offered to the community. He thought the agricultural community owed the Society a debt of gratitude for having taken such a bold step. Complying with what he believed to be the desire of several members of this Club, he proposed to say something about kiln-dried oats. Most of those present knew either from their own experience, or from the experience of their friends, that kiln-dried oats had the effect of producing a good deal of harm amongst horses. It caused profuse staling and a falling off of flesh, preceded by indigestion. He thought the explanations

hitherto given of the cause of these effects were only partially true. He had a pet theory of his own, which was founded, to a certain extent, on facts. What was meant by kilndrying? And why were oats kilndried? Oats were frequently damaged by water, either on board ship or in some other manner, and these oats before they were again marketable must have the water removed from them. They were placed on the floor of rooms, the floor being perforated, and a quantity of hot air was passed through the floors. This brought them back to their original hardness. Very often they became darkened in colour, and turned mildey. In order to destroy the fungi kind of growth, and restore the oats to the proper colour, it was customary to doctor them by sulphuring them. He considered it very probable that the outcome of any investigation that might be taken upon this subject would be to show that the sulphuring was at the bottom of the mischief. Sulphur or brimstone had the effect of removing the colouring matter, and bringing back the white colour of the oat. The oats thus treated were almost unnaturally white. Many persons would be able frequently to tell by the eye whether the oats had been sulphured or not. It would kill the fungus or mould, and for this purpose also the sulphuring was resorted to. They must never buy, if they know it, sulphured oats, for if the sulphuring did not render it obnoxious and injurious, yet they would know that the oat had previously been in a damaged condition; and if they would buy it they must be prepared to get an article which would be injurious to the animal. The mould might be still lurking in the oats, and when in the stomach of the animal might grow and develop itself and do much harm. He had known many instances of this mould killing animals. He remembered that some years ago Professor Varnall was consulted by a farmer who had lost three horses. The oats and provender was examined by other chemists as well as by himself (Professor Tuson), by the naked eye as well as by the microscope, and they found a mushroom or mouldy kind of growth on the oats. On making a closer examination of the oats they found them diseased; and they came to the conclusion that this mouldy, fusty, substance was the cause of the death of the animals fed upon the oats. They gave some of the oats to another horse and that also died. They also gave some of the minute spores or seeds and germs of the fungus to a rabbit, and that died. He thought that in many instances the injuries attributed to kilndried oats were really due to the vitriol or sulphuric acid adhering to the oats. He examined ten samples of sulphured oats and compared them with ten samples of unsulphured, and found no sulphuric acid adhering to the latter, whereas in the other he detected these poisonous matters. After contending that these sulphuric acids were the cause of the mischief in most instances, Professor Tuson quoted Dr. Coplin's remarks upon the subject, and in conclusion said he should like some gentleman present to try the effect of the use of sulphured oats on an old horse, and carefully watch the result, in connection with some veterinary surgeon. It would be an exceedingly interesting study, and might be productive of good results. He described the manner of detecting sulphured oats, and said if he had proved sulphured oats to be the cause of much mischief he had shown them to be dangerous. They might have been mouldy and might have some of the mould in them, and if so there might be something poisonous about them. He should be happy to answer any question that might be put to him by the meeting.

Mr. HENRY CROSSE remarked that a great deal of cotton-cake was used in the present day. He should like to know if Professor Tuson had examined any of it, and if he had done so, also to know the result.

The CHAIRMAN said he was sorry to have to own that he was not a scientific man, and therefore perhaps the less he said on the subject under consideration the better. But farmers, as they professed to be, when they were talked to in the manner they had been this evening, always professed to know more than those who talked to them, and therefore with all due deference to the large amount of learning which his friend the lecturer undoubtedly possessed, he (the chairman) would beg leave to differ from that gentleman, and to say that although the cake he had examined had been adulterated to a certain extent, he had not told us what was a good substitute for it, and he (the rev. gentleman) would remind the meeting that bean-meal had been much neglected. He wished that the names of the merchants had been attached to the samples produced, as having been sold as genuine cake. With the amount of adulteration that was evidently going on it was idle to look

upon the elaborate statement with which the lecturer had furnished himself, going into decimals as it did and was most accurately calculated, for it seemed difficult to get really good seed-cake and good corn, and if animals died from eating articles with bad ingredients it was impossible to get a *post-mortem* examination unless it was by a fellow who would be sure to swear that the animals died of the lung disease. The farmers were done every way. The Royal Agricultural Society, however, was, he believed, prepared to publish the names of everyone who were detected of selling unsound articles as pure or genuine. The Suffolk Chambers of Agriculture had scientific men who were prepared to make analyses through the Chambers on comparatively easy terms, and if they bought what might be considered bargains without a guarantee, and then refused to have them analysed, they had themselves very much to blame. He was afraid, however, that they were willing to be made victims of others in more sense than one. Professor Tuson had announced himself willing to answer any question that might be put to him. He (the Chairman) dare not, for his own part, ask the Professor anything.

Mr. W. S. GRIMWADE said the members of the Club could not but feel gratified at the able way in which Professor Tuson had laid bare the impurities of the great compound linseed-cake, but unless they should separate disappointed that the subject had not been extended so far as they were led to expect, he would remind Professor Tuson that on the paper calling the meeting it was stated that the lecture would embrace in its extended sense the food of stock and its impurities; and as Mr. Crosse had called attention to the next most important subject of cotton-cake, he thought the lecture ought to be branched out into other substances, such as palm-nut meal and maize, as compared with beans and other feeding-stuffs. He knew that beans were their remedy, or rather, as their Chairman had said, when they felt they were so entirely in the hands of the manufacturer and vendor of cake, both linseed and cotton, they flew to the different kinds of meal; therefore he thought it was important they should hear something from Professor Tuson concerning all those substances which came into competition with linseed-cake. With reference to the remarks which had been made with regard to many of the inferior kinds of linseed-cake, he thought the advice given by the Professor should be borne in mind by all. It was a very serious thing when cake was sold to them in the adulterated form he had described.

Mr. WOODWARD said he did not quite understand that the lecture was to embrace every description of food they fed their stock with. He took it to be more of an explanation or an opening-up of the subject, and showing the easiest and best way of arriving at a knowledge of the pure cake as against the impure.

Mr. GRIMWADE said there was nothing said about cake in the circular.

Mr. WOODWARD thought that to go into the whole of the food-stuff used by a farmer would be more than a lecturer could do at one time. Undoubtedly it would be to their advantage to know which was the best and cheapest food to be met with, but he would confine himself expressly to that article which they consumed mostly as graziers, namely, linseed-cake. He (Mr. Woodward) was but a small grazier, but he could say this as a grazier—that he had had some cake of the best quality, some of the medium, and some of the worst. It did not require a very scientific man to tell them whether the cake was pure cake or not, but it did require a scientific man to tell them of the different ingredients, and show to them in figures which were the best cakes to use. Some six or seven years ago he bought a large quantity of cake beforehand, and he felt convinced in his own mind it was not up to the mark, and his man told him he thought so too. He directly sent a sample of it to Professor Simpson for analysis, together with a sample of another cake. The vendor of whom he bought the cake did not give him a guarantee with it, but he said it was the best cake, and he (Mr. Woodward) was proud and happy to say there were men of whom they could buy the best cake, and they could rely upon them and get the best article. The result of the analysis was this—both samples of cake cost the same money, but one sample was 50s. a ton better than the other, and that being so, he would leave them to guess what he would have lost in one year if he went on to use that inferior cake. They ought to try to understand and know themselves whether they were buying the best cake or not. The farmer should look to it himself, and if he was not satisfied, he

should apply to such scientific men as the Professor. He could not but say that he had been extremely delighted to hear the plain and explicit way in which he introduced to them the various properties of the different qualities of cake, and he thought they could not be blind to the fact that if a purchaser went to buy in the cheapest market he might rest assured he would not get the best article. He thought there could be no mistaking the character of the pieces of cake which the Professor had produced to the meeting; and of course they could not tell in detail, without they had a scientific knowledge, which was the best and which the worst. With regard to the kiln-dried oats, they all knew that the larger proportion of oats consumed here was foreign. He had himself found, where kiln-dried oats were put before horses, that they refused them, and in cases where they had eaten them, they went very badly. With regard to sulphur, there was no question but that it was used for the purpose stated by the Professor, namely, for bleaching and getting the colour up. He had been a hop grower, and he had used it to bleach hops, but he did not know whether it had the same effect upon the beer as upon the oats. With reference to cake, he believed there was as good a cake manufactured in the county of Suffolk as they could find anywhere, provided they would give the best price for it.

Mr. GRIMWADE trusted it was understood he highly appreciated what the Professor had stated. He thought in making the remarks he did that the Club should not separate with a feeling of disappointment with the wording of the circular in describing the lecture.

Mr. CHARLES TURNER (Stonham) said that, with the chairman's permission, he should like to ask Professor Tuson one question. It was this: To what extent did he consider mouldy hay or stover injurious to stock of various kinds? He believed that in some places there was a certain process by which they could make mouldy hay smell sweet and look good. Now, he should like to know whether hay got to that state again would be good for stock.

The CHAIRMAN said he did not wish to interfere with the offer Professor Tuson had made to answer any questions, but he was afraid he was in duty bound to say that the questions asked should be those connected with the subject upon which the Professor had spoken. If they went further they would require several nights to exhaust all the questions that might be asked. If members would contrive to confine their questions to the cake and oats, he thought they should have quite enough to do that evening.

Mr. HENRY CROSSE wished to know the condition the oats were in where the Professor found sulphurous acid.

Professor TUSON said he would answer that question at once, by saying that he thought Mr. Crosse had confounded the terms sulphuric acid and sulphurous acid.

Mr. OAKES asked if the process of kiln-drying was not more frequently applied to unripe oats than to damp oats.

Professor TUSON said he could not say, from his own knowledge, that it was.

Mr. GOSTLING thought Professor Tuson had not fully apprehended Mr. Crosse's question. He wished to know what was the condition of the oats previous to the testing.

Professor TUSON said he believed he stated in the body of his address that the oats had a reddish brown colour from becoming heated, and that such oats were bleached and subjected to sulphurous acid for the purpose of producing their white colour. It was also used upon such oats as had been mouldy.

Mr. GOSTLING asked what would be the appearance of the oats after the sulphurous acid had been applied to them.

Professor TUSON said that sulphured oats were much paler or whiter than oats which had not been sulphured. They were unhealthy pale, had a bad "nose," and had a kind of fusty odour about them.

Mr. SUTTON said that Professor Tuson had mentioned his name in his paper as having suggested this subject to him. It arose from a gentleman, a member of the Club, having brought him a sample of such oats, which, to all appearance, were good, and looked exceedingly well. The gentleman told him that his horses were evidently unwell from using them, and he (Mr. Sutton) thought that supposing those oats had been damp and dried, and had been sulphured in order to produce a good colour, why should the sulphurous acid be injurious? He could not answer the question, and he therefore asked Professor Tuson to explain it, and he thanked the Professor very much for the important answer he had given. He (Mr.

Sutton) could not understand why sulphuric acid could do any harm, but now he saw it was the action of the air which converted it into sulphurous acid, and therefore did the mischief. He thanked Professor TUSON most warmly for his kindness in bringing this matter forward.

Professor TUSON stated that the oats which were subjected to the process of sulphuring were moist.

Mr. GOSTLING asked if any injury accrued from sulphurous acid to malt?

Professor TUSON inquired whether he meant to malt or hops?

Mr. GOSTLING: To malt. Would it in any way injure the malt?

Professor TUSON replied, that if human beings were to eat the dry malt in the same way as horses did oats, then he thought that some amount of injury would happen. But they must bear in mind that malt was used in the production of beer, and in a pint they would only have a few grains of the malt itself present. With the quantity of water the acid would be so diluted as to be unable to do any injury. He should say in the case of sulphured oats, there was very strong vitriol present, while in the case of malt it was very weak.

Mr. GOSTLING: Then even in the case of a horse, the mischief would be greatly obviated by giving a good draught of water afterwards.

Professor TUSON: Undoubtedly. He did not, however, think that the oat vendor often supplied them with entirely sulphured oats. He believed he mixed them in many cases with sound oats, and in that case did no harm. But where they fed their horses entirely from it, it would do harm.

The CHAIRMAN said he must stop the conversation. They began with the food of cattle and now they had got on to malt, which there was no doubt was a very good feeding stuff, but when it came in the shape of beer that was entirely another question. They could not talk about beer that night. He should like them to come back to the subject of the paper.

No one having any remarks to make,

Professor TUSON replied to the discussion. In the first instance he should like to say that the subject of this paper was left to him, and his desire was to deal with the practical subject, rather than a purely chemical one, introducing, however, a little chemistry, in order to bring it to bear on practice, which he hoped he had done. The title he suggested was the food of stock, and had he been left to that alone, he thought he should have answered the expectations of his hearers; but he was told, as he informed them at the outset, that he was specially requested to speak on oats, and therefore he had been compelled to curtail the other part of his subject. The subject they knew was a vast one, and if he were to answer everything, he should have to lecture to them every night for the next three weeks at all events. He then proceeded to answer the various questions. First of all with regard to the cottoncake, he knew that it had been extensively employed as a feeding stuff. There was a cake made from the whole seed, which seed consisted of a very hard, sharp, and when crushed, indigestible husk. In the interior, of course, was a kernel which produced a certain amount of oil. In this cake there were sharp, angular husks which should never be used on account of the well-known irritating effects it produced. Cases were on record of persons swallowing pieces of glass which killed them, and those husks in the cottoncake produced the same effect. The learned professor described the mode of manufacture of "decorticated" cottoncake, which, he remarked, yielded a large amount of albumen, so that, chemically, they knew it to be superior to linseed, although it had not the same aroma. He believed that to a certain extent the manufacture of decorticated cottoncake had entirely ceased in consequence of the expense incurred in erecting the machinery. But now the cake was produced by crushing the whole of the contents of the seed, taking the kernel and husk together, and by doing so they diminished the effect of the husk upon the stomach of the animals, but they must recollect they must not pay the same price for that as they did for linseedcake. With regard to beans and peas, rich in flesh powers, they would stand intermediate between oats and wheat, or barley and linseedcake, and they knew they were very useful materials provided they were used with some heat and fat producers. They knew that

beans and peas were what they called heating foods. The next question was as to whether mouldy hay was injurious. He had no practical experience on this subject, and the question was so very general that it was really impossible for any one to give a direct reply to it. But that mouldy hay was capable of doing harm there was no doubt, although there were certain kinds of mouldy hay which would do no harm. He was not acquainted with the processes for restoring hay, but he might say that the remark he made with regard to restoring oats applied also to hay.

Mr. WOODWARD asked permission to make one remark with regard to bean and pea meal. On one occasion he had twenty bullocks, and he noticed they began to go wrong. He was advised by a practical man to take them off the meal entirely. He did so, and put them on cake alone, and he had no more trouble with them.

Mr. OAKES tendered their hearty thanks to Professor TUSON for the very able manner in which he had lectured to them. Mr. GRIMWADE seconded the motion, and said he hoped it would not be the last time they would hear Professor TUSON in Stowmarket.

THE RABBITS BILL.

[Prepared and brought in by Mr. Pell, Sir Wyndham Anstruther, Mr. Walsh, and Mr. Montgomerie, to amend the Law relating to Trespass in Pursuit of Rabbits.]

The following are the chief provisions of this remarkable production:

This Act may be cited as "The Rabbits Act, 1874." This Act shall not extend to Ireland. Any person who commits any trespass by entering or being in the day-time on any land in search or pursuit of rabbits shall be liable to a penalty not exceeding five shillings. Where three or more persons together commit any such trespass, each of such persons shall be liable to a penalty not exceeding ten shillings. Any person charged with any such trespass shall be at liberty to prove by way of defence any matter which would have been a defence to an action at law for such trespass. Where any person is found on any land in the day-time in search or pursuit of rabbits, the occupier of the land, or any person authorised by him, may require the person so found forthwith to quit the land whereon he is so found, and also to tell his christian name, surname, and place of abode. If such person, after being so required—(a) wilfully continues or returns on the land; or (b) refuses to tell his real name or place of abode; or (c) gives such a general description of his place of abode as to be illusory for the purpose of discovery, he shall be liable to a penalty not exceeding ten shillings. The occupier or any person authorised by him, so requiring as aforesaid, or any person acting by the order and in aid of either of them, may apprehend an offender under this section, and convey him or cause him to be conveyed, as soon as conveniently may be, before a court of summary jurisdiction: Provided that no person so apprehended shall be detained for a longer period than twelve hours from the time of his apprehension until he is brought before a court of summary jurisdiction. Any person who, being armed with a gun, is found on any land in the day-time in search or pursuit of rabbits, and by violence, intimidation, or menace prevents or endeavours to prevent the occupier of the land or any person authorised by him from approaching him, or from approaching any person in company with him, shall be liable, in addition to any other penalty to which he may be liable under this Act, to a penalty not exceeding five pounds. All offences and penalties under this Act may be prosecuted and recovered before a court of summary jurisdiction in manner provided by the Summary Jurisdiction Acts; but no offence shall be prosecuted and no penalty shall be recoverable under this Act save by the occupier of the land on which the offence in question is committed. Nothing in this Act shall in anywise affect or prejudice the rights or privileges of any lord or owner of any manor, forest, chase, or free warren.

S H E E P M A N A G E M E N T.

No. III.

BY THE NORTHERN FARMER.

In keeping up a permanent stock of ewes the cheapest, safest, and altogether most satisfactory mode of renewing, is to hold over each year a sufficient number of home-bred ewe-lambs, chosen, as far as it can possibly be done, from mothers distinguished for soundness of constitution, weight of fleece, and free and abundant milking quality. The offspring of a flock bred for generations on the same land, being accustomed from birth to both soil and climate, and adapted specially to it by descent, are less subject to constitutional derangement, are healthier, hardier, and in every way more likely to turn out profitable stock than sheep purchased and brought in fresh each year. It is a safe rule to continually abstain from using rams bred on the farm, as no mistakes can then be made, and there can be no danger of lowering the standard of quality, or even the stamina of individual members of the flock, by an injudicious system of breeding in and in. As occasion requires, fresh blood should always be imported into the stock by purchasing rams from breeders who not only preserve in their flocks the best strains of blood, but have also thoroughly sound land for sheep, so that the animals they distribute over the country may possess plenty of bone and substance, as well as constitutional vigour of the highest class. Unless, of course, with men of independent means, there is great temptation to sell the top lambs of each year, or at least to prepare them for early sale, keeping over those only of secondary quality and size for breeding purposes. This, unfortunately, is too often done, and is a prolific source of loss to those who do so, as instead of gradual improvement, and increasing yearly value in the products of the flock, there is continual and unavoidable retrogression. When, on the contrary, the requisite number of store lambs necessary to take the place of the outgoing sheep are picked from amongst the earliest dropped, and as regeers size and beauty of contour are the best specimens obtainable amongst the whole flock, the highest standard of quality which the land is capable of maintaining is preserved, and the stock-master has the gratification of knowing that both land and stock are yielding a return in money, which in amount can scarcely by any possibility be exceeded. Ewe lambs held over for breeding purposes should be kept only in fresh, healthy, and growing condition, run if possible rather thin on the pasture, so that it may be kept clean, and during the winter and spring months, allowed just as much cake and cut turnips each day as will keep them in the same state of improvement. Hloggets which have been highly fed, and are put to the ram very fat, are extremely apt to miss, thus losing a season; and, moreover, when afterwards forced to live on grass only, and at the same time rear a lamb, they very often break down altogether and become a total loss. If crosses are preferred for feeding off—and it is hard to find easier fed or weightier sheep when finished than the cross between the Leicester and Shropshire Down, taking into account the amount of food consumed—the parent streams of blood, sire and dam, should be carefully kept pure, this course being easily done where a permanent stock is kept by putting a certain number of pure ewes each year to a ram of the same breed. Nothing preserves the flock from deterioration in such an eminent degree as purity of blood in the breeding class, or tends more, keep and other arrangements being equal, to preserve the general flock continually up to a high standard of

excellence, good bone, rotundity of carcass, and heavy fleece. Take a cross-bred shearing ewe and submit her to a searching examination, and if she has been treated properly she will be found a magnificent animal, beautifully proportioned, and weighing probably not less than 25lbs. a quarter, while her pure-bred Down comrade of the same age, and on the same keep, scarcely goes beyond 16lbs. a quarter. When clipped she would in all likelihood yield 8½lbs. of wool, although her mother might have been but a tidy little Down ewe that never clipped more than from 4½ to 5lbs. in her very best days. Put to the ram, she might rear a lamb or pair of lambs, which would make as much as any others in the whole flock—possibly the money they might individually make might be more than the general average; and yet with so many points apparently in favour of doing so, it is very bad management to breed from crosses, and if persisted in, time will never fail to show that it would have been better to have remained satisfied with having done well, without having tried to do better. Nature herself has laid down a great leading principle relative to breeding from animals of different habit and character, although belonging to the same natural family, from which fixed law there is no power of appeal or possibility of deviation. Thus while permitting one cross, as between the ass and horse, the product of which is a highly useful and valuable animal, possessing in an eminent degree the specially excellent qualities of both parents—strength, endurance, sure-footedness, and sagacity—Nature puts a complete stop to further attempts at improvement, by interposing an unalterable law, which refuses to this cross the power of reproduction. The different varieties of sheep now cultivated being simply modifications of a great natural class, produced in some cases by change of climate or locality, and in others by food, and special systems of management as regards the selection of breeding stock, the comparison here instanced can only be accepted as applying in a general sense to the subject now treated of. Yet, as the teachings of Nature are unerring, it becomes a safe rule to follow her lead, whenever it shows out clearly distinct and prominent; and although in this instance there is no natural hindrance to continue crossing indefinitely, the certain decline in size, symmetry, and money-value shows unmistakably that the law alluded to is not without a certain amount of influence even here, and that therefore indiscriminate crossing should be carefully avoided, the breeder resting content with the highly-satisfactory results obtained by a union of pure-blooded parents. In the management of breeding ewes during the period of gestation, the general health of the flock is greatly promoted, its value increased, and the risk of loss from casualties vastly lessened, by beginning early in the season to give a little hand-feeding. The middle of November may appear too soon to think of doing so, but in reality it is the most suitable time, as the quantity given may be only half what would be imperatively required if postponed to a later period, and the pastures are preserved to afford a fair bite of grass when the ewes are suckling their lambs. Nothing tends to promote and keep up the flow of milk so much as a daily run on a field of moderately good grass, the carried food being given in suitable quantity at the same time; therefore a strong effort should be made to hold over a

sufficient breadth for spring-grazing. If the sheep are in good fresh condition, no greater quantity should be given than will just keep them so, a quarter of a pound of cotton-cake and a little chaffed clover-hay being an ample daily allowance to begin with. As the season advances the cake may be gradually increased to half a pound in the day, which weight need never be exceeded until the lambs are dropped, unless in exceptionally severe weather. By the middle of January a few turnips may be given on the grass, the quantity required being very small indeed. When cake has been given for two months previous, the animals having never been permitted to feel hunger, further than was essentially necessary to preserve a healthy appetite, and force them to take a fair amount of exercise, and the kidneys and intestines having never lost the coating of fat laid on during the plentiful season, a small feed is really all they will take. A properly organised system rigidly adhered to, and carried out to the letter, commands the same amount of success in sheep management that it does in commerce, as when the food is given with regularity the animals are never hungry or uneasy, spend much of their time in repose, always look well, and the consumption of food is astonishingly small by comparison with the extra improvement. There can be no pleasanter sight to the practised eye than that presented by a flock of sheep quietly reposing on a sunny slope, so absorbed in the act of rumination as to have apparently neither time nor inclination to utter a single bleat, as over and above the beauty and placidity of such a scene it shows that the owner of the flock understands his business, and is liberal in supplying food, in quality nourishing and quantity abundant. It does not speak well for the management, when much of the shepherd's time is taken up in merely herding his charge, running continually after them to prevent their breaking through to growing crops or other prohibited grounds, tearing off the wool by scrambling through and over fences, and running imminent risk when in lamb of casting it prematurely. Sheep that are fed well and with regularity are not much given to rambling nor are they at all noisy; partially-neglected sheep, on the contrary, keeping up a continual bleating, and are constantly on their feet, this restlessness proving a perpetual hindrance to their improvement. When a successful financial issue is aimed at or expected—this of course being the only object that makes it worth a man's while to breed and feed the domesticated animals of any kind—the shepherd's attention should be concentrated on attending to their comfort, supplying them with food, and generally studying their welfare, rather than in herding, the former duties, when properly carried out, rendering the latter almost needless. To ensure a healthy, well-doing flock, its members should be young, and no broken-mouthed ewe be ever permitted to pass the yearly scrutiny. As a general rule, three seasons' lambs are quite enough to take from a ewe, so many farms having a tendency to gradually render sheep unsound; and although a fourth lamb may be nursed successfully, and possibly be the best of the whole, yet the ewe is too often so much shaken by the excessive strain on the system, as to be scarcely worth trying to fatten for the butcher. When, on the contrary, they are discarded as breeders while still in prime health and constitutional vigour, they fatten quickly, make heavy weights, and make as much, and possibly more money than would purchase the young sheep which replace them. When the habits of sheep are carefully studied it will be found that not only is shelter from the fierce storms and angry blasts of winter absolutely necessary for their comfort and safety, but that the animals delight in protection, availing themselves of it gladly and with unvarying regularity when provided for them. It is not alone on elevated situations, where probably hundreds of acres must

be planted, and a large number of walled-in circular enclosures, surrounded with a belting of trees, must be prepared, to ensure safety, that this stands true; but it is equally imperative on the most level land, where every operation of husbandry can be formed with facility, or in the park of the nobleman. On well-fenced land it will be found that in severe weather the sheep lie during the night, and most of the day too, when food is supplied abundantly, within the extreme line of protection which the fence or screen affords from the cutting wind and drenching rain, as carefully and quite as effectually as they keep within its shade in July to protect themselves from the burning rays of a summer's sun. Lambs more noticeably even, evince an extraordinary desire to escape from the chilling and withering influence of the pitiless storm, creeping by the half-score into the oilcake casks which may have been left about after having been emptied, or stowing themselves into the shepherd's hut or watch-box in such numbers as to be in danger of suffocation from overcrowding. These indications should be sufficient to cause those who have the care of them to make such preparations as will conduce to the comfort and shelter of the stock, and more particularly for the spring, when the ewes from the constant drain on the system are weaker than usual, and the lambs, being very young, and Nature's covering not grown, they are peculiarly susceptible of injury from cold and wet. To put up a range of lean-to sheds against a wall or bank in suitable parts of a farm, is neither laborious nor expensive, the height being so low, and when the timber is kept well tarred, and the roof well sprinkled with lime and sand as the tar is being rubbed on, a thoroughly waterproof covering is obtained, which from the very nature of the substances used to make it so, becomes almost imperishable. When it is considered that the annual saving of the lives of four or five lambs will pay the interest of a comparatively large sum of money thus expended, not to count anything on the unspeakable comfort and satisfaction conferred on the animals and their attendants, it is really a matter of very great surprise how so many farms, and even lands dignified by a higher name, are utterly destitute of conveniences so eminently essential to successful management.

WEATHER-WISE.—That there is a sensitiveness to atmospheric changes in the leech, is generally admitted; and the idea of utilising this little creature as a sort of weather-glass arose long ago, we have evidence, in one of the early volumes of the *Gentleman's Magazine*. A correspondent of that venerable journal stated that if a leech be kept in a phial or bottle, partly filled with water, it will indicate approaching changes in the weather. He placed on a window-ledge an eight-ounce phial containing a leech and about six ounces of water, and watched it daily. According to his description, when the weather continued serene and beautiful, the leech lay motionless at the bottom of the phial, rolled in a spiral form. When it began to rain at noon, or a little before or after, the leech was found at the top of its lodging, where it remained until the weather became settled. When wind was approaching, the leech galloped about its limped habitation with great liveliness, seldom resting until the wind became violent. When a thunder-storm was about to appear, the animal sought a lodgement above the level of the water, displayed great uneasiness, and moved about in convulsive-like threads. In clear frost, as in fine summer weather, it lay constantly at the bottom; whereas, in snowy weather, like as in rain, it dwelt at the very mouth of the phial. The observer covered the mouth of the phial with a piece of linen cloth, and changed the water every week or two. He seems to have had faith in the correctness of his own observations and conclusions; but went no further in the attempt at explanation than to say: "What reasons may be assigned for these movements, I must leave philosophers to determine; though one thing is evident to everybody—that the leech must be affected

in the same way as the mercury and spirit in the weather-glass; and has doubtless a very surprising sensation, that change of weather, even days before, makes visible alteration in its manner of living." This leech-philosophy appears to have had many believers in the last century. In a letter to Lady Hesketh, dated 1789, Cowper wrote in one of his (too-rare) cheerful moods, and among other gossip said: "Mrs. Throcknorton carries us to-morrow in her chaise to Chicheley. The event must, however, be supposed to depend on the elements, at least on the state of the atmosphere, which is turbulent beyond measure. Saturday it thundered, last night it lightened, and at three this morning I saw the sky red as a city in flames could have made it. I have a leech in a bottle

that foretells all these prodigies and convulsions of nature. Not, as you will naturally conjecture, by articulate utterances of oracular notices, but by a variety of gesticulations, which here I have not room to give an account of. Suffice it to say that no change of weather surprises him, and that, in point of the earliest and most accurate intelligence, he is worth all the barometers in the world. None of them all, indeed, can make the least pretence to foretell thunder, a species of capacity of which he has given the most unequivocal evidence. I gave but sixpence for him, which is a great more than the market-price; though he is, in fact, or rather would be, if leeches were not found in every ditch, an invaluable acquisition."—*Chambers' Journal.*

LOCAL BUSINESS AND GOVERNMENT OFFICERS.

At an adjourned general meeting of the Herefordshire Chamber of Agriculture, the President for the year, Mr. J. PULLEY, in the chair, thought that it was very desirable that agriculture should be represented, but it was so novel a subject that he was not prepared to offer any remarks upon it.

Mr. FOWLER, the Secretary, said it was highly desirable to have a Minister of Agriculture, or an Agricultural Department connected with the Government.

The CHAIRMAN moved a resolution to that effect.

Sir HERBERT CROFT moved an amendment that there should be a Minister of Agriculture appointed separately from a Minister of Commerce. He did not think it was the least practicable to have a Minister both for agriculture and commerce. A man might be a very good farmer, and yet know very little about commerce; and, on the other hand, he might be practically acquainted with commerce, and be unacquainted with agriculture; and he (Sir Herbert Croft) did not see why agriculturists should not ask for a Minister for themselves. What they wanted was some one in the House of Commons to undertake all questions of agriculture. It was well known that in this country Government was carried on with exceeding cheapness. He even thought that the Prime Minister himself was a very ill paid man; £5,000 a year was a very small salary, and he thought it might be well if they had a few more Secretaries of State, who generally received £2,000 a year. For instance, they should have secretaries in departments separately for matters connected with agriculture, matters connected with commerce, with education, and with railways. Of course, he was aware that there were at present members of the House of Commons whose duty, more or less, appertained to an oversight of those matters. For instance, there were the President, Vice-President, and Secretary of the Board of Trade. If they would only call those gentlemen by different names, and add another secretary or two, then they might have a representative of each department in the House of Commons. At present, the Board of Trade had all sorts of extra work thrown upon them. During the last generation, since the enormous length of railways in the kingdom had been formed, there had been an enormous deal of extra work, which the Board of Trade had had to see to, and although there was in connection with that Board a permanent under-secretary for railways, yet, he thought, the Board had too many things included in their duties. They had to attend to railways and to ships, besides many other matters; in point of fact they were over-worked. It was almost ludicrous, but, nevertheless, it was true, that they had had the same Minister in the House of Commons, Mr. Forster, looking after the education of children and the diseases of cattle. That one and the same Minister should have to overlook two such entirely different and distinct departments gave, he thought, striking evidence of what he had advanced, namely, that it was necessary for an alteration to take place in the state of things. With the exception of the Home Secretary and Mr. Forster, whose duties also included many other matters, there really had been no minister of agriculture in the House of Commons. Dr. Morris had reminded him just now that in France there was a Minister of Agriculture, and had asked him just now whether he knew what the duties of that Minister were? He did not know, but he could not conceive that that Minister's duties were less than to supervise the whole of the agricultural interests of the community, because he was a Minister with a portfolio, which, he

(Sir Herbert) believed, corresponded with a Cabinet Minister in this country. He submitted that there was a necessity not only for a Minister of Agriculture, but also for a regular re-arrangement of the whole of the Government offices of this country. They should give to their Government officers less work to do, and that work should be better apportioned. It would then be better done. That proposition stood to reason. Who would not rather have two clerks to do their work than one, if, in the end, it would be done better and as economically? He did not know that it was an absolute necessity for them to have a Minister. They wanted an official under the Government, one who would have a seat in the House of Commons. It did not so greatly matter whether or not he was in the Cabinet, as the Prime Minister supervised all the departments; but they wanted a Minister of Agriculture to hold a place, not necessarily the most prominent, in the Government and in the House of Commons. They wanted a Minister who should not have education and cattle-plague to look after, but one whose duty it would be simply to overlook the agricultural interests and to give all orders with regard to cattle plague, including the transport and importation of cattle. He was glad to see that Government had already had their attention drawn to the question of importation of cattle from Ireland, which had been one of the great causes of the disease in this country, and that steps had been taken that would prevent the evil in future. In conclusion, Sir Herbert Croft said that he thought there should be a separate Minister or Secretary for Agriculture, and if it cost the country another £2,000 a year, that, he thought, was nothing in comparison with the great interests of agriculture.

The CHAIRMAN said he should be glad to see the departments of agriculture and commerce separated and having each a minister. He had framed his resolution more from what he saw upon the agenda than from his own ideas. He should be glad to see separate officers appointed, and, with the permission of the meeting, he would withdraw his motion and with much pleasure second Sir Herbert Croft's motion.

The SECRETARY fully endorsed every word that Sir Herbert Croft had used, and thought there would be sufficient work for separate departments—agricultural and commercial—the one to be connected with the Local Government Board and the other with the Board of Trade. He knew that when any question had arisen respecting the cattle traffic of the country or with respect to the proper means of dealing with diseases specified under the Contagious Diseases (Animals) Act, that deputations who waited upon Government had had to go searching through office after office, and that it was only until after many futile attempts that they found the right spot. There should be no mistake about it, and when the clerk of the peace or any other official went up to Government requiring information he should know without uncertainty where to telegraph or send a letter to. He had great pleasure in supporting Sir Herbert Croft's motion.

The motion was then adopted unanimously in words as follows: "That the appointment of separate ministers of Agriculture and Commerce is desirable."

The CHAIRMAN, in introducing the subject of highway legislation, said: Since turnpike-gates had been done away with he had noticed, particularly in this district, that a great alteration had taken place in the roads, he could hardly say an improvement; and at the same time there had been a very large increase in the rates. He believed that but one opinion

existed upon the subject, that they were justified in expecting some relief under that head, and that some of the expenses of the roads should be charged in another way than at present. He should be glad to receive a motion upon the subject.

The SECRETARY said that the subject of highway legislation was one in which the Chamber had taken more interest than probably any other, and he read several resolutions which they had passed upon it, the first dating so far back as January, 1867. The Chamber, the secretary said, had all along considered that turnpike-gates ought to be removed as soon as some equitable provision had been made for the repairs of roads, by which assistance should be given to the ratepayers. Quite in accordance with the resolutions of the Chamber Mr. Knatchbull Huggessen had extended from parishes to highway districts the repairs of the highways. Until that was done the expense fell, as most of them were aware, excessively heavy in some parishes, even necessitating a rate of from 2s. 6d. to 3s. in the pound. He had himself had to pay on some property in the suburbs of Hereford a rate of that amount. He approved therefore of the principle of merging all the parishes within a given area into a highway district from which a common rate should be collected extending over the whole of the district. It saved an immense deal of trouble in keeping the accounts, and was, when properly worked, most advantageous to all parties. The construction of railways throughout the kingdom had completely diverted much of the heavy traffic that used to be on the roads; but parish roads, that were formerly supported at very little expense were now entailing an expense equal to that of the turnpike roads. He knew that the members who had placed this subject of highway legislation upon the agenda for discussion were much opposed to the formation of highway boards and to highway board management, and were anxious, those of them who lived in highway board districts, to go back to the parish system, and those in whose districts the change had not taken place to continue under parish management. He, however, considered that the establishment of highway boards and highway legislation previous to the passing of the Act for the abolition of turnpike-gates were amongst the best legislative enactments of modern times. Being a member of the Ross Highway Board he had taken much interest in the working of that Board ever since its formation, and previously he had acted as surveyor. He therefore knew the state of things, both under the present system and the old one, and that very week they had had an estimate presented which was £200 or £300 below what had been the average expenditure previous to the establishment of the highway board.

Mr. CARPENTER asked the secretary whether he was not grossing the parish roads with the highways?

The SECRETARY said no. He was speaking of the old parish roads. The average annual expenditure previous to the establishment of the highway board was between £2,300 and £2,400 a-year, whereas in the estimates handed in this week the sum was about £2,100, although last year the board had the turnpike roads thrown upon their hands in a most disgraceful state, every effort having been made to economise the expenditure at the expense of the general public. The board had voted more than double the expenditure to which they were limited by Act of Parliament. This year they were enabled to reduce their estimate by £400. There were many things in connection with the rates about which further legislation was required. One was that at present they had no power to compel the brinkers to remove the scrapings from the sides of the roads, and if they did it themselves it must be at their own expense, and the brinkers refused to have those scrapings placed on their lands.

Mr. HERBERT: You must have a dépôt to take them to.

The SECRETARY said that it must be most gratifying to the ratepayers of the Ross district that although the price of labour, of material, and of cartage, as well as other things connected with the repairs of the roads, had increased something like 25 per cent. since the establishment of the board, the expense of such repairs was less than formerly. It showed that the system was a right one if properly worked.

Rev J. BUCKLE said that the highway question was one in which all present were specially interested—it came home to most of them—and he was therefore not at all surprised to hear that it had been discussed by that Chamber. Since the abolition of turnpike gates, the question had pressed heavily upon the ratepayers, who, he thought, were generally admitted to have a hardship in the burden placed upon them. Not

only was that fact publicly admitted by the people outside Parliament, but the Government had admitted it, and promised that it should receive their consideration, although hitherto, owing to want either of time or inclination they had not provided any remedy. All the Chamber desired, and all they had a right to ask, was what their secretary had mentioned, namely, an equitable system of keeping the highways and turnpike roads in repair without unnecessarily taxing the ratepayers. Both highways and turnpike roads must be placed in the same category. What he thought the Chamber should ask for in the first place was the admission of the principle that all those who used the roads should pay their fair proportion towards keeping them in repair, which at present was not the case. The repair of the roads now fell upon one particular estate, and how otherwise it could be provided for was a difficult question. It seemed to him that a certain amount of the tax levied on carriages and horses used for pleasure should be taken from the imperial revenue, and appropriated for the repair of all public roads. In his (Mr. Buckle's) district the extra expense for repairing the roads since the abolition of the turnpike gates had been 6d. in the pound on the rent; so that whilst a farmer renting land at £300 a-year, and the clergyman paying the same rent, and having only his one horse and gig, would have to pay between £7 and £8 a-year towards keeping the roads in repair, a gentleman renting a house at £150 a year, and keeping several horses and carriages, would only have to pay one-half that amount, although he used and damaged the road perhaps three or four times as much. Therefore he considered that either a portion of the present duty on carriages and horses used for pleasure purposes should be appropriated towards the relief of the rates, or that an additional duty should be levied and applied for the purpose of the repair of the roads in the district where it was levied. There was another point he would like to mention. Much damage to the roads was caused by the hauling of timber. He spoke feelingly. The question was how were they to get compensation for that, or how far were owners of timber and those who carried timber to contribute to the repair of the road? The rating of timber was mentioned during the last session of Parliament, but he did not see how it was to be rated. They could not get at the rateable value. What he would suggest was that if there was a considerable falling of timber a percentage should be paid upon it to assist the district in repairing the damage done to the roads by the hauling of the timber. He knew that great damage was done by such hauling, for in his own parish, in consequence of having haulage of timber for two years, it had cost the ratepayers 15d. in the £ for the repair of the roads during the last two years, and now it was estimated that a very considerable sum, nearly £700, was required for the same purpose. Further, he thought that the repairs of all highways and turnpikes should be made a district charge. It seemed only fair that they should be so. Mr. Buckle concluded by proposing "That part of the duty on carriages and horses for pleasure, or if necessary, an additional duty, should be applied to the keeping up of roads. That a percentage on the value of timber in case of large falls should be also applied. That all charges should be common charges on the district."

Mr. NORRIS said he thought it was very desirable that they should keep clear from recommending anything that might have a tendency to restrict trade, as possibly the rating of timber might have. He knew that in the North of England, where stone was abundant, it was complained of heavy waggons laden with that material going along the roads, that they materially damaged the roads. The answer to that was that if they interfered with the passage of the waggons over the roads, trade would be restricted and the district ruined. It was for every district to judge of its own circumstances in that matter; but the principle of restriction to trade should always be avoided as much as possible. Last year there was some little agitation raised upon the subject of hauling in a district in the North with which he was connected, and then it was deemed advisable to recommend that if waggons carried heavier loads than usual over the roads those waggons should have broader wheels than ordinary. That would much reduce the injury done to the roads, and in proportion also would diminish the cost of repairs. Mr. Norris briefly alluded to the common law liability of parishes to maintain their highways, and to the great inequality in the present days of railway rating. The

whole question, he said, was one of such immense difficulty that before they came to any definite resolution upon it, it was desirable that they should frame four or five propositions, to be sent round to different Chambers of Agriculture for discussion, and that those resolutions should be discussed *serialim*. It was impossible to propose a single resolution to remedy the whole evil at once; but if the subject was divided under certain heads and referred to a small committee, then some beneficial result might be obtained, and they would be in a position to ask Parliament for a rate in aid; but until then he doubted if they could come to any specific resolution.

The SECRETARY said he would submit what he thought would meet all purposes, namely, the following resolution: "That the area of rating for the repairs of the whole of the highways should be co-extensive with the highway district, and that the transfer of that portion of imperial taxes levied upon horses and vehicles should be divided *pro rata* for the maintenance of highways." At present there was a tax levied upon all horses used for trade purposes, upon all saddle horses, and upon all horses used for pleasure, and the local tax-payer was called upon to repair and to maintain the permanent way for the Government to obtain an imperial revenue. Now, that, he thought, was rather hard. It was quite enough for the local tax-payer to be called upon to pay local taxes without his being compelled to maintain the permanent way for the Government of the country to obtain an imperial revenue. He was old enough to remember the city of Hereford when Sedan chairs were in vogue, when there was no fly, bus, or other vehicle except one old post-chaise; but now what an extension of traffic there was upon the roads, and a consequently increased expense upon the ratepayers for the benefit of the Government! He thought all classes, including the timber carrier, the brewer, and the miller, would be benefited by the transfer of the taxes levied upon horses and vehicles to the maintenance of highways, and as at the present time there was surplus revenue in the hands of the Government if they could be induced to make that transfer it would be a great act of justice towards the ratepayers.

Rev. J. BUCKLE did not think that a tax upon timber would operate to restrict trade. It was, however, peculiarly situated compared with other produce of the soil. He thought no better plan for rating could be devised than putting on an exceptional per centage when it was felled. That was the course he would venture to suggest.

The CHAIRMAN said he certainly thought that timber should bear its proportion of the rating, particularly as it was 100 per cent. dearer now than it was 20 years ago.

Sir HERBERT CROFT asked Mr. Buckle to withdraw that part of his resolution which related to timber, as the constitution of the present House of Commons upon this question differed little, he believed, from that of the old House, and, at all events, the decision arrived at last session was not likely to be reversed. During the many weeks that the House was occupied last year in the consideration of the proposal to rate timber, there was no opposition raised to the proposal in the abstract. Everybody agreed as to the propriety of it. Nothing could be said against the maxim of bringing as many shoulders as possible to bear the burden of taxation. No one doubted that timber and mines should be rated. But it was a very difficult question how the rate should be assessed, and it was made none the easier because the member of the House who introduced the bill knew less about the subject than any other man he ever knew. The result arrived at was, that land on which timber stood should be rated at the agricultural value of adjoining land. That suggestion was not adopted by the House of Lords. That House thought the bill not a good one, and they declared that they had no time to entertain it. The House of Commons was, however, plainly in favour of rating timber, and, as the subject was almost certain to come before the House again when the question of local taxation was discussed, he thought it was better they should drop it from their resolutions at present, and devote their attention at that meeting more to the other matters about which the resolutions proposed by Mr. Buckle, and those proposed by Mr. Duckham agreed. One thing they must all concur in, and that was that the roads were at present in a very bad state, and that the repairs were very badly managed. There was a great deal of iron and other metal used upon the roads, but it was not properly distributed. There was a want of proper supervision. He was told that the surveyors were hard-working men, that they did their duty well, and he made

no representations against them, but if he was correctly informed, it seemed to him that each surveyor had too much allotted to him, a great deal more than he was able to attend to, and he (Sir Herbert) did not think the material used on the road was good. In some cases it was extremely bad. Sir Herbert Croft, in quaintly humorous style, told of a conversation he had had lately with a man who was putting material on the road near Hereford. He asked the man what it was, and the reply he received was that it was taken off the fields; but, "Lor' bless ye, sir (said the man) it ain't a mottle of use." So long as the year 1867, he (Sir Herbert) had obtained information upon the subject of road repair, and from what he then learned, he believed the whole system of turnpike gates was an expensive one, and undesirable to be continued. In the Isle of Man there was carried out the system of a tax on wheels according to the breadth of the wheels and the injury likely to be done to the roads. He thought a small tax might properly be levied on timber hauliers. It would no doubt fall upon owners of timber, but they would not feel it because it would be infinitesimal. He agreed with previous speakers that the tax now levied on horses and carriages, which amounted in the aggregate to a million or a million and a-half of money, would be a fair contribution from the imperial revenue to the repairs of the roads, and one that might fairly be applied, for as the maintaining and keeping in repair of the highways was a national matter, it was only fair therefore that the nation should contribute towards that object. Sir Herbert again urged on Mr. Buckle to withdraw that part of his resolutions which related to the rating of timber.

Rev. J. BUCKLE consented to do so.

The SECRETARY said they had a precedent for the transfer of a portion of local taxation to the imperial revenue in Mr. Goschen having introduced a bill some time ago to transfer the house tax to the national exchequer, only in that case the ratepayers who would have been relieved were rich people instead of poor ones.

Mr. PINCHES said he was very sorry that Mr. Buckle's motion as to the rating of timber had not been pressed, as having sat on a highway board himself some years he had seen the damage that was done to roads by the passing of heavy loads of timber over them. In his district (Weobly) there were very heavy falls of timber, and for four or five years consecutively as much as £3,000 worth of timber annually was carted over the roads, causing immense damage to those roads, and the owner had paid nothing for the repair of the damage done except in the rate charged upon his residence. He generally found that gentlemen who wore out the roads most were those most anxious to have the roads kept in the best possible condition. His Board had done the best they could to repair the roads without incurring any ruinous expenditure, and put on to them a fair amount of material. Since then there had been immense timber carriages and weights over them and yet the great owners of timber expected the roads to be in the same excellent condition as their own carriage-drives over, which they would not allow a single stick of timber to be carried. The result had been that a road rate of 1s. in the £ had been necessary. He thought that there should be a per centage charged on all timber sales, and that that would be a fair and equitable proceeding. If any gentleman would move a resolution that timber should be rated he should be most happy to second it.

Sir HERBERT CROFT said he had no desire to say anything against getting timber rated. All that he argued was that inasmuch as the House of Commons had decided that it was right for timber to be rated, and as they were likely to have the question again before them shortly, it would be better to postpone that part of the question until after they had heard what was proposed to be done about it in Parliament. As he had said in the discussion which took place in the House of Commons last session there was not a single division against timber being rated, all were unanimous upon that point. The difficulty was to determine how the rate was to be levied.

Mr. CARPENTER suggested that as almost all the timber was removed to other parts of the country by railway and charged for by the several companies at so much per ton, the tax might be levied upon the tonnage, and that would assist in relieving the present taxpayers more than the small amounts of duty (10s.) at present levied upon horses and carriage would do. Up in Monmouthshire he believed the agricultural

value of land adjoining that on which most of the timber was 7s. 6d. per acre. That was nothing like a fair proportion of what timber should be rated at. Mr. Carpenter instanced a case that some yeats ago occurred in this neighbourhood where £10,000 worth of timber was hauled through parishes into Hereford doing extensive injury to the roads. The owner of the timber was benefited largely by the abolition of the turnpike gates, at the expense both of the haulier and the ratepayer, who really suffered from the turnpike gates being removed. He thought that until the Government had increased the area of local taxation one-third of the expense of the repairs of the road would be paid from the Consolidated Fund. That would simplify matters much more than was proposed in the resolution at present before the Chamber.

Mr. HEBERT pointed out that at present there was a duty paid on underwood.

The following resolutions as proposed by the Secretary, seconded by Rev. J. Buckle (who withdrew his resolution in their favour) were unanimously adopted, "That the removal of turnpike gates has materially increased the local burdens upon the tax-payers to the relief of a large portion of the community. That the area of rating for the repairs of the whole of the highways should be co-extensive with the highway districts. That the transference of that portion of imperial taxation levied upon horses and vehicles should be divided *pro rata* for the maintenance of the highways."

BLOOD POISONING.

The chief occurrence of importance which has taken place since my last Report, in relation to diseases of the animals of the farm, has been the outbreak of some remarkable cases of blood-poisoning, on three farms in particular, in the Western Counties of England. The first of these to which the attention of the College was called, and subsequently published in *The Veterinarian*, occurred at Stoke-under-Ham, Somerset. It appears that, as far back as August last, several sheep which exhibited symptoms of blood-poisoning died, in rapid succession, after a very short illness, on a farm in the occupation of Mr. Darby. The animals are said to have become suddenly prostrated, and to be unable to walk with a steady gait. Their throats rapidly swelled, and their breathing became much impeded; death took place in the course of a few hours, even in those which survived the longest. The carcases of these sheep were skinned and opened in the "Home Field"—a meadow adjacent to the premises—and a considerable portion of the flesh, which had been preserved for the dogs, was subsequently eaten on this same meadow. In close proximity to this field, and also to the farmstead, is a pond of stagnant water, which receives the drainage of the stables and straw-yards, as well as the surface-water from the meadow in question. At this time Mr. Darby had eleven horses on the farm, which were daily used more or less for agricultural work. On August 23rd, a four-year-old horse at pasture in the Home Field was taken suddenly ill, and died in about twenty-four hours from the attack. He was opened in the straw-yard, about thirty feet only from the pond, and the intestines and other viscera were buried close by, and on a higher level, thus favouring the gravitation of the animal matter towards the pond. On October 3rd, a five-year-old horse was attacked, and died in about three hours. The viscera of this animal were dealt with in a similar manner to that of horse No. 1. This death was quickly followed by others, so that by October 27th, the day on which the matter was brought to the notice of the College, four horses were already dead, and others were reported by the veterinary surgeon, Mr. Warr, of Martlock—who came to town, bringing with him some of the diseased viscera—to be rapidly sinking. Mr. Ware also reported that two pigs, a dog, a cat, and two ferrets, which had eaten of the raw flesh of this horse, were dead; and that a labourer, who had removed the carcase of the horse which died on October 3rd to an adjacent village to be boiled down for pigs' food, had died, under circumstances so peculiar as to lead his medical attendant to believe that his death was a consequence of this proceeding. The visit of Mr. Ware led to Assistant-Professor Axe being at once despatched to the place, and to his investigation I am indebted for the chief facts of the case. By November 1st, seven horses had died, and on this day Mr. Axe was enabled to make a *post mortem* examination of one of them, the last which died, the result of which showed unmistakably that death had resulted from

blood-poisoning. All the horses which had died had drunk regularly of the pond water; but only one of those which escaped. The pond water was stagnant, black in colour, inoffensive, and largely impregnated with animal and vegetable matter. The other sources of water supply to the premises were the home-pump and a small running stream. Their waters were clear, tasteless, and free from smell. Their supply was constant, and free from any source of pollution. The facts of the case all pointed to the pond water as the source of the mischief. Steps were therefore at once taken to prevent any further injury being done, and it is hoped successfully, as up to the date of this report no more cases have occurred.—Professor SIMONDS in *The Royal Agricultural Society's Journal*.

THE AYRSHIRE "DERBY."

Regarding the general considerations which have led to the improvement of the Ayrshire breed of cattle, we are glad to learn, from the leading breeders in the country, that the desideratum of an official herd-book is in great part overcome by each of them carefully keeping a record of their stock and their numerous intercrossings. The class of Ayrshire stock which secured and merited the largest share of attention was the "Derby," the good of which competition is now beginning to be felt in the herds of the ordinary breeders of the county. This is the third "Derby," and of the 137 entries made two years ago, when the animals were yearlings, 75 were forward. The selection of the prize-winners out of such a large number was consequently a matter of considerable difficulty. The first prize of £20 was awarded to Mr. J. N. Fleming, of Knockdon, for a nice dark red crummie, a daughter of the little black cow with which Mr. Fleming secured such a large number of prizes a couple of years ago. Mr. J. Parker, Broomlands, in the Kilmarnock district, won the second prize with a red and white silken-haired cow, her neck and head being dark brown. Mr. A. Allan, Munnock, was awarded the third premium for a red and white, which was sold for £50, to go to Dumfriesshire. The fourth came from the Ayr district, and is a useful dairy animal, but with no exceedingly striking traits. The aged cows in milk were another grand class. Mr. W. Duncaon, Brockwellmuir, came first with his beautiful white and red, which has carried off eleven first prizes at previous shows; and Mr. J. N. Fleming took the second prize with a well-favoured red, which was first in her class at Ayr last year. Of the aged cows in calf, the Duke of Buccleuch took the leading award with a large red, which was first at Thornhill. His Grace also came to the front in the three-year-old class in milk, with the beautiful white quey which was first at Kilmarnock, and Mr. Parker's Derby second occupied a similar position here. Mr. J. Howie, Burnhouses, carried off the second premium for three-year-old cows in calf, with a brown and white, having a sweet head and broad straight body. The queys and quey stirks were excellent classes. Of aged bulls there was a capital display, no less than fourteen being stalled. The red ticket was given to the black and white bull belonging to Mr. W. Smith, Chanlockfoot, which was second at the Dumfries Union Show, and third as a two-year-old at the Highland Society's Show at Kello. He was sold for America at £85. There were no fewer than twenty-eight two-year-old bulls forward, and a finer display never came under the eyes of any judges. Eventually the red bull belonging to the Duke of Buccleuch, with Highland characteristics, which was placed first at Kilmarnock a fortnight ago, was again reserved for the red ticket. The second prize went to Mr. Bryce Nairn, High Walton, Manchester—a charming little red. There were 47 fine bull-stirks in the yard. Than the three first-prize animals it would be impossible to find better in the country. The first place was given to George Alston, London-Linn, for the red and white stirk which was placed first at Kilmarnock. The display of Clydesdale horses was of great excellence. There was a larger entry of brood mares than last year, and the quality was also superior, Mr. G. Knox, Polnoon Lodge, securing the first prize. The sheep were also an excellent show. Blackfaces held the chief place, and their numbers were as large as their quality was good. Few Cheviots were forward, but these were a fair quality. The Leicesters as a class were especially noteworthy, though none even of the prize pens came up to, say, the East Lothian standard. There were fourteen lots of old cheese, and they showed good condition and excellently-kept colour.

THE ANALYSIS OF MILK.

At a meeting of the Pharmaceutical Society, N.B. branch, the following paper on the Quality of the Milk Supplied to Towns, was read by Dr. STEVENSON MACADAM, F.R.S.E., Lecturer on Chemistry :

The recent prosecutions in Edinburgh and other cities and towns, in reference to the adulteration of milk, have proved that there is great necessity for more full information regarding the chemical composition of genuine or normal milk. Consequently, having been professionally engaged in some of the cases of alleged adulteration, and having acquired a mass of results regarding the analysis of milk, I have thought it right to give publicity to these researches, in the hope that they may tend to afford greater certainty to future analysis of milk, and thus be of public service.

In carrying on the analysis of milk, the special points which may be determined are—

- (1). Specific gravity of the milk.
- (2). Percentage of cream by volume.
- (3). " total solids by weight.
- (4). " solids not fat "
- (5). " fat or butter "
- (6). " ash in solids "

Where it is possible, all these points should be determined. Some chemists attempt to despise the specific gravity and cream tests, and stand by the solids and fat only; whilst others hold, and correctly so, that the specific gravity and cream determinations are excellent guides when they are properly carried out. Necessarily where all the points are determined—the specific gravity as well as the solids, and the cream as well as the fat—both parties must be satisfied, as the one affords a check to the other, and double certainty and accuracy of results are obtained. The specific gravity is best taken in the ordinary specific gravity bottle, holding 1,000 grains of water at 60 degs. F. The milk should be agitated previously so as to mix the fat or cream thoroughly throughout, but care must be taken that the agitation is not so violent as to incorporate air bells with the milk. The temperature of the milk at the time should be 60 degs. F. if possible, but if slightly above or below that temperature then an allowance of two-tenths may be made for every degree above or below, being added to the weight when the temperature is above 60 degs. F., and being abstracted from the weight when the temperature is below 60 degs. F. The hydrometers which are supplied with the ordinary lactometers are seldom correct; and, moreover, there is greater uncertainty in reading off the exact figure on the stem indicative of the specific gravity. I always employ the specific gravity bottle. Taking genuine milk derived direct from the udders of the cows belonging to three large dairies in the neighbourhood of Edinburgh, I find the specific gravity to range from 1028.4 to 1035.7—the average of forty-four trials with different milks being 1032.30 (water=1000.00). The variations in the specific gravity of the milks ranging over 7 degs. undoubtedly indicate a difference in the composition of the milks, and in the quantities of the respective components.

The cream is determined in an elongated vessel of uniform width, and graduated at the upper part so as to indicate accurately from 1 to 25 per cent. of the whole capacity. The precautions necessary for the uniform and accurate estimation of the proportion of cream obtainable in milk by this creamometer are—(1) that the vessels should be of similar sizes so as to admit of the fat globules rising to the surface with equal facility; (2) that the milk should be taken as fresh from the cow as possible; or that in contrasting the relative qualities of samples of milk that they should be taken about the same length of time from the cow; (3) that the milk should be well agitated before being placed in the graduated vessel; (4) that the temperature of the milk should be about 60 degs. Fah.; (5) that the temperature of the room be kept about 60 degs.; and (6) that the respective milks be allowed to remain in the creamometers for the same length of time—say twenty-four hours. Working in this manner, I find that genuine milk throws up a proportion of cream ranging from 5½ to 11¼ per cent. by volume, whilst the average of forty-four trials gave 7.8 per cent. The total solids in milk may be readily estimated by evaporating a given weight of the milk in platinum vessels heated on a water-bath. A convenient and excellent bath may be constructed from a common iron pot, about eight inches wide and four inches deep, covered with a sheet of copper plate about ten inches square, which can be kept in its place by a band being cut out at each side and bent down to embrace the pot. Four circular openings are cut in the

copper cover, which admit of four flat platinum basins about two inches in diameter being set in the bath. The square corners of the copper cover form a hot-plate when the bath is in working order. The milk to be tested having been agitated, a portion is poured into one of the platinum basins and weighed. The amount should run from 80 to 100 grains. The basin and contents are then placed on the water-bath, and the water kept briskly boiling for at least two hours—probably to ensure the thorough drying of the residue, three hours should be taken in all trials so as to have uniformity in mode of working and greater accuracy in result. The basin and contents are then re-weighed, and the total solids from the given amount of milk are obtained. A calculation then gives the per-centage of total solids by weight; and I find that genuine milk gives from 10.57 to 14.54 per cent.—the average of 44 trials being 12.04. There is thus a difference of 4 per cent. in the amount of solids obtainable from samples of genuine or normal milk. The solids not fat are estimated by taking the total solids contained in the platinum basin and extracting the fat by ether, at the same time heating gently over a vessel containing hot water. On settling for a minute, the ether may then be decanted off into a small weighed beaker. The ether treatment of the total solids should be repeated other three times, so that the solids are acted upon four times by the ether. On drying up the residue in the platinum basin and reweighing, the proportion of solids not fat in the amount of milk employed is obtained and a calculation will give the per-centage. Genuine milk gives from 8.74 to 11.23 per cent. of the solids not fat—the average of 44 trials being 9.62 per cent. The fat may be determined in two ways, either by the loss in weight of the total solids as compared with the solids not fat, or by the evaporation of the ethereal solution and weighing the fatty residue. I do not find the evaporation method so accurate as the estimation by loss. There is apparently some of the fatty matter which escapes over the side of the vessel even when the evaporation is conducted in glass beakers. The difference in weight between the total solids and the solids not fat gives always a higher result, and one which I consider is more accurate. Taking, therefore, the loss in weight due to the extraction of the fat from the total solids by the ether, I find that genuine milk gives a per centage of fat ranging from 1.56 to 3.32—the average of 44 trials being 2.44. The ash in the solids is estimated by burning off the organic constituents and weighing the residue. In genuine milk the ash ranges from 0.62 to 0.76 per cent., the average being 0.69 per cent. In carrying on these researches genuine milk was obtained in every instance direct from the udder of the cow. My assistant, Mr. William Jack, went to three large dairies and personally took the samples. He inspected the pails before the milking was commenced, saw all the cows milked, and sampled every milk himself.

From dairy A there were altogether 16 samples taken from 14 cows—12 of the samples were from the entire runnings of milk from 12 cows, whilst 2 of the samples were the first of the runnings, and the remaining 2 samples were the last of the runnings from the remaining 2 cows. The first 5 and the last 5 of the 16 samples were fully analysed, and the results are given in the following table:

No. of Cow.	Specific gravity of milk.	Cream per cent. by volume.	Total solids per cent. by weight.	Solids not fat per cent. by weight.	Fat, per cent. by weight.	Ash in solids, per cent. by weight.
1. A, first of runnings	1032.9	7	11.57	9.32	2.25	0.71
1. B, last of runnings	1031.2	10	12.32	9.39	3.02	0.63
2. Whole runnings	1033.4	5½	11.39	9.25	1.87	0.72
3. A, first of runnings	1031.1	5	11.25	9.28	1.97	0.69
3. B, last of runnings	1029.1	11½	13.66	9.32	4.34	0.70
10. Whole runnings	1030.4	6	10.57	8.74	1.83	0.67
11. do.	1032.7	5	11.12	9.70	1.72	0.70
12. do.	1031	6	11.51	9.55	1.96	0.69
13. do.	1031.1	9	12.62	10.04	2.58	0.74
14. do.	1028.4	10	11.96	9.18	2.78	0.70
Average of the 10 samples	1031.46	7½	11.827	9.395	2.432	0.70

From the above table it will be observed that, taking the whole runnings, the specific gravity of the milk ranged from 1028·4 to 1033·4, the cream from 5 to 10, the total solids from 10·57 to 12·62, the solids not fat from 8·74 to 10·4, the fat from 1·72 to 2·78, and the ash from 0·67 to 0·74, whilst the average of the ten experiments gave specific gravity 1031·46, cream, $7\frac{1}{2}$; total solids 11·827; solids not fat, 9·395; fat, 2·432; and ash 0·70. The samples of first runnings were markedly inferior in quality, whilst the samples of last runnings were as markedly superior in quality—in No. 1 cow the proportions of cream being 7 to 10, and fat 2·25 to 3·02, whilst in cow No. 3 the variation in cream was 5 to 11, and the percentage of fat 1·97 to 4·34. It may be stated that the cows Nos. 1, 2, 10, 11, 12, 13, and 14 were of the cross breed, whilst No. 3 was an Ayrshire; that Nos. 1 and 2 had calved in January, No. 3 in November, Nos. 10 and 11 in June, No. 12 in December, and Nos. 13 and 14 in July; and that the cows were fed three times a day, viz., at 7 a.m., mash of draff, oilcake, and boiled turnips; at 12 noon, draff and raw potatoes; and 7 p.m., mash, raw turnips, and hay.

From dairy B there were 22 samples of milk taken, 18 of which were from the whole runnings of 18 cows; whilst two samples were the first runnings, and 2 samples were the last runnings of milk from other 2 cows. All of these samples were fully analysed, and the following results were obtained:

No. of Cow.	Specific gravity of milk.	Cream per cent. by volume.	Total solids, per cent. by weight.	Solids not fat, per cent. by weight.	Fat, per cent. by weight.	Ash in solids, per cent. by weight.
1 A, first of runnings	1033·6	5	10·47	9·15	1·32	0·67
1 B, last of runnings	1030·5	12	12·94	9·17	3·77	0·73
2 Whole runnings	1032·5	8	12·57	9·88	2·69	0·74
3 do.	1033·7	7	11·75	10·19	1·56	0·71
4 do.	1031·1	8	11·91	9·32	2·59	0·68
5 do.	1031·8	10	12·18	9·21	2·94	0·65
6 A, first of runnings	1033·4	5	10·57	9·03	1·54	0·62
6 B, last of runnings	1029·0	14	14·09	8·99	5·10	0·59
7 Whole runnings	1032·9	7½	12·17	9·93	2·24	0·65
8 do.	1032·5	7½	11·97	9·70	2·27	0·67
9 do.	1031·5	7½	11·52	9·23	2·29	0·62
10 do.	1032·8	6	11·24	9·55	1·69	0·71
11 do.	1032·8	7	11·84	9·73	2·11	0·72
12 do.	1030·8	9½	11·66	8·94	2·72	0·64
13 do.	1030·6	9	11·98	9·37	2·61	0·68
14 do.	1033·5	8	12·33	9·95	2·38	0·72
15 do.	1031	6	11·48	9·52	1·96	0·73
16 do.	1033·4	6	11·37	9·73	1·64	0·70
17 do.	1032·7	6	11·29	9·54	1·75	0·75
18 do.	1029·6	8	11·41	8·85	2·56	0·69
19 do.	1034·0	10	13·85	10·79	3·06	0·76
20 do.	1031·3	11	12·48	9·16	3·32	0·68
Average of the 22 samples	1032·14	8	11·95	9·60	2·453	0·69

Taking the above analyses, and leaving out the special experiments in the first and last of the runnings of the two cows Nos. 1 and 6, it will be found that over the whole runnings given by each cow, the specific gravity ranged from 1029·6 to 1034·0, the cream from 6 to 11, the total solids from 11·24 to 13·85, the solids not fat from 8·85 to 10·79, the fat from 1·56 to 3·32, and the ash from 0·62 to 0·76; whilst the average of the whole 22 analyses gave specific gravity 1032·14, cream 8·0, total solids 11·95, solids not fat 9·50, fat 2·453, and ash 0·69. The samples of first runnings were again much inferior in cream and fat to the last runnings. Thus, in cow No. 1 the difference was in cream 5 to 12, and fat 1·32 to 3·77, whilst in cow No. 6 the variation in cream was 5 to 14, and in fat 1·54 to 5·10. In this dairy the cows Nos. 1, 7, 8, 9, 10, 11, and 12 were English; Nos. 2, 3, 4, 5, 6, 13, 14, 15, 16, 17, 18, and 20 were Ayrshire; and No. 19 was a cross; and the calving of the cows had taken place in January for Nos. 1, 8, and 9; October for Nos. 2, 3, 4, 5, and 6; December for Nos. 7, 10, 11, 12, and 13; August for Nos. 14, 15, and 18; September for Nos. 16 and 17; June for No. 19, whose milk was nearly out; and February for No.

20, whose milk was only two weeks' old. All the cows were fed three times a day on draff and raw turnips.

From dairy C twelve samples of milk were taken from twelve different cows, and gave the following analytical results:

No. of Cow.	Specific gravity of milk.	Cream per cent. by volume.	Total solids, per cent. by weight.	Solids not fat, per cent. by weight.	Fat, per cent. by weight.	Ash in solids, per cent. by weight.
1. Whole runnings	1031·5	9	12·92	9·94	2·98	0·72
2. " "	1031·6	10	12·73	9·71	3·02	0·69
3. " "	1032·6	9	12·94	10·25	2·79	0·73
4. " "	1034·8	6	11·86	10·22	1·74	0·65
5. " "	1034·4	6	11·88	10·04	1·84	0·68
6. " "	1031·9	6	10·92	9·16	1·76	0·62
7. " "	1032·9	6	11·04	9·34	1·70	0·64
8. " "	1035·7	11	14·54	11·23	3·31	0·73
9. " "	1030·4	6	11·93	9·37	2·56	0·69
10. " "	1031·6	6	12·22	9·69	2·53	0·70
11. " "	1034·4	10	13·33	10·02	3·31	0·71
12. " "	1034·3	6	11·93	10·07	1·86	0·69
Average of the twelve samples	1033·0	8	12·36	9·91	2·45	0·69

The above results show that in dairy C the milk also varied much in all the testing qualities. Thus the specific gravity ranged from 1030·4 to 1035·7; cream from 6 to 11; total solids from 10·92 to 14·54; solids not fat from 9·16 to 11·23; fat from 1·74 to 3·31, and ash from 0·62 to 0·73; whilst the average of the whole 12 samples give specific gravity 1033; cream 8; total solids 12·36; solids not fat 9·91; fat 2·45, and ash 0·69. In this dairy the cows Nos. 1, 2, and 9 were Ayrshire; Nos. 3, 4, 5, 6, 7, 8, and 12 were cross, and Nos. 10 and 11 were English, and the food consisted of draff, turnips, and oilcake at 5.30 a.m.; draff and turnips at 12 noon, and draff, turnips, and oilcake at 6 p.m.

The average quality of the milk supplied to Edinburgh by the three dairies may be better observed by placing the averages side by side and then striking an average of the whole samples derived from the 40 different cows. This average of the whole trials may then be contrasted with the lowest and highest results obtained from the whole samples in specific gravity, cream, total solids, solids not fat, fat and ash. The following table exhibits these points:

	Specific gravity of milk.	Cream, per cent. by volume.	Total solids, per cent. by weight.	Solids not fat, per cent. by weight.	Fat, per cent. by weight.	Ash in solids, per cent. by weight.
Dairy A average.....	1031·46	7½	11·827	9·395	2·432	0·70
" B "	1032·14	8	11·95	9·50	2·453	0·69
" C "	1033	8	12·36	9·91	2·45	0·69
Average of 3 dairies, representing forty cows' milk.....	1032·2	7·8	12·04	9·60	2·44	0·69
In all trials—						
Lowest.....	1028·4	5	10·57	8·74	1·56	0·62
Highest.....	1035·7	11½	14·54	11·23	3·32	0·76

These latter figures show that the specific gravity of milk—of undoubted genuine quality—may range from 1028·4 to 1035·7, or more than 7 degrees; the cream from 5 to 11, or more than double; the total solids from 10·57 to 14·54, or 4 per cent.; the solids not fat, from 8·74 to 11·23, or 2½ per cent.; the fat from 1·56 to 3·32, or more than double, and the ash, from 0·62 to 0·76. These results prove conclusively that milk taken from different dairies varies in chemical composition, and that milk taken from different cows in the same dairy varies still more in chemical properties, notwithstanding that the cows are housed in the same way, fed at the same time and manner, and milked at the same hours. No doubt the quality of the milk must be influenced not only by the food but by the water in the food, the temperature of the byre, the season of the year—whether summer or winter—as well as probably the breed of cow, age, time of calving, and exact state of health of each cow at the time of milking.

The beneficial effects of improved feeding are apparent in several trials which I have made since the foregoing results were tabulated on the milk of four of the cows belonging to dairy C. The milk was taken from the cows during the day,

when it is generally supposed that the milk is richer, but, besides that, the dairyman stated that he had commenced to give his cows more nutritious food. The analytical results of the testing of these latter samples of milk was as follows :

No. of Cows.	Specific gravity of milk.	Cream, per cent., by volume.	Total solids per cent., by weight.	Solids not fat, per cent., by weight.	Fat, per cent., by weight.	Ash in solids, per cent., by weight.
1. Whole runnings.	1032.5	12	14.41	10.47	3.94	0.73
2. " "	1033.6	7 $\frac{1}{2}$	12.64	10.41	2.23	0.71
3. " "	1033.3	10	14.21	11.05	3.16	0.75
4. " "	1030	10	12.91	9.70	3.21	0.74
Average of the four samples	1032.3	10	13.54	10.41	3.13	0.73

These results show a decided increase in the proportion of the chemical ingredients in the milk, due apparently to the better feeding of the cows.

An important point regarding the time and mode of sampling milk requires now to be considered. When the milk is brought into the sale shop it is generally placed in a large sale-can, from which portions are removed by a measure now and again as demand requires. During the sale of the milk the process of creaming is going on slowly, and as the fat rises to the surface, and the sale measure is being dipped in, the milk which is thus removed becomes richer in cream or fat, so that in course of time the milk which is left behind becomes poorer, owing to the floating up and removal of part of the cream or fat originally diffused through it. Milk begins to cream immediately on being set at rest, and the mere disturbance of the upper half of the contents of a vessel will not reintermingle the cream with the whole milk, and thus keep up the original composition.

I have made special trials to determine the effects of the sale "lading" process on the quality of the remaining milk. In the first experiment the original milk gave 10 per cent. of cream, after a process of sale removals for one hour the remaining milk only showed 9 per cent. of cream when allowed to stand, and after sale removals for three hours the remaining milk only gave 7 per cent. of cream. A second trial was made with a mixture of 22 samples of milk, and a portion of the mixture of the original milk was analysed side by side with another portion which had been subjected to the lading process for three hours. The results were as follows:

	Remainder of milk	
	Original in sale-can mixture.	three hours.
Specific gravity	1032	1033.1
Cream per cent., by volume	9	6
Total solids per cent., by weight ..	12.06	11.39
Solids not fat	9.67	9.58
Fat	2.39	1.81
Ash in solids	0.70	0.67

It was thus apparent that during the period milk is retained in a sale-can, and successive quantities ladled out from time to time, the remaining milk becomes poorer in quality through loss of cream or fat, and in the space of three hours the proportion of fat is reduced by 25 per cent., or one-fourth of the whole.

In endeavouring to fix on a standard for genuine milk, and which might be fairly deducible from the foregoing experimental results, I am of opinion that, taking large dairies, where the runnings of a number of cows can be thrown together so as to equalize the rich and the poor milk, and yield an average, the following proportions may be taken as a standard for genuine or normal milk:

Specific gravity	about 1030
Cream	not under 6 per cent.
Total solids	11
Solids, not fat	9
Fat	2
Ash in solids	0.65

But we must be prepared for even lower results in individual cases as in dairies where only one, or two, or three cows are kept, and where they are probably not very well fed. Even in the larger dairies, where the milk of the cows is not mixed together, or where probably the milk of every two or three cows is simply placed in a can by itself, there might occasionally be found a sample having a lower composition than the standard given above, and yet the milk be undoubtedly of

genuine quality. Any difficulty in this respect, however, would be avoided by the whole milkings of the dairy being placed in a large common vessel, and thereafter the sale or town cans filled from this mixture of the whole runnings of the dairy. The foregoing experimental results of the analyses of the samples of milk taken direct from the udders of 40 cows belonging to three large dairies, prove that the standard for genuine or normal milk which has recently been put forward for the guidance of city analysts is far too high. The assumed standard declares that normal milk must have 12.5 per cent. of total solids, of which 9.3 per cent. are solids not fat, and 3.2 per cent. must be fat. This so-called standard has been assumed in the face of an analysis of average country milk, which is also quoted, and which average milk contains actually less than the assumed standard which ought to indicate minimum, and not average quality of genuine milk. According to this so-called standard, adopted in so arbitrary a manner, and blindly followed by town analysts, by far the greater number of the samples of milk taken direct from the udders of the 40 cows in the dairies A B and C would be held to be adulterated either with water or with skimmed milk, or with both, and taking the average of the whole of the samples of milk which shows only 2.44 per cent. of fat, we find that it contains about 25 per cent. less fat than the assumed standard, so that the entire bulk of the genuine milk yielded by the 40 cows, if mixed together in equal quantities, would be held to be adulterated with about 25 per cent. of skimmed milk. The results obtainable from the assumed high standard should not therefore be depended upon, and yet, by calculation from such data, carried out to the tenths and hundredths of a grain, we find prosecutions taking place, and convictions attempted to be obtained and enforced.

The assumption of a definite high standard for milk, and the further assumption that all milk is of equal or nearly equal quality, is even directly contrary to all previous researches on the subject, as shown by the great diversity in the composition of milk as given in analyses published in different chemical treatises. Even the amount of fat in cows' milk, in which the proportion of adulteration with skimmed milk is based, is authoritatively stated to be sometimes as low as 1.25, 1.4, 2.03, though ranging up to 3.42, 4.56, &c., showing great variations in the amount of this ingredient. Probably the best evidence on this point is given in a Government report written by Prof. John Wilson in 1866, where the Danish dairy farms are referred to, and where the variations in the amount of fat in milk are observable in the amount of milk required to yield a pound of butter at different seasons of the year. The proportions range in the same dairy farm from 19 $\frac{1}{2}$ to 33lbs. of milk, and in another dairy farm from 21 $\frac{1}{2}$ to 31 $\frac{1}{2}$ lbs. of milk, which must be employed to yield a pound of butter.

Since the analyses of the samples of milk were made by me, and I was called upon to give evidence in two cases of alleged adulteration, there has been published in the *Pharmaceutical Journal* an excellent paper by Professor Voelcker, "on milk—its supply and adulteration," in which he gives the results of the analyses of the milk yielded by the herd of cows at the Royal Agricultural College, Cirencester, during eleven months of the year, and shows the great variations which occur in the quality of the milk obtained from the whole herd. The total solids range from 9.3 to 14 per cent., and the fat from 1.79 to 4.12 per cent., and judging from the assumed high standard adopted by some town analysts, the whole runnings of this herd of cows would have been declared to be adulterated for two-thirds of the year.

The Adulteration Act was framed for the protection of the public, and if properly worked out, would undoubtedly lead to the suppression of adulteration in food, drink, and medicine, and would at the same time be of national service, and a protection to the honest merchant against the dishonest and fraudulent dealer. But if anything is calculated more than another to render the Act inoperative and untrustworthy it is the framing and setting up of a standard of genuineness which can seldom be reached by the genuine article itself, and by blind adherence to which the majority of the samples of the genuine and unadulterated material must be declared to be mixed and adulterated.

Considering the great variations in the quality of genuine milk, and the beneficial effects of good feeding of the cows upon the milk, it is worthy the attention of dairymen whether they would not sell their milk under a guarantee of quality—say 11 per cent. of total solids, of which 9 are solids not fat, and 2 are fat. In large dairies this could be ensured by mixing the whole

runnings of the milking of the herd in a common tank, and thereafter filling the sale or town cans from this mixture of the whole milking. Milk could thus be sold with a guarantee which would give certainty to the purchaser that he was obtaining not only genuine milk, but genuine milk of good quality.

At an ordinary meeting of the Royal Physical Society, held on Wednesday in Edinburgh, Mr. R. Scot-Skirving, president, in the chair, Mr. J. FALCONER KING, City Analyst, read the following paper on Recent Modes of Milk Analysis:

Within the last twelve months the subject of milk analysis has assumed an amount of importance which hitherto has not been attached to it; and in consequence of the nefarious practices of certain milk vendors, which before were matters rather of suspicion than certainty, having been fully and satisfactorily proved and made known, a large share of public attention has been attracted to this subject. This is, of course, just as it should be, for people certainly should interest themselves in what concerns them; and what concerns or should concern the community more than the purity of food, especially the purity of such an important article of food as milk? My object in submitting this note to the Society to-night is to explain the new mode of milk analysis I have adopted, and to show wherein that differs from the old method of testing milk, which is still, I am almost ashamed to say, employed in some instances for the purpose of ascertaining the purity of this substance. It will perhaps be advisable for me, before proceeding to explain the method of analysis I employ, to remind the meeting of the plans in general use, I suppose, in the days of our grandfathers for determining this point; and I do this not because I consider that they are of value for determining the amount of adulteration in milk, but rather for the purpose of showing the great necessity there existed for having some more reliable mode of examination. This old plan, which was certainly an easy and a simple one, and cheap certainly, and no less nasty, consists of two operations—1st, the determination of the specific gravity of the milk; and 2nd, the estimation of the amount of cream which it will throw up on being allowed to repose. Other tests, equally scientific and reliable, were occasionally made use of—as, for instance, observing the shape assumed by a drop of milk on being placed on the thumb nail, and the degree of opacity possessed by a known depth of milk. These, however, with others, have given place to the two tests I have already mentioned, which are usually carried out by making use of a common hydrometer and of a graduated glass tube, known by the high-sounding name lactometer. Of these two fallacious and misleading tests the former is the worse, as it positively shows bad milk to be good, and *vice versa*. When a man employs his thumb for ascertaining either the temperature of water, as I have heard of people doing, or for determining the purity of milk, the chances are that he neither does much good nor harm by giving publicity to results so obtained, but by making statements in an authoritative manner based on such a test as specific gravity is for milk he may do an immense amount of mischief. In some parts of France this test was once, and is perhaps still, used extensively for testing milk. Officers paraded the streets armed with hydrometers, and every milkman they met they popped the hydrometer into his can, and if the milk was very rich of course it did not show high by this most unjust test, and it was accordingly forthwith run into the gutter. No further trial was needed. The indication of this instrument was all-sufficient to condemn; sentence was passed and executed without any more inquiry, and in this way many a gallon of good milk was wasted. Lately, in some London milk contracts, it was specified that the article supplied must be up to a certain standard by this specific gravity test. This standard was pitched so high that it was with difficulty reached by pure milk. One man, however, of a slightly inquiring turn, discovered that by partially skimming his milk, or what amounted to the same thing, by adding skimmed milk to it, he easily brought it up to the required standard, and so by his own ingenuity, or by the stupidity of those intrusted with the milk supply, he passed off and sold for, and at the price of the genuine article, that which had been very much lowered in value. The fallacy of this test (which is quite the same substantially, whether taken by means of a hydrometer or a specific gravity bottle) is easily understood when we come to know upon what it is dependent for its action. By taking the specific gravity of a liquid, we simply determine the weight of a certain bulk

of it. The higher the specific gravity—or, in other words, the heavier the milk is, the better fit is shown to be by this mode of testing. Now, every one knows that cream or the rich part of milk is the lightest part of it, and therefore the less cream the heavier or higher specific gravity will it possess. So that skimmed milk by this test will be better than really genuine milk. As one result of the employment of this instrument, milkmen, I believe, in certain parts of England, carry out a very ingenious and withal highly profitable species of adulteration. They first of all cream the milk, or denude it of its lightest portion; the resulting residue then, of course, shows very high by the specific gravity test, and it is brought back to the normal gravity by the lucrative operation of watering. In this way a compound is produced which has little in common with milk but the name, and yet it is passed as all correct by those who rely upon the specific gravity test. The other so-called test is performed by means of an instrument known by the high-sounding name creamometer or lactometer, a very Irish name indeed. The lactometer is essentially a glass tube, graduated into a certain number of divisions. The operation of testing with this apparatus consists in filling it with the milk to be examined, allowing the cream to rise to the surface and reading off the number of measures which that occupies. This test, you will perceive, is about as simple and, as I will demonstrate, as fallacious or even more so than the specific gravity one, and it is so in many ways. In the first place, I am by no means sure that the amount of cream thrown up in this way is at all a measure of the purity of the milk; but even supposing it to be so, there are other things which prevent the rising of the cream in an equal degree. Temperature, for instance, exerts a peculiar influence on the ascent of the cream. The shape and character of the vessel also has an influence; and also, as might be expected, the thinner the milk is the more readily will the cream rise. So that actually poor or adulterated milk may show a better result by this much-blauded test than milk rich and good. To settle this point, however, once for all, I have made a very accurate and careful experiment to ascertain the behaviour of adulterated milk with this test; and the result showed, what indeed I had thought all along, that this test is perfectly useless. In my experiment made upon milk got from five different cows, I put some pure milk, and also some of the same milk adulterated with water, to repose; the cream rose in the usual way, and the adulterated sample showed more cream than the pure. And I am almost ashamed to say that upon the indications of these tests was based in great part evidence given in certain milk cases where an analyst had found milk to be adulterated, and where this species of testimony was brought forward to show him to be wrong. The fallacious nature of these and all other tests in common use for determining the impurity of milk, led me in my examinations to discard these, and employ what I believe is the only proper mode of testing milk—a proper chemical analysis. The performance of this, of course, infers the possession of a considerable amount of apparatus, and also that commodity not so easily attainable—manipulative skill and knowledge sufficient to carry out the different operations with an amount of delicacy necessary for obtaining very accurate results. The ingredients of normal milk may be stated as water, fat, nitrogenous matter, saccharine matter, and mineral matter or ash. The water is best determined by evaporating a known quantity of the milk to perfect dryness in a water bath. The fat is readily estimated by digesting the residue in six or seven successive quantities of ether, boiling off the ether and weighing the residua. The nitrogenous matter is very conveniently estimated by means of Chapman's process, *viz.*, converting the nitrogenous compounds into ammonia. The sugar can readily be estimated by extracting the residue after treatment with ether, with diluted alcohol evaporating to dryness, and noting loss by ignition. Or it can be estimated by means of a standard copper solution in the usual way after separating the caseine. Mineral matter is found by carefully igniting in a platinum capsule a portion of the dried residue. From results obtained by a careful and conscientious analysis performed in this way, the purity or impurity of a sample of milk can be readily ascertained. This, I know, has been denied, but always, I think, by people who had not tried the process, and therefore knew little or nothing of that concerning which they so authoritatively laid down the law. It has been objected that there is no standard of pure milk, that milk varies in strength, &c., all of which no doubt is true, but still that does not prevent us

(as we have been told it does) telling when a specimen of milk is adulterated. If we find the total amount of fat, caseine, sugar, &c., much below what it has ever been known to be, or in other words, if we find much more water present than has ever been found in genuine normal milk, are we not warranted in saying that water has been added? For instance, a man we'll suppose has been poisoned by hydrochloric acid, and the stomach on being examined is found to contain, say an ounce of that substance. Would this not be proof positive that hydrochloric acid had been introduced into the stomach? "No," says some of our fault-finders, "it is no proof at all, because hydrochloric acid is present naturally in the gastric juice." Now, such a statement as that is, I think, it will at once be admitted, absurdly ridiculous, and yet it is not a bit more so than what we have been told in regard to milk adulteration: "You can't detect water in milk because that substance is a constituent of the genuine article!" But again, even if we find the amount of water to be what it should, but the natural ratio which is found to exist between the quantities of the other ingredients destroyed, are we not justified in coming to the conclusion that the milk has been tampered with? For example, in normal milk we find that the amount of fat is pretty nearly one-fourth of that of the total solid matter. If then we discover in a specimen of milk only an eighth or a tenth of fat instead of a fourth, are we not right in saying that, in some way or other, the proportion of fat has been reduced? I hold that we are perfectly justified in so doing; and my opinion on this point, in common with a number of men capable of forming a sound opinion on that, remains unchanged, notwithstanding the many inflated and frothy speeches which have been made and papers which have been read denouncing analysts in the disagreeable but necessary duty of arresting adulteration, as "following blindly arbitrary standards," causing innocent men to be convicted, and generally doing all that is wrong and nothing that is right. And all this has fallen on our devoted heads because, forsooth, we had the presumption to think for ourselves and be guided by the results of our own experiments and investigations, instead of allowing ourselves to be led and shown how to do our work

by those talented men who are so anxious to take us in hand, whose chief powers, though, surely must be latent, as the only one they show themselves to be possessed of is that very old, easily-acquired, and withal common accomplishment, in which, however, it must be allowed they peculiarly excel, of picking holes in their neighbours' garments. It is very gratifying however for me to learn that, in spite of all my failures and shortcomings, the end for which I am working is rapidly being attained. I was appointed by the magistrate for the purpose of arresting the sale of adulterated articles of food—milk among the rest; and I know, no less from the results of my own analysis than from the testimony of numerous inhabitants of the city, that the sale of adulterated lots of milk is now much less common than before I commenced operations. With a certain class of milkmen I must say I have a great deal of sympathy. I mean those members of the trade who do not themselves keep cows, but receive their supply of milk from others. It is quite a common thing, I believe, for those men to be supplied with milk which has been largely adulterated with skim-milk. It does not pay to bring in milk three times per day to town. So the evening milk is skimmed and mixed with the morning supply. One milkman tells me he knows perfectly well when his milk has been adulterated. One word in regard to what is now well known as the lading operation. It has been asserted, and the assertion has received credence in some quarters, that the lading or dealing out the milk in small quantities has a tendency to take away the rich part of the milk and leave the poorer portion behind. This, however, is a fallacy, the lading has no such effect, and it is difficult to see how it could. The milk is not skimmed off the top in serving customers, but is taken from the middle or bottom of the dish or can; so that if this lading produces any change at all, one would be inclined to think that that would be rather of taking away the lower and poorer part first and leaving the richer part behind. My own opinion is that it does not produce much change either way, and experiments I have made on this subject bear out this view.

A lively discussion ensued, in which Messrs. Brown, Taylor, Durham, Gibson, Scot-Skirving, and others joined.

KINCARDINESHIRE FARMERS' ASSOCIATION.

THE GAME-LAWS.

At the late dinner, Mr. ALEXANDER gave his opinions upon the present position of Game-law legislation. Mr. McLagan's bill had been before them for a good many years past, and it now came up again professedly improved, but he thought that if there was any improvement upon it, it was all on the wrong side. Indeed, as the bill now stood, compared with what it formerly was, it might be said to have gone from "the dell to the deep sea." The Kincardineshire Association should dispense with it altogether, and have nothing whatever to do with it. Mr. Barclay had introduced what was on the whole a very fair bill, and a bill that perhaps might be the means, in the course of time, of bringing about what he (Mr. Alexander) earnestly hoped to see—the total abolition of the Game-laws. But he was quite sure that Mr. Barclay's bill would not pass, and that Mr. McLagan's bill would not pass as Parliament was at present constituted, and therefore the best bill, so far as the farmers were concerned, before Parliament, was that of Mr. P. Taylor for total abolition. Farmers could never get rid of the enormous grievances to which they were subjected—having their crops destroyed by wild animals—unless they received the power proposed to be given by Mr. Taylor to protect their crops from all wild animals whatsoever. He therefore moved that they should petition Parliament in favour of Mr. Taylor's bill.

Mr. BREMNER (Scotston) considered that the law of entail affected the farmers far more prejudicially than the Game-laws did. If they got the law of entail abolished, the abolition of the Game-laws and Hypothec would soon follow. They all knew the difficulties in the way of the disposal of entailed property; but if these difficulties were removed, land would be got by the farmers on much easier terms, and without those stringent lease clauses of which they so much complained. The farmers had been blamed for taking land under such con-

ditions, but they could not help it. They lived by the land, and they must get land, be the conditions what they might. If the bill introduced by Mr. Gregory and others passed into law, much good would be done.

Mr. TAYLOR (Cushnie) would not approve of going in for total abolition of the Game-laws. He would prefer a modification rather.

Mr. ALEXANDER said they could first try abolition, and if that did not work well, they could get another Game-law bill.

Mr. TAYLOR pointed out that one grand feature of Mr. Barclay's bill was that he proposed to repeal all the old Game-law Acts—some forty in number—and re-enact a new Act. That of itself would be an improvement on the old system, because there are at present so many Acts partially in existence and partially repealed, that no one knows how the Game-laws stand.

Mr. DURIE thought that the only relief farmers could get from the Game-laws would be by their total abolition. They were being told that if this were brought about the country would be overrun by poachers, but in the meantime the farmers looked upon the poachers as their best friends. For himself he never saw any of them, but he knew very well that poachers came and visited him occasionally, and he was very much obliged to them for it. He would go in for total abolition, and take his chance of the poachers. They could not do half the amount of damage that was at present done any day by a band of ordinary sportsmen. With the present Parliament, however, there was no chance for any Game-law legislation. Mr. McLagan's bill was a great sham. Mr. Barclay's bill might give great relief if it was passed in its present shape, but there was no chance of its having that good luck. They might if they chose petition in favour of Mr. Peter Taylor's bill, but that was all they could do, for nothing could be obtained from a Government until the Scotch

and English counties returned a very different class of men from those they presently sent up, both Liberals and Tories. He would be inclined to accept Mr. Barclay's bill in the meantime, but such a bill could only be temporary. One objection to that bill was, that freedom of contract was violated. But at present freedom of contract was all on one side. He was safe to say that not a single lease that he knew of would be signed by a tenant if freedom of contract existed.

Mr. BURNES (Redford) thought that the bill by the worthy member for Forfarshire was all that they required at the present time. It was a very suitable bill, and he thought they should adhere a little more to it.

Mr. TAYLOR, wishing to give honour where honour was due, said that Major Gammel had conceded the right of shooting hares and rabbits to his tenantry.

Mr. ALEXANDER had no doubt that as the Game-law question approached a settlement proprietors would steadily come forward with such concessions, in order to stave off as far as possible the day of total abolition.

Mr. FALCONER (Candy) thought it was all very well for farmers not troubled with game to go in for total abolition, but what in the meantime was to become of those farmers who were over-run and eaten up by game? He had a day or two ago counted about fifty rabbits on a single acre on a farm on the estate and in the parish of Fetteresso, and the farmer

had not the power to lift a gun to kill even one of these animals. Was the farmer of such land as that to be eaten up, while they went on fighting for what it was at present impossible to obtain?

Mr. AIKEN (Fettercairn) pointed out that the Aberdeenshire Commissioners of Supply objected to Mr. Barclay's bill because it interfered with freedom of contract.

Mr. DURIE had no doubt that a bill for the abolition of the Game-laws would be as easily passed as Mr. Barclay's bill would.

Mr. RITCHIE (Boroughmuirhills) thought they should do nothing in the matter at all, but tell the present Parliament that they would be glad to take anything from them in the direction of total repeal that they thought proper to give, on the principle that a half-loaf was better than no bread.

Mr. LARGIE suggested that the matter should be left over to the Commissioners.

Mr. BREMNER recommended that they should go in for total repeal. They should have the power to shoot everything that destroyed their crops.

After some further discussion, Mr. TAYLOR moved, seconded by Mr. FALCONER, that the Association should petition in favour of Mr. Barclay's bill, and this was put against Mr. Alexander's motion in favour of Mr. Taylor's bill, when the latter was carried by 15 votes to 9.

OWNERS OF LAND AND HERITAGES IN SCOTLAND.

A return has been issued "of the name and address of every owner of one acre and upwards in extent (outside the municipal boundaries of boroughs containing more than 20,000 inhabitants), with the estimated acreage, and the annual value of the lands and heritages of individual owners; and of the number of owners of less than one acre, with the estimated aggregate acreage and annual value of the lands and heritages of such owners in each county. Also a similar return for municipal boroughs containing more than 20,000 inhabitants." The return has been prepared under the direction of Mr. Angus Fletcher, Comptroller-General of Inland Revenue for Scotland, who, in some prefatory remarks, explains the means adopted for obtaining the statistics furnished. He says: "The estimated acreage has been obtained by the surveyors of stamps and taxes from inquiry on the spot, and from the best resources at their command. Early in January, 1873, a circular was addressed by me to the known agents of landed proprietors, setting forth the nature and particulars of the return sought, and requesting such information as could be conveniently furnished as to the areas of estates under their charge. In many cases prompt and satisfactory replies were received, but not unfrequently my correspondents referred me to local factors, occupying tenants, and other persons, with an occasional intimation that there was no survey on the estate or estates of their constituents, who could not be reasonably expected to incur the trouble and cost of obtaining the information sought by the officers of the Government. On the 10th of February, the surveyors were instructed, where no satisfactory information could be obtained from owners, factors, farmers, and others, to select persons of local knowledge and skill to aid them in ascertaining the acreage of properties. 'A scientific survey,' it was intimated, 'is of course out of the question; but persons may no doubt be found who, for a moderate fee, will visit the lands and make tolerably accurate estimates of the acreage of the several properties that will fall to be dealt with in that way. As such process, however, of survey and estimate will be an expensive one, it must not be resorted to until all other efforts to obtain information shall have failed, or until the estimated cost shall have been submitted to me through the inspector of the division and shall have been formally sanctioned.' Shortly thereafter schedules were furnished by each surveyor, to be addressed by him to owners, occupiers, and other persons in his district, soliciting the requisite information. Schedules were at the same time furnished to all parties so addressed, on which answers to certain queries were to be returned, so as to give the least possible trouble to the public in filling up and posting the schedules to the officers by whom they had been issued. Besides the difficulty, in the absence of authentic data, of estimating the extent of lands and heritages, the labour (largely shared

by the indoor officers) of ascertaining correctly the names and addresses of owners of an acre and upwards was very great; but it is believed that the general accuracy of the result will be found to justify the care and attention bestowed on that branch of the return." Mr. Fletcher proceeds to explain that with regard to annual values, the valuation rolls of counties and burghs, made up towards the close of 1872, have been followed. In the category of owners, he further explains, are included feuars, leaseholders of ninety-nine years and upwards, and life-tenants, whether in virtue of office of otherwise. The extent of lands has been estimated in imperial acres. It has not been considered necessary to give fractional parts of an acre; and in stating the annual value it has been deemed sufficient to give the result in pounds and shillings. In the Return the counties are taken in alphabetical order, with the burghs of over 20,000 population in each following the county in which they are situate. For the present, we summarise the statistics supplied as to the county of Edinburgh. The number of landowners holding an acre and upwards in the county is 696, the total of the acreage they hold 226,223, and the annual value £535,200. Of owners of lands less than an acre in extent there are 2,541, the number of acres they own is 555, and the annual value £46,403 5s. The total of owners is 3,237, of acres 226,778, and the annual value £581,603 6s. In the municipal burgh of Edinburgh there are 240 owners of upwards of an acre, possessing in all 2,558 acres, of the annual value of £252,967; and there are 11,306 owners of less than an acre, holding 1,180 acres, of the annual value of £1,041,364. The total of owners is 11,546, dividing among them 3,738 acres, of which the annual value is £1,294,331. In Leith there are 127 owners of an acre and upwards, holding 956 acres, of the annual value of £111,658; and 2,062 owners of less than an acre, owning 270 acres, of the annual value of £141,446. The total of owners is 2,189, of acres 1,226, and the annual value £253,104. Among the large owners in the county, the Duke of Abercorn figures for 1,500 acres, of the annual value of £7,400 10s. Lord Aberdour owns 1,467 acres, of the annual value of £5,411 10s. Sir D. Baird, of Newbyth, has 751 acres, of the annual value of £3,456 12s. Mr. J. Borthwick, of Crookston, owns 5,239 acres, of the annual value of £4,366 16s. The Duke of Buccleuch holds 3,541 acres, of the total annual value of £28,296, of which Granton harbour (9 acres) contributes £10,601; and mines, with no surface acreage, stand for £1,479. Sir G. D. Clerk, of Penicuik, holds 12,696 acres, of the annual value of £8,919. Sir W. Gibson Craig, of Riccarton, owns 1,882 acres, of the annual value of £6,057. The Earl of Dalhousie owns 1,419 acres, of the annual value of £3,002 2s. Mr. Robert Dundas, of Arniston, holds 10,184 acres, of the annual value of

£9,549 14s. The Marquis of Lothian has 4,547 acres, of the annual value of £11,918 5s. Sir Alexander Gibson Maitland holds 4,505 acres, of the annual value of £14,246 9s. The heirs of Mr. A. Mitchell, of Stow, own 9,038 acres, of the annual value of £6,308. The Earl of Morton owns 8,944 acres, of the annual value of £9,041. The Earl of Rosebery owns 15,563 acres, of the annual value of £8,973 16s. The trustees of the eighth Earl of Stair hold 8,384 acres, of the annual value of £4,488. Mr. R. Trotter, of Morton Hall, owns 2,490 acres, of the annual value of £6,759. In the municipal burgh of Edinburgh, the Crown figures as owning 437 acres, of the annual value of £25,261.

The Lord Provost, magistrates, and town council are returned as owning 167 acres, of the annual value of £6,983. The governors of Heriot's Hospital have 180 acres, of the annual value of £4,770. The Senatus Academicus of the Edinburgh University owns 4 acres, of which the annual value is returned at £3,560. In Leith the Crown owns 10 acres, of which the annual value is £3,530; and the commissioners of Leith docks and harbour hold 65 acres, with an annual value of £39,630. At the close of the return a summary is presented which shows that the total number of landowners in Scotland is 131,530, the total acreage 18,946,694, and the total annual value £18,698,804.—*The Scotsman.*

THE AYRSHIRE FARMERS' CLUB.

THE LABOURER.

At the annual general meeting of this Club, Mr. Robertson (Haplund), President of the Society, in the chair, Mr. Bruce (Auchengate, Irvine), read the following paper on Agricultural Labour:

The question of the scarcity of labour is at present of great importance to the agriculturist, and one requiring to be fairly met and fully discussed in all its bearings, and the discussion of it by the members of this club may not be without advantage. Upon this subject, therefore, I propose to offer a few remarks. In doing so, I crave your kind indulgence, and would express the hope that these remarks will lead to a general discussion upon the several points adverted to. Gentlemen, I am sure that the present scarcity in the labour market is not only known but felt by many of you to be a great and increasing difficulty. A sufficiency of hands is of the utmost importance to the farmer. It constantly happens, especially in seed time and harvest, that unless the work required can be completed at once, the opportunity, or at least the most advantageous opportunity, is past. Seeds have to be deposited and crops have to be secured with the utmost despatch, during an often too short "tid." The failure to seize the opportunity in spring prevents, or at least damages, the growth of the crop. The failure to secure the favourable harvest weather sacrifices the crops already grown, as the harvest weather in our uncertain climate is most precarious. The existence of the present scarcity of the supply of labour is so apparent as to render any evidence of the fact unnecessary. Mr. C. S. Read, M.P., in speaking at the Farmers' Club in London not long since, dwelt very strongly upon the scarcity of labour, and even suggests as a remedy the omission of a good deal of work at present deemed essential. He says: "There are a number of little things done on a farm which never really pay the farmer. You have been accustomed to like neatness and order, and I believe, as far as regards neatness, you must forget this in future. There are many fiddling, finicking operations of husbandry which really never do pay, and you cannot now afford to do them. As far as regards noxious roots and weeds, I am not in a worse position than formerly; but I cannot say the same as to neatness, as there are untrimmed fences, unscrapped roads, unpicked stones, and a lot of weeds growing up in the autumn among the turnips, which weeds are so young that they cannot seed; and though it is painful to me to see the farm in this condition, yet I believe in the end I will be a gainer by it." This recommendation of Mr. Read's I am not prepared to endorse; but that he should have made it, shows how keenly the scarcity of labour has been felt in his neighbourhood. The knowledge of the cause of any evil is often the best part of the cure. It may be well, therefore, to consider some of the causes which have led to this scarcity. Various causes have operated to bring about the present state of matters, but it appears to me that there are two or three in especial to which the evil may be traced. Emigration has been an active agency in withdrawing large numbers—more especially of the agricultural hands—from this country. The agents employed have been most assiduous in endeavouring to secure by tempting inducements men of character and ability. From the immense extent of unsettled territory in the United States and the Colonies, terms and facilities can be offered by the authorities there to parties about to emigrate, which at all events appear enormously more advantageous than anything masters can

offer here. Free grants of land, assisted passages, and loans of capital are among the inducements which are being offered—and in very many cases successfully offered—by the different Colonial Governments to induce our farm servants to leave the old country for the new. It is quite true that this exodus has not been confined to the rural districts, but that large numbers have also left the towns. Still it is evident from the nature of the countries to which emigration is going on that it is agricultural labourers, and not artisans, who are mainly wished to go out, and who do go out, in largest, or at least in proportionately largest numbers. The number of hands engaged in agricultural pursuits used to be by a long way greater than in all other branches put together; but now this is reversed entirely, and while the number of hands is not increasing yet, as we have seen, it is to this class more than to the others that invitations to emigrate are addressed. Hence it is that emigration has told so severely against the farmer in withdrawing the best hands, shortening the supply, and at the same time increasing very much the rate of wages requiring to be given. While I say this, I am far from failing to recognise the existence of not a small class of most deserving men among our farm servants. I am wishful to accord that just need of praise (which is their due) to the better class of agricultural labourers, whose earnest endeavour after their masters' interest and careful execution of the several duties imposed are well worthy of commendation. A good hand is deserving of good remuneration, whilst an inferior or careless hand may be worth little or even less than no wages at all. In fact, there are many instances of farmers' property having been destroyed by self-willed or thoughtless individuals to an extent far beyond their wage. Another cause of scarcity of labour which operates with scarcely less force than that already mentioned, is the high wages offered in the mining and manufacturing industries, and the consequently strong temptation to farm-servants to betake themselves to those more lucrative, if less healthy, occupations. Manufacturers and others have larger profits than farmers, and are enabled with ease to replace from the country men who formerly filled the situations, and who have emigrated. The unexampled run of prosperity with which this nation has been so singularly favoured, has done much to increase this scarcity, by immensely increasing the demand for labour of all sorts, and thus bringing into requisition the services of the agricultural labourers to meet the pressing requirements of general trade. There is a third cause, which I will here only mention, as I shall afterwards have occasion to refer to it more at length, in discussing the remedies which I would suggest in the present state of matters—I mean the difficulty lying in the way of the marriage of our farm servants, and the defective accommodation afforded to those who are married. Whether or not I have been successful in my endeavours to point out the causes of this scarcity of labour, of the greatness of this scarcity, and the importance of finding some remedy, there can be no question. I doubt not all of you experience its effects in the difficulty of obtaining good hands, and the very high wages necessary to secure even inferior workers. This experience is not confined to us here, for in the South there is at present a widespread and keenly-fought contest between the employer and employed in the agricultural districts, the end of which it is difficult to foresee. Granting, then, the evil, it were well to endeavour to seek out, and, if possible, to find a remedy. In

trying to do so, I would suggest one or two possible means towards this end. A careful consideration of the whole question has suggested to me one or two steps which it appears to me would at least greatly alleviate the evil complained of. It might be supposed that the natural and simple remedy for this state of matters was to be found in an enhanced wage, which course, adopted by manufacturers in their case, has had the desired effect of securing a sufficiency of hands. But these high wages have only been obtained from the employers in the mercantile world through a system of trades unions and strikes, the prevalence of which among farm servants would be ruination to the farmer, and a cause of unparalleled distress to the farm servant. Besides, though these very high wages have been wrung out of the master, the result has been that he has been in many cases compelled to conduct his business with little or no profit—in some cases even at a loss. Indeed, I know myself of sundry firms which during the past year have done a large business, but at a positive loss. Now, as no man is willing to spend his strength or his means for naught, the result is that industry in at present receiving a check through the successful competition of foreign countries, and it will be well for our artisans if they do not require to pay for their recent inflated wages by a period of half-time, or even want of work. If the present difficulty in securing farm labour is to be left to be adjusted merely by increase of wage, it is to be feared that the same series of contests between master and servant and the same disastrous result to both will ensue. Is there no remedy which will meet the case without involving these evils? Gentlemen, I fear we arable farmers are not warranted by our narrow profits in a further increase of wages, for the advance that has taken place already during the last year or two is, I believe, being considerably felt by arable farmers in Ayrshire, and to contemplate a further rise seems to me, as an arable farmer, to be a very serious matter. Wages have, as nearly as I can ascertain, risen during the last ten years in the following ratios: Ploughmen, from 65 to 70 per cent.; female servants, from 70 to 77 per cent.; day's wages, from 60 to 65 per cent. Any further increase would, I fear, be the last straw which would break the back of the camel, and land many in the gazette. I would offer, then, one or two other suggestions which have occurred to me as likely to lead to an alleviation of this evil; and I am glad to see that one of the Glasgow daily papers—*The North British Daily Mail*—in an able leader the other day, strongly advocated at least one of these points which I had noticed for suggestion.

1st. The adoption, whenever practicable, of payment by piece-work.

2nd. The increased use of machinery.

3rd. The increased use of artificial manure.

4th. Increased attention to the physical comfort and moral well-being of our *employés* in the way specially of providing better house accommodation. Sundry other remedies have occurred to me, and have been suggested by others, which, however, I have not sufficiently considered to enable me to pronounce confidently in regard to them; such as—

5th. Giving a bonus upon profits in addition to wages.

6th. Giving an allotment of land to each servant for his own use.

7th. Adoption of the co-operative system.

I have sometimes been struck in observing the different manufacturing processes to notice the great extent to which the practice of piece-work has been adopted; and, as this practice has been found profitable in manufactures, I am inclined to think that we have erred in not ere this adopting it more extensively in agricultural matters. It is quite true that in many parts of farming operations this is impracticable, but in many cases a little attention and management would overcome the difficulty of applying the system. I know that some object to piece-work as leading to scamping; but I would much rather have work done quickly, even though not done with absolute thoroughness, rather than slowly, and, as is too often the case, not one whit better notwithstanding. The system leads to constant diligence on the part of the *employés* by the most powerful of all motives, an appeal to self-interest. As mentioned already, *The Glasgow Daily Mail* had last week a leader upon this subject, in which the Editor decidedly recommends and cogently argues for the adoption of this system. The increased use of machinery is another and important source to which we must look for an alleviation of the present

difficulty. Within recent years great advances have been made in this direction, but there still remains a good deal to be done. There are a good many of the smaller farms where hand labour is still used, where machine labour would be both better and cheaper; and even on some of the larger farms its use is not so extensive as it might be. Might it not be a proper thing for such a Club as this to promote the extended use of machinery by acquiring such machinery itself for the benefit of its members? A more extended use of artificial manures, by producing on the farm a larger bulk of fodder and food, and, as a consequence, allowing a greater head of stock to be kept, furnishes to the farmer a proportionately larger supply of home-made manure, thus saving the expense of carting from a distance. The fourth remedy which I suggested was increased attention to the physical and moral well-being of our servants, especially in the direction of providing better house accommodation. In most of the arable farms the majority of the servants are either lodged at the farm-house or in a bothy upon the farm. In either case a number of men and women are living in familiar intercourse at an early age, and in circumstances not the most to be desired. One great attraction of the higher wage offered to the town operative is the facility which it affords for early marriage. We are not able to offer the same wages, but an equally effective and at the same time a much less expensive help would be given in the supply of cottage accommodation for a considerably larger number of hands than at present. This would besides have various other indirect advantages to the farmer. A man is much less likely to shift about from farm to farm when he is living with wife and family in a cottage of his own, than as a single man without attachment or encumbrance. The wives and families, too, of such cottages would form a field from which to draw labour for extra seasons, such as weeding, harvest work, &c., as used to be largely done in the then more widely extended use of the cottage system. In the land of Burns, and the town of Ayr, no apology is necessary for quoting from the "Cottar's Saturday Night" a description of scenes which can only exist under such a system as that I am advocating:

The toil-worn cottar frae his labour goes,
This night his weekly toil is at an end,
Collects his spades, his mattocks, and his hoes,
Hoping the morn in ease and rest to spend,
And weary o'er the moor his course does homeward bend.

At length his lonely cot appears in view,
Beneath the shelter of an aged tree;
The expectant wee things toddlin', stacher through,
To meet their dad, wi' flichterin' noise and glee;
His wee bit ingle blinkin' bonnie,
His clean hearthstane, his thrifite wife's smile,
His lispin infant prattling on his knee,
Does a' his weary carking cares beguile,
And makes him quite forget his labour and his toil.

From scenes like these old Scotia's grandeur springs,
That makes her loved at home, revered abroad.

With this advantage of a cottage home, a very much smaller wage will suffice to enable a man to keep his wife and bring up his family in comfort than would be necessary in a town. In fact, the wage we can afford to give would really be a greater boon to the men than that they can command in a town, if we take into account that they would have fewer taxes, less danger of infectious diseases, and fewer doctors' bills to pay. Your time and patience alike forbid that I should speak further of the other remedies to which I have alluded, and at any rate I am not prepared to express a decided opinion in regard to them. Only, as to an allotment of land to each workman as proposed by some, I think that the very nature of the agricultural labourer's work renders the employment of his spare time in work of the same kind in his allotment unsuitable. After a day's active work on a farm bodily relaxation is necessary, and may be found with advantage both mentally and physically in the companionship of his family and his books, or even in the culture of a flower plot. The adoption of the allotment system would be injurious alike to the labourer and the farmer. The question before us is one of importance and difficulty, and I trust that in the discussion to follow we will have the benefit of suggestions from the riper experience of some of the older members.

The CHAIRMAN said they were much indebted to Mr. Bruce for his very able paper. It was a difficult and delicate subject to deal with; but amongst the many things that had appeared in the newspapers on the question lately, he did not think he

had seen a more sensible production than that which they had just listened to. He hoped the members would express their minds freely on the subject.

Mr. A. YOUNG (Kilhenzie) thought Mr. Bruce had shown great good sense and discrimination in dealing with the subject. He had laid more stress on the effects of emigration than he would be disposed to do. The great cause of the scarcity of agricultural labour, to his mind, was the extraordinary development of the iron and coal trades, which had created an unexampled demand for labour, and that demand had been chiefly supplied from the country districts, and from amongst farm servants. As Scotch farmers, they might congratulate themselves on holding a more favourable position in regard to servants than some of their brethren in England. At present there was a strike on the one hand, and a lock-out on the other, which, in the very nature of the case, must be a serious loss to both employer and employed. Some two years ago the farmers in the South-west of England, with the sanction of many of the proprietors, saw fit to lock out their labourers because they asked for 12s. per week, and would not accept 9s. He had always thought that was a great mistake on the part of the farmers, and he believed they themselves were of that opinion to-day, because they would be glad to pay much higher wages now for worse men. The Scotch farmers had gone on increasing the wages of their servants in accordance with the enhanced value of labour, which was a more satisfactory way than locking out men who asked what was really a low wage. He was of opinion that the habit of giving a very low wage, as was done in the South of England, was very bad for all parties concerned. He happened to live for some time in the South of England, where the wages were 9s. or 10s. per week, and the work accomplished was so small that it was dear enough at the price. A man who had to live and bring up a family on such a wage, had neither the physical nor the spiritual energy to do much work. Such labourers as were to be found in the North of England and in Scotland would be of more profit to the farmer, though they got a half more wage. He believed that in the end good would come out of this strike and lock-out. With reference to the allotment system, he did not think it would do to give every man an acre of land, as was proposed in some parts of England; but it might serve a good purpose to give a piece of ground to their best men, as giving them an inducement to stay on the farm.

Mr. LINDSAY (Irvine), said that from the increased facilities for travelling by means of railways, and the increase of intelligence by means of newspapers, it was inevitable that there should be an equalisation of the wages of labourers throughout the country; and the tendency to equalise was rather a tendency to level up than to level down. Different methods of meeting and overcoming the difficulty had been pointed out in the paper which had been read, and in addition to these he might suggest the greater necessity that there was now than hitherto of a more complete working of the land—that was, making the breaks less, and doing them more thoroughly. The general adoption of that practice, he thought, was of special importance in a county like Ayrshire, where a great proportion of the land was comparatively poor. The amount of work involved in a large break with a small produce was certainly not desirable now with the high price of labour, when with half the labour and generous dealing with the land an equal produce might result from a smaller area.

Mr. CARDWELL (Knockshoggle) was disposed to agree with Mr. Young, that the high price that labour now commanded in the iron and coal districts, had more to do with the scarcity of agricultural labourers than any other cause. Emigration for many years had not been much on the increase in proportion to the increase of the population; but speculation in the mining districts had drawn away many of their farm labourers. He was situated in the very midst of coal pits. About a twelvemonth ago, miners were making every day considerably more than double what an agricultural labourer was getting, and coming out from his work at one o'clock when the farm labourer was going out with his horses at mid-day. Now the wages of farm servants had risen, and they were as well off as miners who were getting only three day's work in the week, and 3s. a-day less than they were getting a year since. Although he was no prophet, he thought they had reached the turning point in regard to labourer's wages. He knew some labourers and ploughmen who had betaken themselves to the

pits, who were attending the fair to-day looking for fees. They were getting only three day's work per week in the pits, and with the offtakes for coals, &c., a comparatively small margin was left for their maintenance. Moreover, a colliery manager had informed him that machinery was certain soon to be introduced into the pits, by means of which a larger quantity of coal would be produced with fewer hands.

Mr. D. CUNINGHAME said he was very much pleased with the paper that had been read; and in the main points of it he entirely agreed. He did not think the allotment system was at all suited for Ayrshire, where the farms as a rule were so small. The question of the dissatisfaction of servants was one that was very difficult to grapple with. It would be a great matter if anything could be done to induce them to remain more permanently on the land. Whether it was the fault of the farmers in not taking sufficient interest in the labourers, or the fault of the ploughmen themselves, he could not say; but the fact was, they were always ready to go and seek for new quarters. He was afraid there was something wrong on both sides. Mr. Young had referred to what was going on in the South of England. He was afraid the English farmers had not given a very good example of prudence. He did not think the Scotch farmers had the least intention of creating unions, far less of locking out under-paid servants. It would be much better if these men would come north here, rather than wait amongst Southern farmers, who would starve them out.

Mr. REID (Clune) thought they must study to abridge labour as much as possible. He would be glad to see more machinery introduced—as for instance in the way of steam cultivation. He was an old man, but he was for going a-head, and would like to see steam cultivation introduced. He did not approve of allotments to ploughmen, for he thought it would be a great waste of land. He would give them a good garden and a comfortable cottage; but allotments of land were out of the question. They were fortunate in this district in not being troubled with unions. They were comparatively well served. Wages had about doubled since he first began to employ labour, but the prices of everything had risen in proportion. So long as the prosperity of the country continued, they must lay their account for high wages.

Mr. BROWN (Ardneil) said he was scarcely prepared to endorse his friend Mr. Cuninghame's remarks in regard to the English farmers. He was not satisfied that they were to blame. He had been told just this morning of the hard usage these farmers had received. It was not so much their labourers they were contending against, as agitators of the M'Donald type, who were stirring up the men and setting them against the masters. The farmers said, "We do not object to give our labourers fair compensation; but we do object to them being under the influence of men who are stirring them up, and doing both them and us harm." That was the reason of the lock-out. He did not know any farmers or employers of labour who would give money to men that they could withhold from them; they all took their labourers at the market rate if they could get them. It would be the interest of both parties in England to come to terms with each other; and no doubt they would have done so, if the men had not been led, as the miners had been here, to their own hurt. Labourers would naturally take the best price they could get for their labour, and farmers would just as naturally take it at the cheapest rate they could get. As to allotments of land, he did not see how labourers could get time to cultivate it; many of them could not get time to cultivate a garden, and it had to be done for them. One thing that was needed was that servants should be properly educated to know when they were well used and well off, and to see the evils of that mode of changing about, which was so injurious to all concerned.

The CHAIRMAN said it had been admitted that there was an indefinable something which affected the friendly relations between masters and men. He thought if farmers, who, in the ordinary way of speaking, were considered the superiors of the labourers, would take a greater interest in their servants, speak kindly to them, and make it manifest to them that they had their interest temporarily and spiritually at heart, they would find that they would not be so ready to leave them. In his own experience, he had had some servants who had stayed with him for years, and the chief reason was that a bond of sympathy had grown up between them that was not easily broken. It was not gold or silver that made it, neither did gold or silver sever it. Servants must be looked upon as something more than mere slaves of the field, otherwise the

present difficulty in connection with the labour question would never be got over.

Mr. WALLACE (Braehed) expressed his cordial concurrence with the remarks of the Chairman. He then went on to say that he approved of piece-work where it could be employed in the work of the farm. He had tried it lately in the cleaning of mangold. It was well known how much time a party of women could spend over that to very little purpose. Well the other day he offered to pay them at the rate of 1s. 6d. per ton; and there were three or four put to it, and made 3s. a day each for four or five days; and he was satisfied he was no loser. He looked for much benefit yet also from improved machinery. He thought with Mr. Caldwell that the worst of their difficulty was past. Men who had left him six months since to work in the coal pits were now heartily sick of it, and desirous of getting back to their old employment. Perhaps they would now get back their good men, the want of whom for farm work had been much felt for the last eighteen months or two years. They would have to pay for their labour just according to what it was worth; but landlords must be prepared to take rents in proportion, for they could not expect that farmers would be able to give as much for the land, when paying so much more for their labour.

Mr. CUNNINGHAME (Shields) thought the more general adoption of piece-work would be beneficial to all concerned. It would benefit deserving parties most; for what they had chiefly to contend with during this scarcity of labour was, that the most efficient hands had been drafted off to other employments, and they had been left with second-rate workers. He tried the piece-work system last autumn in the taking up of turnips. Some strangers came to him and engaged to lift them by the acre, and made very good wages. One of his own regular hands came to him and said, if there was a shilling a day more to be gained in this way, she thought she should have it as

well. He agreed; but after working a week, he found she had only made 1½d. a day more than she had been getting, whereas the others were making double her wage. This showed the advantage that might be got from the system. Mr. Bruce's remarks in regard to their endeavouring to increase the quantity of the crops by being more judicious and liberal in the treatment of the land, were also most important. If they were able to raise a greater amount of produce from the same breadth it would enable them to meet the additional expenditure. He also agreed with Mr. Lindsay as to the desirability of curtailing the extent of their break. If they were to spread their farmyard manure over a less breadth, they might have the same amount of crop with less labour. He quite agreed with the chairman's remarks as to the treatment of servants. Still they had a great difficulty to face in the unsettled state into which servants had got, chiefly by the enhanced wages now being obtained at other employments. They had got into a wandering state, especially young people, and they had not well got settled down anywhere till they began to look about for a change. They could scarcely hope that this difficulty would be overcome until landlords provided better accommodation. The Assistant-Commissioners sent down some years ago to report on the employment of women and children in agriculture, had put on record in the blue-book that the county stood very far down in the scale in regard to its cottage accommodation. The report was anything but complimentary to Ayrshire proprietors, and he thought they should not cease knocking at their doors to remind them of their duty in reference to this matter.

Mr. BRUCE having briefly replied, the discussion closed; but on the motion of Mr. R. M. Cunningham, the club agreed to petition as formerly in favour of Mr. Fordyce's Labourers' Cottages (Scotland) Bill.

THE LABOURERS' UNION.

A public meeting in support of the National Agricultural Labourers' Union was held in Exeter Hall, under the presidency of Mr. S. Morley, M.P. The hall was crowded.

The CHAIRMAN, in opening the proceedings, said that he had consented to take the chair with a deep sense of responsibility, but he did so because he believed that the question at issue was a just one, and was of vital importance to a large and interesting body of our fellow-countrymen. The facts of the case lay in a small compass. At the village of Exning, in Cambridgeshire, some 300 or 400 men had demanded a rise of wage from 13s. to 14s. a week, and in consequence of its not being conceded they struck, as they had a perfect right to do. However, they were not present that night on account of the strike, but because the farmers had locked out some 2000 men because they belonged to the Union. Now, he had always believed in a trades union. At the same time trades unionists had no right to coerce non-unionists. These agricultural labourers had wisely joined the Union, the distinct effect of which in very many thousands of cases had been to add half-a-crown a week to their wages. The men occupied a better and more independent position than formerly. He regarded the lock-out as an act of tyranny, and was there that night to state his readiness to help the agricultural labourers to the best of his ability.

Mr. BALL (delegate for the Newmarket district) thought that they had attempted—perhaps sometimes they had failed, for it was not always easy for men like himself—to control themselves under the influence of exasperated feelings. It had been said that the labourers were ungrateful, but it was so it was because they had caught the infection from others who were afflicted with the same disease. It had also been asserted by writers in the press that the labourers were a drunken set, and that increase of wages only meant increased drunkenness. His answer to that was, that if they spent all their wages in drink it would not make them such very great drunkards. Referring to the strike, he regretted that any employers could be so inhuman as to refuse the extra 1s. per week asked for. He wished to correct the chairman in a slight error which he had made. Only 60 men asked for the increased wage at Exning, and the employers never allowed them a chance to strike. At Alkerton, in East Suffolk, 150

men asked for the increase, and at the end of the week, when it was not granted, they simply stayed away from their work. It was not the increase of wages alone which the farmers resisted. They felt that the rod of oppression was being broken, and they were animated by the desire to crush any attempts at independence in their infancy. A few men on every farm were paid extra wages, but in many cases they worked time equivalent to nine days per week. As a Warwickshire shepherd he had for three months together never changed his clothes but once a week, and during that time the ordinary wages of the district were never more than 13s. per week. There had lately appeared in print letters from a lady depicting a rural paradise enjoyed by the labourers there employed. But he could tell them a different story. He could tell them of an old man and his wife who had laboured on that estate for scores of years, who were now receiving one shilling and a stone of flour per week from the parish, and the old man worked on five days on the carriage drive of the Earl of Stradbroke at sixpence per day. In conclusion, he said that labourers on strike were displaying a spirit of heroism which nothing but years of oppression could have enabled them to do, and he trusted that the result of this meeting would be the bringing the present state of affairs to an amicable conclusion.

Mr. CHARLES KERRIDGE, farm labourer, East Suffolk, nearly sixty years of age, said he had come to tell the story of his life. When first able to toddle he was turned out to frighten birds, to get a few pence to help to buy bread. That went on until he got into his "teens," and from 18 until 22 he worked as a ploughman and tended the horses for 5s. a week. At 22 he got married, and was advanced to 7s. per week, and subsequently advanced to 8s. per week. In 1847 flour was at a high price, as much as 2s. 10d. per stone, and his master raised him to 10s. per week. At that period he had seven children, and when he took home his 10s. his wife said, "It will take 9s. 11d. to get flour enough to last us five days." He replied, "I cannot help it, it is all I have got." During the summer of 1847 flour advanced to 4s. per stone, and his wages were raised to 12s. per week. They used to say if a man could get a stone of flour a day he could get on, but in those days he used to work two days for one stone. Now that the wages were 13s. per week the labourer's wage was de-

ducted if he lost half a day from inclemency of weather, and on the average for the year the wage would not be more than 10s. per week. When the news of the Union reached his part of the country he took the lead, and in consequence his employer decided to discharge him and turn him out of house and home.

Mr. JOSEPH ARCH said that so long as the farm labourers combined in a lawful manner he should do his best to lead them boldly and determinedly in the future as he had done in the past. The farmers had refused arbitration. The demands of the labourers had not been exorbitant, and he said that if the present system of land cultivation could not be carried on without sacrificing the comforts of the labourers' home and bringing to a premature grave thousands of honest toilers, then let that system die. Was it English in the farmers to try and crush out the Union? ("No, no"). It was for the people of England to say whether it should exist or whether it should be annihilated. If it was crushed they would have no farm labourers left in England. If labour was simply to be treated as inanimate material, as so much coal and iron, then let not England boast of her superior Christianity. The rise of wages which had been obtained in some districts had greatly ameliorated the condition of the labourers, and a justice of the peace for Somersetshire recently stated that since that result had been attained crime and drunkenness had been diminished. He complained that the labourers who belonged to the Union were harshly treated, and instanced the case of a man who applied to a board of guardians for a coffin in which to bury his dead child. The man was asked if he belonged to the Union, and upon replying in the affirmative, he was told, "Then go to Arch for a coffin." Well, his fellow-workmen subscribed, bought the man a coffin, and followed his child to the grave. All the labourers wanted was a fair day's wage for a fair day's work, and if they could obtain that they would then be able to obtain and to experience that good feeling which there had been so much twaddle talked about. Did the upper classes want the labourers to be virtuous? then make them happy. Did they want them to be criminals? then make them miserable, for misery was the high road to crime. He rejoiced that the class to which he had the honour to belong had, since the commencement of this agitation, behaved themselves so well amid so many storms of uncalculated abuse. He thought he could indicate how this difficulty might be settled. Whilst the cultivation of the land was the only occupation taught the labourer, let him have some land to cultivate. It was said that he had no capital. Well, money had been lent by the Government at a fair per-centage to drain

and improve impoverished landed estates. Why should not that which had been done in one case be done in the other? Let the Government lend the money. Why not give back to the farm labourers the 7,000,000 acres of common lands which had been taken from them? Why not bring the 10,000,000 acres which were lying waste into cultivation? Talk about surplus labour, why, he would never admit that there was any surplus labour in the country whilst there was an acre of land untilled. If the farm labourers of this country could have a fair field and no favour they would not have many agricultural paupers left. Let the labourer have his two or three, or four or five acres each, they would make the present barren land smile with beauty, and instead of the bone and sinew being driven from the land, every honest man would be a guard of honour to the throne and to the nation. Open up the land to the labourers, and they would not flood the towns. Open up the land to them on fair and honest principles—they wanted no confiscation—and the towns would not have their back slams, and would not need them. He appealed to the meeting and to the metropolis for practical help, and he believed that in the future history of this struggle it would be told how the meeting at Exeter Hall in April, 1874, had given such an impetus to the movement that made it too strong for farmers' tyranny to put down.

At this stage of the proceedings a collection, which was freely responded to, was made throughout the hall. Mr. Dixon, M.P., announced a subscription of £100 from the chairman, £100 from Mr. P. A. Taylor, M.P., £50 from Mr. Dixon, M.P., £10 from Mr. Jenkins, and a number of other sums from other gentlemen in aid of the Union.

Mr. DIXON, M.P., moved a formal resolution, to the effect that the meeting deeply regretted that the moderate and reasonable demands of the labourers had been met by a general lock-out of all unionists in certain districts, expressive of sympathy with the labourers in their lawful right of combination, and pledging the meeting to heartily support the Union.

Mr. W. HALL said he was not the only labourer in Suffolk who disapproved of the lock-out. But he begged that the meeting would not judge all the farmers harshly, for there were among them some very kind-hearted men. The farmers were liable to make mistakes, and just now they were more puzzled than angry, for they did not know which Union to attack.

The Rev. LLEWELYN DAVIES seconded the resolution, which was supported by Mr. JENKINS, M.P., and Mr. MUNDELLA, M.P., and carried with acclamation.

THE FARMERS' PROTECTION ASSOCIATIONS.

A meeting of the owners and occupiers of land in West Suffolk was held at the Town Hall, Bury St. Edmund's, for the purpose of forming a Farmers' Association, with the object of protecting farmers against the demands of the Labourers' Unions. Col. F. M. Wilson was in the chair.

The CHAIRMAN said that of all the meetings he had ever presided over this gave him the least satisfaction, and the cause of it they must all deeply regret. The interests of agriculture were split asunder: the employers of capital and brains were opposed to those who find the muscles and do the work of the farm. In consequence of a strike in the parish of Exning, the employers of the adjoining parish determined to lock out. It was for the meeting to discuss whether or not such a step was not advisable. It must be admitted that the organisation of the labourers was not contrary to law. The farmers had no right to lock men out because they formed an association for the advancement of their interests. The question with the farmers was to what rules they pledged their observance. In the first place, there were three rules which every man of reasonable sense must agree were objectionable. The first was that no labourer should receive less than 15s. per week; the second, that an executive committee sitting at Leamington may send down an order for a strike at a week's notice; and the third, that no larger number of men should be allowed to strike at one time than could be supported by the Union. The object of the Union was clearly to lay down terms to the farmers, district by district; but the labourers must be made to understand distinctly

that it was impossible for the farmers to submit to such terms. They were not going to be frightened at the Bishop of Manchester or by Mr. Arch using the most dangerous and mischievous language, or to use such language themselves, yet they fully intended to maintain their rights, and to admit those of their men. Whilst they had an organisation of the labouring classes, it seemed to him (Col. Wilson) to be absolutely necessary that there should be an organisation of farmers to oppose them. He wished it to be understood, however, that his view of organisation was simply and purely defensive. They did not want to dictate to the men, but at the same time they would not allow the men to dictate their own terms. The best thing that could happen would be that the men should be induced to leave the Union, and he could not help thinking that a good deal might be done, as he had already suggested in the newspapers, by friendly meetings in the different parishes. As far as he could make out, a great many men, and old men especially, had been induced to join the Union with the idea that it is a friendly society. They had forgotten that friendly societies were simply based upon calculations as to the average length of life, and were the results of practical experience; and any organisation professing to be a friendly society, and to give relief without previous adequate payment, was only a delusion. Old men of about seventy years seemed to think that by paying 2d. for three or four weeks they were making provision for old age, and he thought it desirable that the true state of the case should be pointed out to them. At a future time it might perhaps be a

question for Government consideration whether a benefit society in connection with the Government could not be established, so that working men putting their money into it would have the same security as in the case of deposits in the Post-office. At present, however, he had only to suggest the formation of this association, and steps could be arranged for the future. He was of opinion that the lock-out was justifiable as a last resource if these rules were persisted in, but the farmers should hold out the hand of friendship as long as possible. It must be remembered that the men had behaved exceedingly well. Let them as masters do the same; let them meet the men fairly if resolutely; let them keep their tempers and keep the peace. The Chairman then read the following resolution, which he had drawn up in anticipation:

Whereas, certain of the agricultural labourers have formed themselves into an association called the Labourers' Union, and whereas by the rules of that Union, which they have pledged themselves to obey, it is provided—

- 1st. That no labourer shall receive less than 18s. a-week;
- 2nd. That a strike may be ordered by the executive committee at a week's notice;
- 3rd. That only so many are at any time to cease work as can be supported from the funds of the Union, thereby evidently intending to dictate terms in detail district by district;

That in the opinion of this meeting it is necessary that an association be formed, to be called the West Suffolk Farmers' Defence Association, the object of the Association to be to resist by the united action of the employers any unfair demands from the united action of the men.

Membership shall consist of a subscription of 2s. 6d. If further funds are necessary, it is proposed to raise them according to the assessment of each member's holding. That landowners and employers of labour are invited to join the Association, and that a committee be appointed with power to add to their number to carry out the objects of the Association.

The Marquis of BRISTOL proposed that the resolution be carried. There was a difficulty in the matter because there were two bodies belonging to different Unions, and it would be very advisable to know which Union they were combating. The rules embodied in the resolution were those, he believed, of the Lincolnshire Union, which had nothing to do with the Leamington Union.

The Rev. C. W. JONES asked if it could be ascertained by the farmers whether their men had pledged themselves to these rules, as he was informed that there were various Associations not connected either with the Leamington or the Lincolnshire Union.

The CHAIRMAN said, so far as he understood, the Lincolnshire Association was that which the men round Thetford, Ickworth, Pakenham, and Norton had joined.

Mr. B. J. M. PRAED seconded the motion.

The Rev. C. W. JONES said he thought they ought to pass before they assumed that all labourers belonged to the Lincolnshire Union. Originally, they joined that Union, but now there were many smaller ones confined to districts which had rules of their own. He agreed that employers must combine, but he objected to the word "combat" that had been used. He would rather that it was an organisation to treat with the men ("No, no"). As the Union existed, it would perhaps be better that it should be recognised ("No, no," and hisses). Unions exist now in other branches, and farmers could not expect to escape. He spoke as an employer of labour, which he was not ("Hoo," and hisses). As a small owner of land in the county, he had a standing here according to the terms of the advertisement calling the meeting. He did not believe that a lock-out would crush the Union ("Nonsense"; "That is the only step to take"). The Committee that met last Wednesday proposed that step, but it would do no good to the men to strike, or to the master to lock-out. Wages would find their own level. The most probable result of any extensive exclusion of workmen would be their removal to another part of the country, where wages are obtained at a higher rate.

Mr. GEORGE GAYFORD (Barrow) recorded it as his experience that wages would find their level, and expressed himself in favour of the combination both of employers and employed. He once subscribed to send nine men away, and of these eight came back, and the other man stayed away because there was a warrant against him. Though they earned 4s. a day in the North of England, the work, they said, was too much for them. He was also in favour of attempts to reason with the

labourer, and objected to the interference of a third party. He did not like the term "lock-out." The masters did not lock the men out; they locked themselves out, and if they liked to, let them ("Bravo"). By all means let them belong to the Unions, but they must be told that their employers had come to the determination to employ no Union men.

The CHAIRMAN then put the resolution, which was carried unanimously.

Mr. J. GARDINER (Acton) said that last year the plan of combination was adopted with Sudbury for head-quarters, and was eminently successful. After the lock-out, a number of men brought their tickets back, and continued to serve their own masters, and they were serving them to this day. Others were drafted away to the North, but there they found they were compelled to undergo such hardships as they had never experienced before; but when they returned they were better men, and there was now no grumbling or complaint of their masters, because they had been obliged to lock out the year before. Mr. Gardiner then related this story of Union delegates which he had from one of his men. After collecting the coppers from the unfortunate labourers after a meeting in a parish, they went to the village inn, and fared sumptuously, and in a short time they had spent more money than they had been able to collect. How was it to be expected by the labourers that they would be benefited by a class of men who simply traded upon the agitation, and who had no character, no position, or influence, but that of demagoguism? Being an Essex man, he did not like to propose a resolution, though he had a great inclination to do so.

Mr. STANLEY (Bury), Secretary to the Association, said that the action to be taken must be regulated by the number of members who could be got to join the Association. He was badly treated last year. About three weeks before harvest he asked his bailiff what the men wanted for harvest, and the reply was that they could not say until they had consulted the Union. He directed that they should send in their terms in a week's time, and they did so, asking £9 5s. for the eight weeks, as against £5 the previous year. On consultation with his brother-farmers, he decided that the utmost he would give should be £8 15s., and informed the men of his decision. In consequence, they gave notice to leave the following pay-night (Friday), and they did so without staying to see him (Mr. Stanley), although he left word that he would be over the following Saturday, and this treatment he felt to be the most unkind. He was advised to give them £10 to come back, but instead, he got other men, and managed as best he could. He forgave his men after harvest, and had never heard any more of the Union. He agreed with the idea of trying to reason with the men. (A voice: "It is no use trying that.") That he must leave to the meeting, but they could not carry their farms on with such rules hanging over their heads. Mr. Stanley suggested that the farmers should individually meet their labourers, and try to see what could be done by reasoning.

Capt. HORTON said he did not think they should dissolve without coming to a practical resolution. His opinion was that the agitation among the labourers was a very important political agitation, and was by no means confined to the adjustment of wages, which would adjust themselves. In addition to their idea that by joining this Union they were enrolling themselves in a Friendly Society, they had the idea that hereafter they would become the possessors of the land. Landed property was not included in the war, and was being carried on against all parties. The men were really ignorant of what their wrong were. In one district 17s. a-week, 1s. less than was asked by the Union, had been offered to the men and declined, he believed because they were convinced that they were earning more before the strike. He had spoken to a cottager into whose cottage flowed £170 yearly, and the rent he paid for this lodging for his family, which numbered eight or nine, was £3. That man could not be considered badly off, and when this was pointed out to him he considered himself not badly off. And so with many others. The unity between master and man was much greater formerly. The farmer was generally only a small capitalist, but that system was now exploded. Now, the farmers had larger properties, and did not see their men so much as they were wont. Believing that the men had been induced to join the Unions owing to false impressions and reports spread by delegates, he moved "That efforts be made in every parish to induce the men to leave the

Union, by pointing out the fallacies under which they may have joined it, especially as to its being a Friendly Society."

Mr. KING (Barton), agreed with the observations of the previous speaker. He made some further almost inaudible remarks on the delegates, whom he styled "itinerant spouters, with Communistic feelings in their hearts."

The CHAIRMAN supported the resolution, observing that it would not debar the meeting from any subsequent action.

Mr. G. GAYFORD said that he was afraid that any attempt of the kind to disserve the men from the Union would tend to make them adhere closer to it.

The CHAIRMAN said, in his own parish he had offered all men who did not join the Union a rise of 1s. They had the alternative of accepting this, of remaining where they were or of leaving for better wages. He had not found any left.

Mr. BYFORD (Glemsford), advised the farmers' organisation to altogether ignore the Union, for if they acknowledged it it would be their masters, and there would be no peace till they had gained the object expressed in the rules they had heard, and a great deal more besides. He held that every farmer who only tried to persuade his men to leave the Union and did not lock-out was just as big an advocate of the Union as Joseph Arch. The Union advocates might exterminate, as they said they would, the present class of farmers, and it therefore became a public question, for the supplies of home-grown corn would fail. He advocated an immediate lock-out. What though they had heard that one man would give the Union £500 another £300 and so on. Let them strike and the sooner that money was exhausted the sooner the Union would be beaten. He recommended that the Farmers' Association should communicate for the purpose of amalgamation with similar societies, and if possible there should be a national association of the kind. They might then defy the Union. In his opinion by locking out the Unionists the farmers were showing themselves to be the true friend of the labouring classes. It was not at bottom a question of wages. An advance of one or two shillings would not satisfy the Union. There would be no rest until the farmers were entirely under their finger and thumb. Mr. Byford also alluded to the hardships the labourers found they had to undergo in the North, which place many were glad to leave, and concluded by recommending the immediate resort to strong measures.

The MARQUIS OF BRISTOL reminded the meeting that it was advisable never to abuse one's enemies. Grave as was the present state of affairs, he hoped it was not so grave as Mr. Byford had represented. A large employer of labour in the neighbourhood of Lynn had written to him as follows: "I have spoken to several large employers in this part of the country, and they are all much interested in the Suffolk lock-out. They all say that it is the only way to counteract the agitation, and intimidate all the Union agitators, though I am glad to say in every instance about this district where men have struck by order of the Union, the farmers, by working themselves, and by neighbours helping, and by a few men sticking to them, have had the men back on their own terms, and they have very luckily drafted off a lot of worthless ones."

Mr. HARRISON (Wordwell) moved the adjournment of the meeting for a week, as he did not think they were quite in order to pass resolutions until the Association had been properly formed.

Mr. STANLEY was also of opinion that nothing could be done until the Committee knew who were to be their supporters.

A VOICE: "Take a show of hands."

Mr. STANLEY said the people most wanted were not present. He had had lots of letters from farmers, who said they were not troubled with Union men, and they were undecided. Some of these gentlemen had been troubled with the Union last year, but then the delegates bolted with the money and no more was heard of the matter. That was what he called milk-and-water action.

Several gentlemen from the back of the hall proposed that names should be entered at once, but

The CHAIRMAN pointed out that great confusion would be created by the adoption of such a course. A show of hands was at last taken, nearly every gentleman (the exceptions were strangers) holding up his hand. The Chairman then asked what was to be done.

Mr. HAWKINS (Milden) having addressed a few words to the meeting expressing sympathy with the farmers in the

districts infested by Unionists, and with the proposed Association.

The CHAIRMAN said it was manifestly the opinion of the bulk of those present that some strong measures should be resorted to, and he called upon some gentleman to move a resolution.

Mr. PAYNE (Mildenhall) proposed that a paper should be drawn up, to be signed by the members present, to the effect that they would not employ Union men. He admitted, however, that his own men did not belong to the Union.

Capt. HORTON again urged his resolution.

The MARQUIS OF BRISTOL, on being appealed to, said he would undertake not to employ Union men so long as the three rules mentioned were continued.

The Rev. C.W. JONES again appealed against these terms, which would ensure a lock-out. (A Voice: "The right thing too.") He put strongly before the meeting the unfair position of the employer of labour who had unfortunately Union men, for such would be left without labour entirely whilst their neighbours had their usual complement of men at work. (A Voice: "Our next door neighbour will help us.") They must recollect, too, that such a step was useless unless national.

Mr. KING (Gazeley) said his Union men had left him, and he had now only four men at work; whereas he was a short time ago paying £20 for wages he now only paid £5 weekly. The corn had been got in by the aid of his friends, and he did, not think he was worse off than before, but he had to work harder himself.

Mr. MATTHEW (Kucttishall) said he had an interview with his men. Some of them got over 18s. a week, and others not so much, and he asked those who received more than 18s. if they would be willing to make up out of their wages the wages of the other men to 18s. Of course, to this they would not agree. He told them if they continued in the Union he should join the Farmers' Defence Association. The men told him that if they could renounce the Union and still belong to the Benefit Society they would do so, but they were not allowed in the latter without also joining the former. One of his men said he believed that paying money to support men on strike was not the way to lay up money for a future day, and he would cross his name from the Union. Five others did the same. Three had since said they would do so, and the remainder said they would take a week to consider.

Mr. MANFIELD (Ickworth-Thorpe) said when he had pointed out to his men the ridiculous smallness of the payments as compared with largeness of the promises, they promised to leave the Union, which had been described to him by Mr. Rodwell as a sham and a fraud.

Mr. STANLEY said he had received a letter from Mr. Rodwell regretting that he could not preside. He believed that the rate of wages asked by the Union was lower than what the men were receiving before they joined the League.

The CHAIRMAN, in summing up, said it was very clear that the meeting took a strong view with regard to the Labourers' Union question. The bulk of the meeting were for refusing to recognise the Union in any shape. He urged that Captain Horton's resolution should be passed, and pointed to the success of such a measure spoken of by Mr. Manfield and Mr. Matthews.

Mr. BYFORD: Delays are dangerous.

The CHAIRMAN said he did not propose delay. He wished first to show a bold front, and then try and treat with the men.

Mr. HARRISON said he intended to employ no Union men, though he would be second to none in receiving them back and treating them well if they left it.

The CHAIRMAN then put a resolution to the effect that the farmers should refuse to recognise the Union, which was carried unanimously.

Mr. GOODCHILD said if he had to pay more wages he must pay less rent.

Mr. BURT said he found where Union men and non-Unionists were employed together, the latter were subject to frequent annoyance.

Mr. HARRISON said the Farmers' Association ought, as far as possible, to protect the men.

The CHAIRMAN, after again advocating Captain Horton's resolution, put it to the meeting, and it was declared lost, and the Chairman remarked that it was still open to every gentle-

man to take such a step. He suggested that no further steps be taken for the present.

Mr. BYFORD pointed out that though they had had a great deal of talk nothing had really been done.

Mr. HARRISON proposed, as the meeting was about to break up, that on Friday the men be given a week's notice, that if they still belonged to the Union at the expiration of that time they would be locked out.

This resolution, having been put to the meeting, was carried unanimously amid manifest signs of approbation.

On the motion of Mr. Harrison a vote of thanks was given to the Chairman, and to the landowners present for their attendance, and the meeting separated.

At a meeting at Ipswich for the formation of a Labourers' Benefit Society, convened by the Earl of Stradbroke, the Lord Lieutenant, who presided, the following resolutions were passed:

Proposed by Lord Rendlesham, and seconded by Mr. Deck: "That it is expedient to establish in this county on a sound basis a Benefit Society, for the purpose of assisting the labouring classes to provide for themselves a comfortable maintenance in sickness and a provision for old age, to be called the Suffolk Benefit Society."

Proposed by Archdeacon Groome, and seconded by Mr. Sherwood, "That this Society shall consist of honorary and insuring members, and that owners and occupiers of land, and others interested in the welfare of the working classes, be invited to subscribe towards a capital fund, in order that the advantages to be derived therefrom may be participated in at once by those insuring therein."

Proposed by Mr. E. S. Corrance, and seconded by Mr. E.

Packard: "That a Council be appointed to draw up the rules and take such other proceedings as they may deem necessary for carrying out these resolutions. The Council to consist of the following gentlemen: The Earl of Stradbroke, chairman; Lord Gwydyr, Ven. Archdeacon Groome, Rev. E. Hollond, Sir G. N. Broke-Middleton, J. G. Sheppard, Esq., H. A. S. Bence, Esq., T. Lomax, Esq., Rev. H. E. Knatchbull, J. W. Brooke, Esq., Rev. T. L. French, Mr. E. Deck, Mr. John Sherwood, J. P. Cobbold, Esq., M.P., E. Packard, sen., Esq., Mr. Charles White, and Rev. G. A. Whittaker." Mr. H. Biddell's name was also proposed, but he requested that it might be withdrawn.

Proposed by Rear-Admiral Sir G. N. Broke-Middleton, Bart., and seconded by Mr. C. White: "That all gentlemen wishing to become honorary members of the Society be requested to give their names to the Council, with the amount of their subscriptions."

A preliminary meeting of landlords and tenants resident within the Stow Hundred was held at the Assembly Room, Stowmarket, to consider what steps they should take with regard to the labour question, Mr. R. J. Pettward in the chair, when Mr. OLKES moved, "That under the existing rules this Association refuses to employ Union men, and that on Friday the men in the employ of the members of this Association should receive a week's notice unless they cease to belong to the Union." Mr. MATTHEWS seconded the motion, which was carried. It was requested that those present should join the West Suffolk Defence Association, and it was announced that Mr. Betts would take the names of those wishing to do so.

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the monthly meeting of the directors on Wednesday, May 4, in Edinburgh, Captain Tod, of Howden, in the chair,

The SECRETARY read reports of meetings of the committee on the Chemical Department, held on the 15th and 29th April, which embodied recommendations from the Marquis of Huntly's Committee, and suggestions from several members of the committee. He also read a memorial by the West Lothian Agricultural Association and a resolution by the East Lothian Agricultural Club on the subject, as well as modified suggestions for the reconstruction of the Chemical Department by Professor Wilson.

The board, after considerable discussion, resolved—1st, To remit back to the Chemistry Committee to consider and report on the present position of the Chemical Department, and suggest to the board what alterations they would propose, keeping in view the proposals made by Lord Huntly's Committee with reference to the appointment of a chemist. 2nd, To remit to the Council on Education to consider what steps the Society should take regarding agricultural education, with reference to the discussion which took place at the general meeting in January. The recommendations from the Marquis of Huntly's Committee on Agricultural Education and a letter from Colonel Innes, of Learney, were remitted for the consideration of the Council. Captain Tod of Howden, Mr. Mackenzie of Portmore, Mr. Pettigrew Wilson of Polquhain, Mr. Milne Home of Wedderburn, and Mr. Walker of Bowland were appointed to assist the Council in their deliberations.

The report of the examinations for the Society's veterinary certificate, which took place on the 13th, 14th, and 15th of April, was submitted, from which it appeared that 42 students presented themselves for examination, and that 33 passed; that 17 silver medals had been presented to the students of the three colleges in Scotland for the best class examinations; and that two medium gold and two silver medals had been awarded at the Society's public examination for the best general and for the best practical examination. On a report by the Board of Examiners, the directors resolved that in future the first or preliminary examination should consist of two tables—namely, anatomy and chemistry and botany combined; and that a materia medica be placed in the final examination. It was further resolved to recommend students

to attend a longer curriculum, but the board did not in the meantime alter the rule on this point so as to make it compulsory.

A FLOURISHING CHAMBER.—A meeting of the Herts Chamber of Agriculture was called, by notice sent to every member, for Saturday, May 2nd, at the Shire Hall, Hertford, at 3.30, "to discuss the questions in connection with the charges of keeping the highways and turnpike roads in repair." Mr. Brandram first made his appearance and was followed at intervals by the Hon. Baron Dimsdale (who presided), Mr. W. Anthony, Mr. Bettinson (Secretary), and Mr. Phillips, of Mardley Bury. These were all that were present at twenty minutes to four, when Mr. Phillips said he moved that the meeting be adjourned, and walked out; and the Rev. L. Deedes, followed by Mr. Halsey, M.P., walked in.—Mr. Bettinson then read the minutes of the last meeting, which were signed by the chairman; and, no others having entered, Mr. W. Anthony said he was sorry to see such an attendance. He thought they could only move that the meeting be adjourned to some future occasion. Baron Dimsdale: Until the next dissolution of Parliament.—*Herts Guardian*.

AN INFLUENTIAL OPINION.—At a meeting of the Herefordshire Chamber of Agriculture, on Saturday, May 2nd, the subjects down for discussion included the financial proposals of the Government, Tenant-Right, and the diseases of stock, "but there was a very meagre attendance," as will be seen by the following division: Mr. Rankin proposed "That the financial proposals of the Government are, as a whole, satisfactory to the public at large" (applause). Mr. Taylor (Showle) had much pleasure in seconding the motion. Mr. Pulley, the President, proposed as an amendment, that the words "with the exception of the repeal of the horse-tax," be added to the resolution. Mr. Duckham seconded the amendment. "The sense of the meeting" was then taken by a show of hands, and the original proposition was carried by a majority of 4 against 3. Prodigious! Would not "the sense of the meeting" have read better if the "illustrious five," putting out the chairman and secretary, had stopped at home?

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, *Wednesday, May, 6.*—Present : Mr. Holland, President, in the chair; the Duke of Devonshire K.G.; Lord Chesham, Lord Eslington, M.P.; Lord Kesteven, Lord Vernon, the Hon. W. Egerton, M.P.; Mr. Amos, Mr. Barthropp, Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Dent, Mr. Druce, Mr. Brandreth Gibbs, Mr. Horley, Mr. Hornsby, Mr. Hoskyns, Mr. Bowen Jones, Colonel Kingscote, M.P.; Mr. Leeds, Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Raudell, Mr. Rawlence, Mr. Ridley, M.P.; Mr. Rigden, Mr. Shuttleworth, Mr. Statter, Mr. G. Turner, Mr. Jabez Turner, Mr. Wakefield, Mr. Welby, M.P.; Mr. W. Wells, Mr. Whitehead, and Dr. Voelcker.

The Marquis of Ailesbury, Savernake Forest, Marlborough, was elected a Governor of the Society.

The following members were elected :

Affleck, William, Swindon.
 Armstrong, Samuel, Shingay, Royston.
 Ashton, William, Horncastle.
 Bayly, T. Harvey D., Edwinstone House, Ollerton.
 Crawshay, Charles, n Higham, Attleborough.
 Dent, Edward, Fernacres, Fulmer, Slough.
 Donne, Henry, Leek, Woolton, Warwick.
 Ellis, Charles, Meldreth, Royston.
 Faulks, Michael, Colston Bassett, Bingham, Notts.
 Fern, Henry, Taunton.
 Finch, William Corbin, Bemerton Lodge, Salisbury.
 Fisher, George, Bute Villa, Cardiff.
 Frankham, John, Little Canfield Hall, Chelmsford.
 Gardner, William Lancaster, Newland Hall, Galgate.
 Gibson, Thomas, Stamford, Lincolnshire.
 Gillitt, James, Rothersthorpe, Northampton.
 Grier, William Maggee, Rugely, Staffordshire.
 Jillings, John, Great Chesterford, Saffron Walden.
 Key, William Henry, Euderby Grange, Narboro', Leicester.
 Lee, Sen., Trevor, Broughton House, Aylesbury.
 Marsters, Charles, Saddlebow, King's Lynn.
 Morris, Thomas William, Bedgrove, Aylesbury.
 Moulton, Edward Lavender, High-street, Bedford.
 Ogilvy, Lieut.-Col., R.H.A., Millhill, Inchture, Perth.
 Palmer, Leonard J., Snetterton, Thetford.
 Palmer, Ralph Charlton Hubbards, Nazing, Waltham Cross.
 Plowright, J. Thomas, The Hall, Pinchbeck, Spalding.
 Potter, Samuel, Ilkeston Park, Nottingham.
 Reid, George, Guild-street, Aberdeen.
 Richardson, Charles Trusted, Monkton Lodge, Jarrow-on-Tyne.
 Sainsbury, John B., Overton Farm, Ross.
 Scott, Arthur Jervoise, Rotherfield Park, Alton, Haunts.
 Silvester, Francis William Hedges, St. Albans.
 Smith, Edward, Cauldwell-street, Bedford.
 Smith, Thomas, 34, London-street, Fitzroy-square, W.
 Toller, William Gedgrave, Wickham Market.
 Tweedie, Richard, The Forest, Catterick, Yorkshire.
 Tysoe, Samuel, Rumer Hall, Stratford-on-Avon.
 Webster, George Peter Oxeroff, Bolsover, Chesterfield.
 Whalley, Robert, Mill Green, Bold, Warrington.
 Whitehead, William, Wollastou, Wellingboro'.
 Wilson, The Rev. Hugh Owen, Church Stretton, Salop.
 Woodroffe, David, Chase View, Rugeley.

FINANCES.—Col. Kingscote, M.P., presented the report, from which it appeared that the Secretary's receipts during the past month had been examined, and found correct. The balance in the hands of the bankers on April 30th was £3,682 19s. 2d., £2,000 remaining on deposit at interest.

JOURNAL.—M. J. Dent Dent (chairman) reported that the President of Harvard University, Cambridge, U.S., had informed the committee that a department of agriculture had been established at that university, and had requested that the *Journal* be presented to that depart-

ment. The committee thereupon recommended that the second series of the *Journal* be presented to that institution. The committee also recommended the payment of the accounts for printing, illustrating, and binding the last number of the *Journal*. This report was adopted.

GENERAL BEDFORD.—Mr. B. T. Brandreth Gibbs reported the opinion of the committee that General Rule No. 14 in the stock prize sheet does not apply to wether sheep shown to compete for the prizes offered by the Local Committee; also that the London and North-Western Railway Company had undertaken to construct a passenger platform near the showyard. The committee recommended the repair of the indices to the turnstiles, and the sanction of instructions to the Secretary with reference to the printing of the stock and implement catalogues, and the awards of the prizes at the Bedford meeting. They also submitted for approval a draft of the programme of the Bedford meeting. This report was adopted.

JUDGES' SELECTION.—Mr. Milward (chairman) reported that the list of judges of stock and implements for the Bedford meeting had been filled up in accordance with the invitations authorised by the Council at their last meeting. This report was adopted.

SHOWYARD CONTRACTS.—Mr. T. C. Booth reported that the Surveyor had certified that the arrangements for the forthcoming country meeting were in a forward state, and that the contractor was entitled to his first payment on account of the showyard works. This report was adopted.

EDUCATION.—On behalf of the Duke of Bedford (chairman) Mr. J. Dent Dent presented the following report: "Ten candidates out of twelve who had entered presented themselves for examination on April 14 and following days. Mr. R. Rich, of the Royal Agricultural College, Cirencester, obtained a first-class certificate, the life membership of the Society, and a prize of £25. All the other candidates failed to satisfy the Examiners in Chemistry, and, with one exception, each candidate also failed in at least one other necessary subject. The Examiner in Agriculture reported very favourably of the papers written, and the answers given in the *visu voce* examination, by the majority of the candidates, and considered that great credit was due to them for their proficiency in Practical Agriculture. The Examiners in Chemistry regarded the results of the examination in that science as very disappointing, and much below the standard attained by the candidates last year; they added that the knowledge of general principles and common facts of general chemistry shown by the candidates was very imperfect, and that this deficiency was not compensated by practical acquaintance with analysis or technical details, while the papers on agricultural chemistry were particularly unsatisfactory. The results of the examination in book-keeping were beyond the average of former years. The examiner in mechanics and natural philosophy and in mensuration and land surveying reported unfavourably of the results of this year's examination in those subjects, and called attention to the fact that those who fail in mechanics fail in the most elementary questions. With regard to the optional subjects, it was sufficient to state that one candidate passed in geology with 53 marks, one in botany with 50, and one in anatomy and physiology with 50, fifty being the minimum pass-number in each of those subjects.

The committee recommended that the thanks of the Council and the usual honorarium be presented to the examiners in recognition of their valuable services in

connection with these examinations, the detailed results of which they reported in the following tabular form :

Tabular Statement of the Results of the Examinations, 1874.

	Agriculture.	Chemistry.	Book-keeping.	Mechanics.	Land Surveying.	Geology.	Botany.	Physiology	Total Marks.	Age of Candidate.
Maximum Number of Marks.	200	200	200	200	100	100	100	100		
Rich, R.....	152	115	180	133	71	—	50	—	61	19
	144	+	110	+	+	—	—	—	+	21
	+	+	170	150	51	—	—	50	+	18
	126	+	160	+	+	—	—	—	+	21
	+	+	+	119	—	—	—	—	+	24
	101	+	+	110	57	—	—	—	+	21
	107	+	190	+	+	53	+	—	+	23
	+	+	+	+	+	—	—	—	+	20
	+	+	120	+	+	—	—	—	+	18
	117	+	100	145	76	—	—	—	+	19

† Failed. — Did not attempt.

The committee had also drawn up the following scheme for a more elementary examination, which they recommended for adoption by the Council :

I. That, in addition to the present examinations of advanced students, a more elementary examination be held annually by the Royal Agricultural Society.

II. That 10 scholarships of £20 each shall be given on condition that the scholar spend the ensuing year at a school, or with a practical agriculturist, to be approved by the Education Committee, or at one of the Agricultural Colleges, such as Cirencester, Glasnevin, or the Agricultural Department at Edinburgh.

[NOTE.—In the event of the scholar proceeding to Cirencester he will be entitled to compete for one of the six Middle Class Scholarships given by the Council of the Royal Agricultural College, of the value of £40 per annum, tenable for two years.]

III. That the scholarship be not paid for any year until after a testimonial as to good conduct and industry be produced after the expiration of that year from the head-master of the school, principal of the college, or the practical farmer under whom the scholar has studied.

IV. That candidates for the scholarships be not less than 15 years of age.

V. That the candidates shall be members of one of the following schools, viz.: Ardingley College, Bedford Middle Class School, Bloxham (All Saints' School), Devon County School, Dorset County School, Hurstpierpoint College, Norfolk County School, Framlingham (Albert College), Middle Class Corporation Schools, Surrey County School, Trent College, Whitgift School (Croydon); or of schools hereafter to be approved by the Council of the Royal Agricultural Society.

VI. That annual examinations shall be held simultaneously in the month of November at such schools as have candidates, and that to the boys who stand highest the scholarships shall be awarded.

VII. That the subjects for examination for the scholarships be: 1, Land Surveying; 2, Elementary Mechanics, as applied to Agriculture; 3, Chemistry, as applied to Agriculture; 4, The Principles of Agriculture, especially with reference to the rotation of Crops, the nutrition of Plants and Animals, and the Mechanical Cultivation of the Soil.

VIII. That for the conduct of the examination a local secretary be appointed by the Royal Agricultural Society.

That to the local secretary sealed packets of the examination papers shall be sent; that these packets shall be opened and distributed to the candidates in his presence, or in the presence of some one specially deputed by him.

That during the time the papers are being answered there shall be present the local secretary or his deputy, who shall, at the end of the time appointed by the examiner for answering, collect the papers, seal them in packets, and forward them to the Secretary of the Royal Agricultural Society.

IX. That this scheme do not interfere with the Royal Agricultural Society's senior examinations, already in operation.

In reference to this scheme, it was reported that of the candidates at the recent examination two had come from the Surrey County School; and that one of them, though not fully qualified in practical agriculture, had passed a very good examination.

The Committee finally gave notice that at the next Council meeting they will make application for a grant not exceeding £500 for carrying out the foregoing scheme. This report was adopted

SELECTION.—Colonel Kingscote, C.B., M.P. (chairman), reported the recommendation of the committee, that Lieutenant-General Viscount Bridport be recommended to the annual general meeting of members, on the 22nd inst., as President of the Society for the ensuing year. This report having been adopted, it was moved by Colonel Kingscote, seconded by Mr. G. Turner, and carried unanimously, that Lord Bridport be recommended to the annual meeting as President of the Society for the ensuing year.

IMPLEMENT.—Mr. T. C. Booth (chairman) reported the recommendation of the Committee that the dynamometer proposed for the trials of drills, carts, waggons, &c., this year, and which will be required for the trials of mowing and reaping machines, &c., in future years, be constructed according to the estimate of the consulting engineers. It was also recommended that the stewards be empowered to order refreshments for the drivers of the horses employed by the Society in the trial-fields. The Committee had also considered Messrs. Howard's letter suggesting the provision of a ring in the show-yard for the exhibition of automatic implements worked by horse-power; and they suggested that while the thanks of the Council were due to Messrs. Howard for their suggestion, those gentlemen should be informed that the arrangements for this year's show are complete, and that the Council regret, therefore, their inability to deal with the suggestion at this year. They also recommended that the question be further considered, and the opinion of the implement makers requested on the subject, with a view to carrying out the suggestion in future years. This report was adopted; but Mr. Shuttleworth subsequently gave notice that at the next council-meeting he would move a resolution in reference to the last paragraph with a view to its being rescinded.

POTATO DISEASE.—Mr. Whitehead (chairman) reported the arrangements that had been made by the Committee for the supervision of the experimental potato plots, and for the further investigation of the influence of different systems of cultivation of the potato on the incidence of the potato-disease. This report was adopted.

The report of the Special Committee appointed to inspect the accommodation offered by the authorities of Taunton for the Country Meeting of 1875 having been received, it was moved by Mr. Rigden, seconded by Mr. G. Turner, and carried unanimously, that the Country Meeting for 1875 be held at Taunton.

It was also resolved that the Country Meeting for 1876 be held in the district comprising the counties of Derby, Leicester, Lincoln, Northampton, Nottingham, Rutland, and Warwick.

In accordance with the Bye-laws, the Council arranged

by ballot the following house-list for recommendation to the Annual General Meeting.

ATTENDANCE, FROM THE RISING OF THE CARDIFF MEETING IN 1872, TO THE PRESENT TIME.

Names.	Monthly Councils.	Special Councils.	Number of Meetings.	Attendances.
	Total 15.				Total 1.
Amos, Charles Edwards, 5, Cedar's Road, Clapham Common, Surrey	3	...	26	...
Bartropp, Nathaniel George, Hacheston, Wickham Market, Suffolk	6	...	7	4
Bedford, Duke of (elected June 4, 1873), Woburn Abbey, Bedfordshire	5	...	20	11
Booth, Thomas Christopher, Warlaby, Northampton, Yorkshire	9	...	54	31
Bowly, Edward, Siddington House, Cirencester, Gloucestershire	11	1	24	14
Davies, David Reynolds, Agden Hall, Lymm, Cheshire	8	...	67	30
Druce, Joseph, Eynsham, Oxford	11	...	30	12
Edmonds, William John, Southrope House, Lechlade, Gloucestershire	5	1	55	8
Egerton, the Hon. Wilbraham, M.P., Rosethorne Manor, Knutsford, Cheshire	8	...	14	...
Hensley, John, Shelton, Newark, Notts ... ..	...	...	...	...
Horley, Thomas, jun. (elected Nov. 5, 1873), The Fosse, Leamington, Warwickshire	3	...	2	2
Hornsby, Richard, Spittlegate, Grantham, Lincolnshire	11	...	43	26
Hoskyns, Chandos Wren, Harewood, Ross, Herefordshire	5	1	52	13
Laves, John Bennett, Rothamsted, St. Alban's, Herts	2	...	16	...
Leicester, Earl of, Holkham Hall, Wells, Norfolk	3	...	...	...
Lichfield, Earl of, Shugborough, Staffordshire	2	...	39	8
Lindsay, Colonel Loyd, V.C., M.P., Lochinge, Wantage, Berkshire ... ..	...	...	...	...
Masten, R. Hanbury, Pendeford, Wolverhampton, Staffordshire	8	...	40	19
Randell, Charles, Chadbury, Evesham, Worcestershire	8	...	69	37
Rawncie, James, Bulbridge Wilton, Salisbury, Wiltshire	2	...	4	...
Sanday, George Henry, Holmepierrepont, Notts ... ..	...	...	...	...
Shuttleworth, Joseph, Hartsholme Hall, Lincoln	13	1	43	22
Welby, William Earle, M.P., Newton House, Folkingham, Lincolnshire	8	...	49	15
Wells, William Holmewood, Peterborough, Northamptonshire	12	...	89	60
Whitehead, Charles, Barming House, Maidstone, Kent	8	1	79	55

The Hon. WILBRAHAM EGERTON, M.P., called attention to the recent outbreak of the foot-and-mouth disease, and to the withdrawal of the orders in Council which in previous years had tended to keep it in check. In his opinion these orders had been of great benefit; and he considered that efforts made to prevent the spread of the disease in the early stages of an outbreak, when the disease appeared to be communicated chiefly by contact, were much more efficacious than those resorted to at a later period, when the disease was extensively spread by atmospheric influences.

Lord CHESHAM quoted his experience in reference to an outbreak amongst his own Shorthorns, and expressed his conviction that the best thing to do is to let the disease take its course.

Mr. BOWEN JONES referred to the action of the Council, previous to the appointment of the Select Committee of the House of Commons on the Contagious Diseases of Animals and to the investigation which had been made by the Secretary into the trade in animals with special reference to this matter; and he suggested that as a change of

Government had taken place, the recommendations of the Council should be laid before the Government again.

Mr. JABEZ TURNER stated that the foot-and-mouth disease was at present very virulent near Peterborough; it had been introduced by cattle which came from Ireland through Bristol. He considered that the ravages of the disease had been very much understated, and that the disease was now much more virulent than it used to be. What he desired was to be prevented from carrying infection to his neighbours, and at the same time that his neighbours should be prevented from bringing infection to him.

Lord ESLINGTON also supported Mr. Egerton. He thought that great weight would be attached by the Government to representatives from the Council, and he considered that restrictions should be placed upon the movement of diseased cattle.

Mr. DENT DENT having been a member of the Select Committee already referred to, expressed the opinion which he had formed in attending the meetings of that Committee, and had deduced from the evidence brought before it, that it was necessary only to keep up the machinery of the veterinary department sufficient to deal with cattle-plague. He had therefore concluded that with this exception it was better to do away with veterinary restrictions altogether, for to deal with foot-and-mouth disease effectually the regulations would require to be as stringent as those which were in force during the prevalence of cattle-plague. With regard to the compulsory order as to slaughter in cases of pleuro-pneumonia, Mr. Dent thought that it entailed a great expense on the rate-payers, and did not restrict the progress of the disease. Mr. MILWARD was entirely opposed to Mr. Dent in reference to the order as to compulsory slaughter in pleuro-pneumonia, as under this order in this county they had restricted it to a radius of five or six miles, whereas otherwise he was convinced that it would have spread over the whole county.

Colonel KINGSCOTE, C.B., M.P., expressed himself as entirely opposed to Lord Chesham in reference to foot-and-mouth disease; and he thought that a deputation of the Council should go to the Lord President of the Council with as little delay as possible.

Mr. MATTHEW WHITE RIDLEY, M.P., supported Mr. Dent in reference to the opinion arrived at by the Select Committee to which reference had been made, and of which he had also been a member. It had been proved that foot-and-mouth disease was highly contagious, and therefore required such stringent regulations for its control as would not be tolerated by the farmer. He quoted the stoppage of importation from Ireland, and the prohibition of fairs and markets, as examples of the restrictions that would be necessary. Therefore he did not consider it desirable for the Council to make any representations to the Government.

Mr. T. C. BOOTH differed entirely from Mr. Dent and Mr. Ridley, and quoted the experience of the Australian authorities in preventing the spread of foot-and-mouth disease brought into those colonies by stock imported from England.

Mr. W. WELLS hoped that if the Council made a representation to Government they would draw attention to the state of the law relating to pleuro-pneumonia, as well as to foot-and-mouth disease.

After some further observations by Mr. Leeds, Mr. G. Turner, Mr. Brandeth Gibbs, and other members of the Council, the Hon. W. Egerton, M.P., stated that he still thought it desirable to draw the attention of the Government to the necessity of preventing the circulation of diseased animals, of reporting infected farms, and of giving power of entry into infected farms; and he further considered that the report of the Select Committee which had been referred to did not represent the opinion of

agriculturists. He therefore moved, "That a deputation be appointed to wait upon the Lord President of the Privy Council, and call his attention to the recent outbreak of foot-and-mouth disease, and to the withdrawal of the Orders in Council, which previously related to this disease. This resolution having been seconded by Lord Eslington, was put to the vote, and carried by fifteen votes against eleven.

The following deputation was then appointed: The President, Lord Eslington, the Hon. W. Egerton, M.P., Colonel Kingscote, C.B., M.P., Mr. Jabez Turner, Mr. Bowen Jones, Mr. T. C. Booth, and Mr. Rawlence.

Mr. J. Dent Dent gave notice that at the next meeting of the Council he would move a resolution in reference to farm prizes.

THE CENTRAL CHAMBER OF AGRICULTURE.

The monthly meeting of the Council was held at the Salisbury Hotel, Salisbury-square, on Tuesday, May 5, under the presidency of Mr. G. F. Muntz, and there was a numerous attendance of members.

Mr. PELL, M.P., the chairman of the Local Taxation Committee, presented and moved the adoption of the following report from that body:

The Local Taxation Committee are now able for the first time to report that the exceptional charges imposed upon ratepayers have been taken into consideration by the Chancellor of the Exchequer in the financial statement for the year. This evidence of the desire of the Government to modify and rearrange Imperial with some regard to Local Taxation will, your Committee believe, give satisfaction to those who have long striven for a readjustment of this nature. To the unwearied and judicious leadership of their late Chairman, Sir Massey Lopes, must be ascribed a very large share of the success which has so far attended your Committee's policy. A debt of gratitude is due also from ratepayers, alike in town and country, to the Chambers of Agriculture for the hearty support they have given to the cause. Your Committee's sustained and temperate efforts to remove this question from the conflict of class interests, and to claim for it the position it now holds, have been rewarded by the concurrence of all parties in the State in the proposal of the Government to extend to local finance that attention and consideration which Parliament has hitherto almost exclusively reserved for imperial taxation. In addressing themselves to this intricate question we are assured that Her Majesty's Government are not merely yielding to the emphatic decision of the late House of Commons. Nor do they simply reflect the anxiety for redress which a recent general election proved to be so widely felt by ratepayers. Nor even—although the Chancellor of the Exchequer pointedly alluded to the fact—are they solely influenced by that resistance which your Committee felt compelled to offer to all rate-imposing measures. But we are now, at last, informed that Local Taxation is in the view of the Government "upon the whole the object of the highest national interest at the present time." The Chancellor of the Exchequer acknowledges the truth of three distinct grievances. He indicates as the first of these the employment of local rates in Imperial services. He mentioned secondly the exemption enjoyed by many classes of property from "burdens which are borne for the benefit of all kinds of property." Lastly he notes the complaint so justly made "that our system of local taxation is bad and uneconomical because we have a bad system of management, a bad system of administration, and an improper division of the country into local districts." Reserving for future action, as your Committee anticipated, all portions of this great question involving reconstructive legislation, with which in the present political juncture it would be impossible at once to deal, Her Majesty's Government have proceeded in the direction suggested by your Deputation to the Premier on March 23rd. They propose in the meantime to relieve ratepayers from their exclusive liability for the maintenance of pauper lunatics in asylums by a grant from imperial sources of 4s. per head per week. They consent also at once to double the existing subvention paid by the Treasury towards the cost of the police. Further special concessions are made to particular localities which suffer from the withdrawal from local assessment of property occupied by the Central Government; while mines, woods, and game are to be brought within the rateable area. The principles so long advocated by your Committee are thus it will be seen endorsed by the propositions of the Government so far as these go; though ratepayers doubtless feel that no more than justice would be done by a larger development of the policy now entered upon. Your Committee cannot forget that the heavy liability to which counties and boroughs are subjected in having to provide and keep up asylums remains unalleviated. The future question of the assumption by the State of the entire police on grounds alike of efficient and economic administration remains open. While the anomaly of retaining on the rates so large a portion of the cost of administering justice, although

not now dealt with, will necessarily claim very early attention. The Chairman of your Committee has given notice of a question to the Chancellor of the Exchequer with reference to the provision of loans to local authorities by the Public Works Loan Commissioners at 3½ per cent. for their expenses in providing and keeping up such buildings as Lunatic Asylums, Gaols, and Police Stations. The large proportion of the relief now given which will fall to the share of Borough and Metropolitan ratepayers deserves to be carefully noted. Your Committee have invariably insisted on the preponderating interest really possessed by urban populations in this matter. The selection—most just in itself and uniformly advocated by your Committee—of the charge for police, which presses so heavily upon towns, as one of the first objects of relief, affords the most conclusive answer to those who in their desire to shield exempted and favoured classes have not scrupled to represent the efforts of your Committee as solely directed to enrich the landowners of England at the expense of the urban ratepayer. The Prison Ministers' Bill alluded to by your Committee in their last report having been again introduced, notice of opposition has been given by Mr. Spencer Stanhope—a member of your Committee. It is hoped that the proposal to create a charge on the rates for the payment of a prison official appointed not at the discretion of the local authority, but by order of the Secretary of State, will be again defeated. A measure has also been introduced similar to that successfully opposed by your Committee in previous sessions, making the registration of births and deaths compulsory, and increasing ratepayer liabilities for an imperial object entirely under central control. It appears to your Committee that the progress of this bill should be opposed. Your Committee have observed with great satisfaction that the Chancellor of the Exchequer has explicitly declared the reform of our local administration to be one of the objects to which the Government certainly propose to direct attention. This assurance ought to stimulate, in local Chambers of Agriculture, a thorough inquiry into, and an exhaustive discussion of the various points involved. Such questions as the best form and unit of local government, the best means of amalgamating existing authorities, of introducing simplicity and uniformity into the present chaos of conflicting areas and jurisdictions, and of providing an efficient audit of accounts, are eminently fitted for local consideration, and their ultimate settlement will thus be very greatly facilitated. While continuing to devote their special attention to these difficult points, your Committee trust that the result of their offer of a prize for the best essay on the subject may ultimately place them in a position to offer practical and valuable suggestions for the consideration of the Legislature. They would remind ratepayers that the further question of surrendering to local authorities locally collected imperial taxes, which was specially reserved by the Chancellor of the Exchequer to a future occasion, is inseparably connected with a re-arrangement of areas and reconstruction of existing authorities. All such proposals as have been made for the employment of licence-duties for road maintenance or other local purposes, and the whole question of general highway legislation, are necessarily suspended and postponed till some agreement be arrived at on the complex administrative problems to which your Committee deem it their duty now to direct the serious attention of the Council.

Mr. CALDECOTT, in seconding the motion, observed that the proposed relief per head for the maintenance of lunatics was considerable, though it did not include the very large yearly expenditure incurred for the building and maintenance of the asylums. The charge on that account was, in his county, Warwickshire, £6,800 a-year merely for the interest on the debt and keeping the buildings in order. Then, as to the police, nominally the allowance was one quarter, but the expenditure was £16,000 odd a-year, but the nominal quarter was £3,300 only. The difference would be about a half-penny in the £ on the police, and something like three farthings in the £ to the Union for the maintenance of lunatics.

The motion was then put and agreed to.

Lord HAMPTON next proposed :

That this Council views with satisfaction the financial proposals of the Government upon the question of Local Taxation, believing that such proposals will prove to be an introduction to still further measures to be brought before Parliament next session for the complete and satisfactory revision of Local Taxation and administration.

The noble lord said that, in making this proposition, he desired to express the satisfaction which they must all feel at the first appearance of his hon. friend (Mr. Pell) as chairman of the committee, and to congratulate him on his good fortune at the commencement of his duties in being able to make such an agreeable communication to the Chamber. He wished also to touch for a moment upon a subject adverted to in the report, namely, the unsatisfactory manner in which for a great number of years, ever since the Government of the day professed to give to counties one-fourth of the cost of the police, that undertaking had been fulfilled. The promise of the Government was one-quarter; the realisation was one-fifth (Hear, hear). Taking into consideration those portions of the police expenses which the Government did not practically repay, he did not think that the actual allowance had ever exceeded one-fifth, instead of one-fourth; and to that extent, therefore, the professed relief had never been given. Now the present Government had announced, and the announcement was very satisfactory, that they were willing to increase the allowance heretofore granted, and make it one-half, in place of one-fourth; and one of his objects in rising was to suggest that it might be well if some member of the House of Commons were to test the intentions of the Government on the subject by inquiring whether it was to be a real half or a diminished ratio of one-half, as had been the case when only one quarter was allowed. It would be advisable to draw attention to the fact that previous promises had not been fulfilled; and he should like to test the fact, whether this new promise was to be fulfilled, or only to the extent that the previous offer had been.

Mr. BROWNE (Lincolnshire) seconded the motion, and remarked that he hoped the proposal of the Government was but the beginning of a complete and satisfactory settlement of the questions both of local taxation and local administration.

Mr. CORRANCE (East Suffolk) said it would cause him very considerable surprise if the financial proposals of the Government were looked upon by the agricultural interest with any feeling that approached to satisfaction (Hear, hear). Even taking the question of local taxation, how did they stand? Why they were given the least possible sum in the least satisfactory manner. The noble lord had congratulated them upon the report; but he had lately read a speech delivered in the House of Commons pointing out how little good the proposed revision would do to the agricultural interest, seeing that two-thirds of it would go to the towns. It might seem to the Government necessary to purchase the support of the boroughs; but to those who had worked arduously in the cause it appeared a lame and impotent conclusion. The utmost that could possibly be received from the Government subvention would not be much more than two millions, and of that two-thirds would be for the benefit of the boroughs. Now, he had constantly opposed Government subventions as dangerous in principle and yielding very little useful results; and Lord Hampton had himself thrown out a doubt whether half of this magnificent promise would reach the agricultural interest. When he heard that, he felt that it might even be doubtful whether it would realise the expectations of the seconder of the motion that the measure was a prelude to further reforms.

Mr. H. BIDDILL (East Suffolk) saw with satisfaction that a beginning had been made; but that was all the satisfaction he had; for the amount voted was a mere bagatelle, and it that was all they had been fighting for, then whilst their labour had been great the results were small (Hear, hear). He himself should save about 2d. in the pound, and that as a remission of taxation was a very small matter to be satisfied with.

On the resolution being put from the chair, it was passed with eight or ten dissentients.

Mr. BIDDILL then proceeded to move—

That this Council has seen with surprise and disappointment a surplus of six millions distributed by the Government without any attempt to reduce or repeal the Malt-tax. This resolution, he said, was much the same as the one which

had been adopted by the East Suffolk Chamber, but in the latter the word "bitter" was inserted before "disappointment;" and he could assure them that "bitter" was not an exaggerated description of the feelings which prevailed in Suffolk at the omission of the Malt-tax from the financial scheme of the Government. He had been a Conservative all his life, and had seconded the nomination of a Conservative candidate at five different elections in his county; and he deeply grieved to find that the Conservative party and the Government they had placed in power, and whom he regarded as having earned the title of the "farmers' friends," had acted as if their supporters would submit to anything they might propose (Hear, hear). In 1852, Mr. Disraeli proposed to abolish one-half the Malt-tax, and at that time there was no surplus of six millions; but, to enable him to do that, he meant to impose a house-tax, or something of that sort, which made his Budget unpopular. When, therefore, the present Government found themselves in possession of a surplus of six millions, with no claim upon it except that which Sir Massey Lopes pressed, he contended that they were bound in consistency to apply a portion of it to the Malt-tax (cheers). Moreover, he should like to ask some of the Conservative members this question: If they had declared at the late election that they were in favour of a budget which, with so large a surplus, did not give a single shilling for the reduction of the duty, would not many of their supporters, feeling that their claim was rejected almost with contempt, have availed themselves of the ballot-box, if not to give their votes against them, at least not to record them in their favour? He was sorry to speak in this way of the party to whom he had looked for relief, and who were committed by their own words to deal with the Malt-tax. From the Whigs he had expected nothing; but he would do them the credit of saying that they had always spoken out plainly on this subject, and had not encouraged expectations never intended to be realised.

Mr. E. HENEAGE (Lincolnshire) in seconding the resolution, wished to know whether the Chamber was prepared to see its prestige destroyed, by blowing hot at one time and cold at another—at one time the instrument of attacking a government, and at another muzzled, because some of its members belonged to a government. If that were the case, he thought they might turn their attention to other things, and spare themselves the trouble of coming there. Last year, when the question of the Malt-tax was before the Chamber, it was asked who was to lead; and everybody felt that, if Col. Barttelot did not, Mr. Clare Read was the proper person to bring it on in the House of Commons. Well, he saw that hon. gentleman now present. He did not know whether he was muzzled or not; but if not perhaps he would let loose his tongue and explain (laughter). [A discussion then took place, in the course of which Mr. Read declined, in deference to the etiquette of the House of Commons, to take precedence of Colonel Barttelot.] After the present Parliament met Mr. Fielden introduced the subject of the Malt-tax in the House of Commons, and then Colonel Barttelot called him over the coals for it. Therefore the Chamber ought to express its satisfaction at Mr. Fielden having led "a forlorn hope," and show that it was not willing to be let down as its leaders had let it down to suit their own convenience. It was the duty of the Chamber to be consistent, no matter what political party might chance to be in office (cheers). As to the Malt-tax, he did not see how they could hope that anything was to be done with it if not this year, when there was surplus revenue of six millions for distribution. Calculations had been made to show that the Malt-tax might be reduced one-half without serious detriment to the Exchequer, provided the drawback on beer sent abroad were done away with. He should like, before the Chamber separated, to see a vote of thanks passed to Mr. Fielden and the seventeen gentlemen who gave him their support in the House of Commons the other night on this question, and a resolution carried, pledging the Chamber to continue its efforts to get a reduction of the duty, whoever might be in power (cheers).

Professor BUND (Worcestershire) complained of the Budget that it did not give relief to agriculturists where they were exclusively burdened.

Mr. S. STANHOPE, M.P., said the question they ought to put to themselves was whether they had managed the agitation for the repeal of the Malt tax well? In his opinion they had not, and that all parties connected with the production of beer

should have acted in concert, by which means they would have brought an influence to bear so powerful that the Government must have taken the question into consideration. But what happened? When the deputations from the brewing interest went to the Chancellor of the Exchequer they threw over the growers of malt; thus a serious division at once appeared in the camp, and it became easy for the Minister to play off one section against another. It also appeared that the farming interests were not unanimous as to the advantage which would accrue from the repeal or diminution of the tax. Further, there was a pretty general feeling throughout the country that a great deal too much beer was drunk by the public at large, that a vast sum of money was wasted on beer and spirituous liquors, and that therefore this tax, being paid in great part by the consumers, it was not desirable to relieve them of the burden. With regard to Mr. Fielden's motion, he thought that hon. gentlemen wise in bringing it forward; but he questioned whether he was wise in dividing the House upon it. Supposing it to have been carried, of course the Government could not take back their Budget; they would therefore have had to resign. (Cries of No.)

Mr. STORER: They did not resign on the Irish Fishery question the other night when they were defeated (laughter).

Mr. STANHOPE: But on such a matter as the Budget, they could not have accepted an adverse decision. As a repealer of the Malt-tax himself, he could not join Col. Barttelot against the motion, and therefore withdrew and did not vote at all ("Oh!").

Mr. C. S. READ, M.P., said: Having been so pointedly alluded to by Mr. Heneage, I will now let him know whether I am muzzled or unmuzzled. When I am in the House of Commons it may be that I have a padlock on my lips; but here I speak as a farmer, and a representative of the Norfolk Chamber of Agriculture, and I would say that, so far as this resolution goes, I certainly was very disappointed at the Budget of the Government; but I cannot say that I was in any degree surprised. Budgets in these days are something like Cheap John's razors, which were made to sell and not to cut, so Budgets are made to pass (cries of "Oh!"); and I contend that if a Government ten times stronger than the present had proposed to repeal the Malt-tax, it would not have been in existence another day ("Oh! oh!"). Nay more, I believe that if the present Government had proposed to remit half the tax, it would not have been in existence another week ("Oh!"). Yes, I say that advisedly (A Voice: "Bosh!"). Because, if you look at the results of the late elections, what do you find? Do you find that the repealers made any headway at all? Was the Malt-tax made a question on any hustings? (A Voice: "There was no time.") No time! Why, if it had been a new question I should have thought there had been no time; but the Malt-tax is older than that by a good deal. It is as old as I am; and I believe that I shall die before it is repealed. Besides, at the last election the farmers themselves were not united on the subject. Take my own great barley-growing county as an example. I can assure you that I never had a question asked me about it, or heard even a wish expressed on the subject. I will take the county of the gentleman who seconded this resolution, and I believe that if he polled the farmers there he would find a majority in favour of continuing the tax ("No, no"). Therefore, I say, when we come to consider that out of 489 members for England and Wales, there are only 187 county members, and that the majority of that 187 do not care about the tax, while some of them are in favour of its continuance, I do not think that the Government would have been justified in proposing the repeal of half the tax, and unless you reduce it by one-half you will do very little good. (A Voice: "You don't think them justified?") I do not think they would have been justified, because, in my opinion, they could not have carried it. A gentleman near me says, "Transfer it to beer." Then see what a kettle of fish you get into! Look at all the brewers!

Mr. ARKELL: Look at all the farmers.

Mr. READ: What is the good of talking about the farmers? Look at your representatives in Parliament. Who are your representatives?

Sir G. JENKINSON: As one of Mr. Arkell's, I beg to say that I voted for Mr. Fielden's motion (cheers).

Mr. READ: I am speaking generally; and I say that the brewers are better represented than the farmers. I know there are individual members who support Mr. Arkell. Sir

George Jenkinson was one of the immortal seventeen who went into the lobby with Mr. Fielden, and he was very right in so doing, because I am sure the majority of his constituents are of opinion that the Malt-tax should be repealed. But if he will go to the West or North of England, to Scotland, or Ireland, he will find that the question of the Malt-tax has no interest for them at all, and that they are rather favourable to its continuance. I said last year in the House of Commons that the man who had done most to prevent the repeal or reduction of the tax was Mr. Lowe. Four years ago he took off half the sugar duties, and said that it was to be finally; but last year he halved them again, and then I felt sure that, once reduced so low, it was impossible for any Government long to retain them. Even the most ardent lover of the Malt-tax, if it had been reduced from 2s. 8½d. to 8½d. a bushel, would have said, "Don't hamper and restrict the trade of all who deal in malt or beer in the manner in which this 8½d. will do," and I am equally certain that it was just and reasonable not to hamper the sugar trade by keeping on a small duty which caused great inconvenience to the trade, and involved considerable trouble and cost in the collection. The proper time to bring forward an abstract motion like this is before the Budget. When it is brought forward after, you must run it against something. If it had been malt against sugar, anyone could have understood it; but here was a regular tilt against the Budget, which, if successful, I am quite sure must have sent the Government to the right-about (Hear, hear). My friend here, though a good Conservative himself, says, "So much the better" (laughter). Again, I concur with Mr. Stanhope that there is a strong, growing feeling throughout the country that, so long as the working classes indulge so immoderately in the use of beer, so long ought they to contribute towards the public revenue in the shape of a beer-tax. In the very first speech I made when I went to Parliament in 1865, I suggested that there should be a beer-tax; and, although I know that that is an unpopular thing to say in this room, I know that it is a more unpopular thing to say in the country that you are going to throw the entire burden on those who drink beer. Still, I say that you will never get the Malt-tax repealed in these days ("Oh!"). And as to putting it on beer, when once it is shifted in that way, you would find that the working classes, who are now supposed to govern the country, would in a very little time get it off. What is more, if the county franchise is extended to the agricultural labourers, not a session will pass before the obnoxious tax is repealed (Hear, hear). As to what Mr. Heneage says about the etiquette of the House of Commons, I thought that, as Colonel Barttelot had taken the lead on the question, he ought to have been requested to undertake the duty of bringing it forward again, and if he declined that, then it would be open to some other private member to make any proposition he pleased on the subject.

Mr. STORER, M.P., though the seconder of Mr. Fielden's motion, had very little to do with the tactics pursued by the hon. gentleman; and was certainly not accountable for the division. Having throughout his life advocated the repeal of the Malt-tax, he thought that on the first occasion that it came before the new Parliament, with a Government that had ridden into power on the backs of the agricultural interest, and many of whom had for years pledged themselves to repeal, it was not for him to desert Mr. Fielden, and he did not suppose that they would be deserted by the Government. Of course, the question of policy was an important consideration; but the country did not expect when a new ministry came into office that it would begin by pursuing a policy diametrically opposed to that which it had previously followed. He gave the Government the highest praise for the manner in which they proposed to deal with the subject of Local Taxation. Still, he thought they might also have given some distinct utterance to show they were disposed to do justice on the score of this particular tax, and he believed that, if Ministers had announced a decided policy on the subject, Mr. Fielden would not have pressed his motion to a division.

Lord HAMPTON extremely regretted the abandonment of two millions of revenue by the repeal of the sugar duties, without any adequate relief, so far as he could make out, to the consumers. At the same time, if it were an unwise step, the blame of it must rest not on the present Government, but on their predecessors. With regard to the Budget, he was much more inclined to express surprise at the Government having grappled so promptly with the question of Local Taxation.

tion to the extent they had done than dissatisfaction at their not doing more; especially when he remembered that the Chancellor of the Exchequer had distinctly stated that the whole subject was to be dealt with next session. As to the Malt-tax, he must say that he had heard with regret the terms of severe censure applied to the Government, and the imputation that they had acted in bad faith. With Mr. Read he must say that he could not join in expressing surprise that they had not made some proposal respecting that tax. He held that, in dealing with taxation, the Government, whatever their party, were bound to consider how they could do the most general good; and Local Taxation touched the whole country, while the Malt-tax did not. At the same time he should be glad to see some arrangement, as to that tax, which would be satisfactory to the country at large.

Mr. WHITAKER (Worcestershire), though not satisfied with the Budget, regarded it as a step in the right direction. In his opinion the only argument in favour of repealing the Malt-tax was that farmers would then be able to feed their cattle with an excellent food. The remission of half the duty would be of no good at all.

Mr. HOSLOP (West Kent) had for years been a Malt-tax repealer; but his views on the question were greatly modified, by observing the manner in which the labouring classes, particularly in the Northern and Midland counties, had spent their money on beer and other intoxicating liquors, instead of making provision for a rainy day. For that reason he had declined to accompany the deputation to the Chancellor of the Exchequer; and he held that it was not fair in the Conservative party to fire this old rusty gun when they were in opposition, and throw it away when they were in power (Hear, hear). That, however, the Conservatives had done twice; and he now considered the question to be dead and buried (cries of "No"). Mr. Gladstone came forward at the beginning of the year with a proposition that was noble. He proposed to sweep away the Income-tax; and there was something grand about that; but the Budget of the Conservative Government was an old woman's budget (Hear, hear, and laughter).

Mr. PHIPPS, M.P., spoke briefly in approval of the main features of the budget.

Sir G. JENKINSON, M.P., remarked that if there was a padlock on Mr. Read's lips in the House of Commons, that was a matter which concerned Mr. Read, who might ask himself whether his constituents had sent him to Parliament for any such purpose. In short, the hon. gentleman had thrown so much cold water upon the question of the Malt-tax, that he (Sir G. Jenkinson) was utterly surprised. He (Sir George) was one of the "immortal seventeen" who went into the lobby with Mr. Fielden (cheers). He had been told previously to doing so, "if you support the resolution, you will place the Government in such a difficulty that they will be forced to resign"; but his answer to that was simply—"Bosh"; for he held that, pledged as he was on the question, he was bound to vote for the reduction of the tax; and what Mr. Fielden's motion affirmed was that the time had arrived when it ought to be reduced. When Mr. Lowe, in 1873, proposed a further reduction of the sugar duties, Mr. Read asked him why he did not "try his hand at malt" (Hear, hear). The time had, therefore, arrived for dealing with the subject. And then, on the 4th March last, the Chamber agreed to 14 reasons, which were submitted to the Chancellor of the Exchequer, in favour of repealing the tax; yet now, in two short months after, they were told it was nonsense to talk of repeal! What was the cause of this change? (cheers and laughter). If the tax was to be considered a good tax, let the Government say so. Don't let members of Parliament be misled into agitating for its repeal when in opposition, and dropping it as soon as their party got into power. For his part he did not mean to be made a fool of in that way (cheers).

Col. RUGGLES-BRICE, M.P., was also one of the minority who voted for Mr. Fielden's motion; and as an old repealer he regretted that the minority was so insignificant, for he feared that it would tend to injure a good cause. But he did not look with so much "surprise and disappointment" at the action of the Government on the question, as he did at the variety of opinions he had heard in the Chamber that day. He did not think the Government could have given them any substantial assistance; and if blame rested anywhere, it was with those county members who had always pledged themselves to repeal

reduction. Instead of seventeen, seventy or eighty members ought to have gone to the lobby that night; and had they done so, ground would have been gained instead of lost.

Mr. GARDNER, as a Conservative, declared that it was entirely owing to the action of his own party that the question of the Malt-tax was in its present position. Had the party acted up to their principles the burden might, by this time, have been materially lightened, if not wholly swept away.

Mr. ARKELL said that, if the resolution before the Chamber were not carried, he should conclude that they had been acting a sham all through, and that the House of Commons was but a reflex of the sham (cheers). He complained that the question of local taxation had been "edged in" to the disadvantage of Malt-tax repeal, and added that it was not the first time that the tenant-farmers had been pushed aside by the landlords. To the farmers nothing could be more insulting than the Budget Mr. Lowe, when Chancellor of the Exchequer, insulted them openly when he received their deputation, and he (Mr. Arkell) was beginning to think whether, after all, John Bright was not their best friend (Hear, hear, and laughter). Better take Mr. Lowe's advice to go home and trust to the sunshine and showers, than come here to enlighten hon. members on their grievances, as it was called, and submit to such treatment. Talk of a Conservative Government, indeed; one would think there had been no change of Government at all (Hear, hear, and laughter). He repeated that they had been acting a sham, and that their representatives in Parliament had represented a sham (Hear, hear).

Mr. WEBB was not only disappointed at the Budget, but was of opinion that the farmers had been deceived by their own representatives, and by the Government which had been placed in power by landed interest (Hear, hear).

Mr. H. NELL observed that Mr. Lowe stated the truth when he told one of the deputations from the Chamber that the farmers had allowed themselves to be made the battle-dore and shuttlecock of party. At any rate they had been ignored in the Budget, and in that position he believed they would remain. The Budget was a commercial Budget, designed to gain popularity; but, as Tory voters, they had been deservedly used, while they now discerned who were and who were not their friends in Parliament.

Mr. FORD (Warwickshire) had never felt more astonished than whilst listening to Mr. Sewell Read's speech. Generally he heard the hon. gentleman speak with pleasure and satisfaction; but to-day the member for East Norfolk had come out in an entirely new character (Hear, hear). He had always thought him, not only the "farmers' friend," but a strong advocate of repealing the Malt-tax, and he thought he had heard him give utterance to that room to opinions which were diametrically opposed to those with which he had surprised them that day. He could not account for it, unless it was that, Mr. Read having entered into another sphere (a laugh), "a change had come o'er the spirit of his dream" (Hear, hear, and a laugh). To him (Mr. Ford), indeed, he seemed to be hardly the same man (laughter). The hon. gentleman said that, if ministers had proposed a repeal or reduction of the Malt-tax, they would have been speedily ejected from office. Well, he did know how that might be, but he thought that, if a political party or a private person advocated or encouraged a certain line of policy when out of office, and on coming into office endeavoured to carry out a totally opposite policy, they acted in a manner that was not creditable to them either in their collective or individual capacity. Oh! but, said Mr. Read, "Malt-tax was not mentioned at least to me at the late election." Perhaps not; but why? Simply because everybody believed him to be a staunch repealer. He did not mean to say that the Government ought to have proposed repeal. If they had admitted the claim of the farmer, that would have been so far satisfactory; but not having done so they had lost cases in the country.

Mr. D. LONG believing that ministers would do something at the earliest possible opportunity with a tax, proposed that the discussion be adjourned for six months (Th! and laughter).

Mr. CHAPLIN, M.P., seconded the amendment, and said he was not surprised at the variety of opinions expressed in the course of the discussion, for it accurately represented the diversity of views which prevailed in every constituency on the question. He could not admit that the Budget was the production of an old woman, as one gentleman had described it, and thought the Chancellor of the Exchequer sharp enough to know that there was this great divergence of opinion. On

that ground, therefore, he had declined to deal with the Malt-tax, and turned his attention to others upon which the community at large were more unanimous. A very unfair view had been taken of what had occurred in the House of Commons the other night. Nor were the Government treated very fairly; and when he heard such things said about them, he called to mind that it was owing to Mr. Disraeli that the first important vote he gave in the House of Commons was in favour of the repealing the Malt-tax; and no man could have carried out the views he then enunciated in a fairer or more straightforward manner than the right hon. gentleman had done. Let them remember that the Government were at this moment in a peculiar position; that they had only just come into office, and had had but a short time to consider and mature their financial proposals. Therefore, the charges made against them that day were unfair and inopportune (No, no, and I hear, hear). It was not for him to defend Mr. Read [who had just before retired from the room]; but when gentlemen taxed him with holding different views in and out of office, he thought they might have done so when the hon. gentleman was present to answer for himself (I hear, hear).

Mr. J. TURNER described the Chamber as in the position of an individual who, having entered two horses for a race, declared to win with both, and gentlemen from the barley-growing counties were sorely annoyed that both horses—Local Taxation and the Malt-tax—had not run a dead heat and divided the stakes. Still, they had something to congratulate themselves upon; for one of their horses had won, and they would touch some of the money. As to the resolution, he did not see there was anything in it to alarm the most sensitive member of Parliament.

Col. PAGET, M.P., could not say that he was either surprised or disappointed at the Budget; for the simple reason that he thought Local Taxation the right horse to win.

Mr. STORER, alluding to the remark of Mr. Chaplin, that the Government had not had sufficient time for consideration, reminded him that the question of the Malt-tax was a much older one than local taxation.

After some further discussion, Mr. BIDDELL replied, and in doing so said he was "vexed to the heart" at hearing Mr. Read, with his cool head and sound judgment, talking so differently after coming into office from what he did before. [A Voice: "Muzzled."] He always thought Mr. Read a staunch, able, and earnest repealer; but the first speech he made to the Chamber after joining the Government was to throw cold water upon the cause. Well, Mr. Read was member for Norfolk, and there were two members for Essex and one for Suffolk, who were also in the Government; but it instead of Mr. Read telling the farmers that they were not unanimous, he and his three colleagues representing the principal barley-growing districts had said to the Government when asked to join it, "We will do so on the understanding that some notice shall be taken of the Malt-tax," there was no doubt that such a simple recommendation would have been attended to.

The resolution was then put from the chair, and carried by a considerable majority amid cheers.

Subsequently, Mr. H. NEILD moved, and Mr. T. WILLSON seconded a vote of thanks to Mr. Fielden, and Mr. Storer, his seconder, for their recent action in the House of Commons on the Malt-tax question. The motion was opposed by Mr. PHIPPS, M.P., who likened the proceeding of the "immortal seventeen" to the famous Bakaklava charge; but it was agreed to with only a few dissentients.

The next business on the agenda was a series of resolutions relating to compensation for unexhausted improvements, the first of which was:

That the present position of agriculture and the general welfare of the country demand immediate legislation respecting the tenure and occupation of agricultural land.

Mr. CHAFLIN, M.P., wished to make a communication to the Chamber on this subject. No one present could dispute the proposition laid down in the resolution; but he knew that the subject was engaging the attention of Ministers at that moment, and they would in all probability take into their serious consideration whether it would not be their duty to deal with it in a practical form on an early day. He presumed, however, that legislation in the present session was out of the question. Therefore, if he made any alteration in the language of the resolution, it would be to eliminate the word "immediate." Legislation in a hurry on any subject was undesirable,

and that was a question on which, of all others, the most careful and anxious consideration was needed. Still, he happened to know that the subject was engaging the attention of the Government, and it would be for the Chamber to judge how far it was desirable to proceed with the discussion.

Mr. FORD having, on account of the lateness of the hour, moved that the discussion be adjourned,

Mr. PELL, M.P., in supporting the adjournment until the next meeting, stated that then the Chamber would be in possession of the report of the Committee on Agricultural Customs.

A short conversation ensued, which terminated in the motion for adjournment being agreed to.

On the motion of Mr. W. STRATTON, seconded by Mr. ADKINS, a Deputation was appointed to seek an interview with the Lord President of the Council to urge the importance of giving effect to the views of the Central and Associated Chambers concerning the Prevention of Contagious Diseases of Animals.

Mr. NEAID moved, and Mr. ARKELL seconded, that a copy of the resolution on the Malt-tax be sent to the Prime Minister.

Capt. CRAIGIE suggested that it should be accompanied by the numbers who had voted for and against it.

Mr. T. WILLSON: There were at least 50 for it and about 10 against it.

The motion having been agreed to, the meeting separated.

THE CENTRAL CHAMBER AND THE BUDGET.

BY AN EAST ESSEX FARMER.

Bravo! A vote of censure on a Government of "farmers' friends" from the Central Chamber of Agriculture! That is the most spirited action which the Chamber has ever taken. The revulsion of feeling since the previous meeting, at which the accession of the Conservatives to power was hailed with expressions of rapture worthy of an Essex Conservative Club, must have been considerable. The Chamber has been sold and doesn't like it. Mr. Biddell has done the Chamber a good turn in proposing a resolution giving such unqualified expression to a just resentment. It is gratifying to see that the motion was carried by a large majority, and that in spite of an elaborate piece of special pleading by Mr. Read in defence of the Government. It would have been right but not expedient to reduce the Malt-tax, was the burden of Mr. Read's apology. Budgets must be made, not in accordance with what is just and beneficial, but in harmony with the demands of popular prejudice. Like razors, they must be made, "not to shave, but to sell." Well, the present Budget has undeniably been made to sell—the farmer.

Mr. Read expressed himself to be disappointed but not surprised at the Budget. Who is surprised? Only those simple creatures who believed in the greatest of all political humbugs, the "Farmers' Friends." Everyone else expected that the conservatives would find out that the farmers did not want the Malt-tax reduced as soon as they got into office. It is a "way of putting things" that officials always acquire, to declare that the country does not want what *they* don't wish to give. Farmers have been crying out for the repeal of the Malt-tax till mental hoarseness has almost stopped their utterance, and now they are told that they don't want it. 'It had been stated that even in barley-growing counties the farmers themselves were not unanimous about the subject of the Malt-tax," says my Lord Hampton. Indeed! But are they unanimous about anything? It would be idle to assert that an immense majority of barley growers are not in favour of repeal. Almost the only exceptions are the growers of barley of a superior quality, and the Scotch farmers who like whiskey better than beer. But the alleged indifference of the farmers is not the only plea offered in excuse of

not repealing or reducing the tax. Some of the farmers do not want it, the working classes want something else, the commercial classes ask for another reduction, and the brewers object to it. That is the full defence of the Government apologists. Supposing all this to be true, what does it all avail against the plea of those large numbers of barley growers who declare that the retention of the tax is grossly unjust to them, and a violation of the principles free of trade? The only argument against repeal that has the slightest moral force is this, that the Malt-tax is not a tax upon barley, and that argument requires a great deal of proving.

But would the reduction of the Malt-tax really have been unpopular? The assumption that it would be is, to say the least, very questionable. The majority of our newspapers have always opposed it because the farmers ask for it. They want no better reason, at least the Liberal press does not. The hereditary rancour of Liberals against all things agricultural, except what they can eat and drink, rises beyond all reason. It is a transmitted instinct. As for the Conservative press, that is generally in favour of repeal when the Liberals are in power, and fluds out, like Mr. Read, Lord Hampton, and Col. Barttelot, that the farmers do not want it, as soon as the Government changes hands. If the working classes, the great beer consumers, do not want the Malt-tax repealed, it must be because they have been utterly misled as to the effect of repeal by their "educators." If they knew that repeal meant purer and cheaper beer, they would not rest whilst the Malt-tax endured. As far as one large section of the working-classes is concerned, Mr. Read confessed as much when he said in reference to the proposed shifting of the tax on to beer that if the agricultural labourers had the franchise they would very soon get rid of a beer-tax. We shall see how long they will endure the Malt-tax. Let us hope that Mr. Read's lugubrious prophecy that he will die before the tax will be repealed will be falsified. If he does his best to admit the farm-labourers to the franchise, he may live to see free trade in farm produce.

The Times, which opposed the repeal of the paper duty

with such ingenuous and unblushing selfishness, makes the vote of censure a text for a sermon on the enormity of making class interests a political cry: "We are afraid the farmers will find this is but another instance of the un wisdom of making their own class interests the measure of their expectations from a Government." Now it is only too evident that the farmers do this less, or that they do it in a more blundering manner than any other section of the people, since, with more than their share of political power, they are less cared for by Parliament than any other class of voters. If they made "their class interests the measure of their expectations from a Government," they would surely take a little more care to get represented in Parliament. Of course no class should make its requirements the "measure" of its political aims; but it should, and must, unless it means to be utterly neglected, look after its own interests. It is because the farmers have relied too much on "expectations" from Governments that they have got so little. Under our enlightened system of government it is the rule that "he should take who has the power, and he should keep who can." In this great political game of "grab" the farmers have shown themselves to be the slowest players of all the classes who have been admitted to the national card-table. Instead of "grabbing," they have only grumbled; and this very vote of censure is only another instance in point. Having neglected to "grab" in the general election, they can only grumble now. This sermon of the Rev. Father *Times* is by no means new to the farmers. They have slept under it long and often, whilst all other sections of the community were helping themselves to the good things which Parliament has at its disposal. They have, in fact, long arrears to make up before they can afford to be unselfish. When they have helped themselves to Tenant-Right, Game-law reform, Land-law reform, Malt-tax repeal, and a few other trifles that they have been such simpletons as only to ask for so long, they will then, and not till then, start fair with other classes in that great philanthropic political race of the future in which every one will try to let his brother win.

SADDLERY AND HARNESS.

The manufacture of leather in its various forms and qualities, and its making up into articles of general use, has grown into a most important branch of national industry, and is one that is necessarily largely dependent on the pastoral interests, home and foreign, for the raw material. To show how general and extensive the leather manufacture is, it may be stated that in Great Britain alone there are nearly eight hundred tanneries, and that the value even of the tanning substances employed to convert the hides and skins into leather exceeds £4,500,000 annually. The value of the imported hides and skins is nearly £7,000,000; while those obtained at home must be about the same amount. We export leather goods worth about £3,700,000, and we use at home probably about three times that quantity. So that, adding the plant of the tanneries, and the foreign leather goods imported, the aggregate annual value of the leather manufactured in the kingdom cannot be less than £33,000,000. When it is also considered that nearly half a million persons are directly and indirectly interested in the leather trade and manufacture, this subject well deserves a few lines of description. The home-slaughter of animals would scarcely supply half our requirements for leather, hence the growing importance of the import trade in hides, and our large dependence on India, Australia, and the River Plate district. The hides

from South America are especially esteemed, because the skins of wild cattle, or those roaming at large over extensive pasturage, are found to be stouter, and preferable to those from domestic animals. In 1872, out of a total of 1,436,000 cwts. of foreign hides received, 580,000 cwts. came from India and the colonies, and 434,000 cwts. from the South American States.

This year one of the special manufactures brought under the attention of visitors at the annual International Exhibition, at South Kensington, is leather, and particularly saddlery and harness. The miscellaneous and general applications of leather are but poorly represented, for with the exception of machine belting, fire-hose, trunks, and book-binding, the collection is almost restricted to saddlery and harness — boots and shoes, and gloves being entirely shut out. The applications of leather are so numerous, that it is difficult to do justice in a short article to the vast range of objects into which it is converted; we will, therefore, limit our remarks to one section of objects—Saddlery and Harness, which is the most extensive and interesting of the applications shown. Not that we consider this section in any way complete, for the collection mainly consists of show goods and the finest class of objects, leaving out of consideration altogether the principal useful draught harness, and the various agricultural applications

of leather. The cart and the plough seem to be ignored altogether, and the principal saddlers address themselves to the wealthy and the nobility, overlooking the middle-classes and the farmers, and the ordinary traffic and carrying trade.

Still there is much to admire in the handsome show-cases, filled with hunting, riding, military, and other saddles, bridles, whips, horse-clothing, &c. And this brilliant display proves how important is the manufacture—how extensive the trade in those specialities, in which as an equestrian nation, and intense lovers of horse-flesh, we so greatly excel. The number of horses returned by the occupiers of land in the kingdom is nearly 2,000,000; but then this is exclusive of those employed in the carrying trade, and those used exclusively for pleasure.

If we fall back to our classic remembrances, we find the rude and simple equipment of the Greek horseman transmitted doubtless to the Romans. A wild beast's skin, kept on by a flat girth of leather, a bit of a single piece, even more severe than the Arab bit. The horseman was assisted by his spear to mount, for stirrups were not used till the time of Constantine. The early Gauls were similarly equipped. Tracing down the equestrian portraits and battle-scene of later ages we can easily follow the changes in equipments. Bits with long ends, massive saddles with rolled or raised sides, breast-pieces, crupper, carrying straps, &c. We have interesting accounts of the changes and specialities of saddlery and trappings in the works of various writers, from that of Pluvinel, riding-master to Louis XIII., down to the elegant, illustrated work of the Duke of Newcastle, and the writings of De la Broue, De Solleysel, and De la Guérinière, French authors. The old-fashioned quaint French saddles have for the most part now given place to our excellent and handsome English. At all the great International Exhibitions the specimens of English saddlery have been the admiration of foreigners; and certainly no other nation can compare with us for excellence, cheapness, and serviceable articles in this class of manufacture. The French in their military equipment too long persisted in the use of hard and heavy saddles, more or less diversified, it is true, for their light cavalry, line, and reserve; but all alike in their great weight, their hard plates and saddle-bows, and their speciality of wounding the horse's back.

The harness and saddlery produced in this country is of a very superior character, whether as regards workmanship or beauty of design; and hence it commands favour alike in Europe, America, India, and the colonies. The French, in their official reports on the International Exhibitions, are forced to admit that in the preparation of skins for saddlery we are far their superiors, as witness the following extract: "The hog-skins for saddles, and the cow and calf skins for saddlery, leave nothing to desire: their suppleness, whiteness, and brilliancy far excel the products of other countries, and are perfectly treated by the English curriers." This is high praise from a rival manufacturing nation, which does most things well.

The saddlery trade is well known to have flourished for years in this country. The greatest possible excellence of material, and the most minute attention to the details of workmanship are required to produce perfection in the manufactured article, and for these qualities combined Great Britain has long been celebrated. The trade in England, as has been well observed, is in a sound and healthy condition. It is not subject in the same degree to the fluctuations incidental to other branches of trade; and, notwithstanding the successful attempts, both in British colonies and in foreign countries, to produce articles of saddlery, the export trade of England continues gradually to increase. In 1855 the exports were

only to the value of £226,659; in 1863 they were £341,668. Since then, with occasional fluctuation, they have averaged rather more; in 1871, indeed, they reached £546,550. The shipments go principally to South America, India, Australia, the Cape, and other colonies. Australia, however, has of late years been giving much attention to home manufactures, and its preparation and applications of leather are highly creditable to a young colony. It has also special advantages for manufacturing saddlery and harness suited to the peculiar wants of the settlers, and the hard work it has to endure. The home use of saddlery and harness must be enormous, looking at the great traffic in large towns, for cabs, omnibuses, carts, and private vehicles, to say nothing of the agricultural demands on our farms. Last year, carts and carriages and other vehicles were shown at the Exhibition, and it is much to be regretted that a more general display has not been made this year of ordinary and useful saddlery and harness for cart and other draught horses.

The manufacture of leather into saddlery, harness, and portmanteaus is carried on in almost every town of importance, although there are some few, such as Walsall and Northampton, that have a pre-eminence for leather work, and London is certainly noted for the extent and importance of its leather industry. Some of the saddlery factories are so important that they come under the supervision of the inspectors of factories, ten at least, with nearly 1,400 hands, employing steam-power; while in England and Wales alone, according to the last census, there were upwards of 23,000 persons employed as workers and dealers in saddlery, harness, and whip-making.

CARRIED UNANIMOUSLY!—At a special meeting of the Warwickshire Chamber of Agriculture on Saturday, May 2, at Warwick, Mr. Scott, president, in the chair, Mr. Caldecott moved a resolution approving of the financial proposals of the Government. Mr. F. Everitt seconded the motion, which was carried unanimously. Mr. Simpson brought forward the subject of "Legislation with respect to Compensation for Unexhausted Improvements." He proposed: "That this Chamber, without pledging itself to details, approves of the principle of compensation to tenants for the unexhausted value of their improvements, and to landlords for dilapidations and deteriorations caused by the default of tenants, and desires that security for this purpose, where not given by lease or agreement, should be provided by legislation, subject to the written consent of the landlord in the case of permanent improvements." Mr. Ford seconded this motion, which was unanimously adopted. Mr. Horley, who had not been present during the foregoing proceedings, expressed his strong disapproval of permissive legislation, and advised agriculturists to have nothing to do with Messrs. Read and Howard's bill if the twelfth clause were omitted. He moved, "That, in the opinion of this Chamber, no legislation will be satisfactory in dealing with the Landlord and Tenant Bill that does not recognise the principle contained in the twelfth clause of the bill introduced in the last session of Parliament by Messrs. Howard and Read." On a division the proposition was carried by a majority of only one; the numbers being 5 for and 4 against.

THE AGRICULTURAL HALL.—Mr. Peter Laird, the Assistant-Secretary of the Agricultural Hall Company, has resigned the post so long filled by him, and is about to retire into private life. The directors, at a special meeting resolved that a purse of one hundred guineas, accompanied by a written testimonial in recognition of his lengthened and faithful services to the company from the time of its foundation, be presented to Mr. Laird on his cessation from labours at the Hall. Mr. Laird's courtesy will be much missed by those with whom he came in contact at show time.

A V O T E O F C E N S U R E.

The Conservatives have openly sold the Malt-tax repealers—so said Mr. Herman Biddell in *The Mark Lane Express* of a few week's since; and those who know Mr. Biddell will see that this was a great deal for him to say. A leading agriculturist in his own county, Mr. Biddell is, moreover, a reading, thinking man; possessing some fancy alike for the use of his pen and pencil, and a lover of horses as well of the arts, for we have "judged" with him in the ring and encountered him on Newmarket Heath. Thus, an enlightened man not merely amongst his fellows, if Mr. Herman Biddell has or had any special idiosyncrasy this would be that he hardly believed in any one who was not a Conservative or good old Tory. And, no question, when we said—as we have said through these columns for some time past—how little the farmers had to expect from the new Government, but that Mr. Biddell regarded us with a certain curious commiseration: our vision was oblique, our prejudices were palpable, and our judgment was warped. And now Mr. Biddell, after having seconded the nomination of a Conservative candidate in his own county at five different elections, says, not that which we did, but a vast deal more—not that the Conservatives have deceived, forgotten or trifled with the farmer, as we might have put it, but the rather have directly sold that too confiding individual, who, like the frail lady, "loves again to be again undone."

Remarkably enough, if Mr. Biddell has or had a kindred spirit amongst the more public men in the annals of modern agriculture, this would be the honourable member for an adjoining county. Mr. Sewell Read, as a man of the world, would "bear" with a Radical and sympathise in the misfortune of any one who happened to be a Whig by inheritance; but that any good could really come of anything but a Church and State administration, would, in the eyes of the Secretary of the Local Board, be a palpable absurdity. Two mouths since Mr. Read and Mr. Biddell were together as one man, and now they are as wide as the poles asunder. True to his letter in this journal Mr. Biddell has done that which we fear very few of his class would have done; that is to say, he faced the landlords at the Central Chamber of Agriculture—the Chaplins, the Pells, and the Hamptons—with a vote of censure on the Government for the way in which it had passed over the interests of agriculture, the more especially with regard to the Malt-tax. On the other side Mr. Sewell Read figured as the especial champion of the Government, and absolutely ridiculed the idea of ever repealing the Malt-tax, in a speech which was received with ironical laughter, continual cries of *Oh! oh! No! no!* culminating in *bosh!* and *muzzled!* Mr. Biddell was "vexed to the heart" at hearing Mr. Read talk so; as to Mr. Ford, "he hardly seemed to be the same man." We have of late felt compelled to notice the curious reticence observed by Mr. Read when agricultural questions were touched on in Parliament, although with regard to such questions he had professed himself unfettered. He commenced his speech, however, on Tuesday by a quasi-admission that "I may have a padlock on my lips in the House of Commons," while out of it he has made two speeches in two days, neither of which will be to his advantage. At the Farmers' Club, that which he did say had no heart in it; while although the subject had been brought prominently forward by Mr. Clark and others, Mr. Read preferred to leave it to Mr. Chaplin to announce on the following morning that the

Government contemplated doing something in the course of a year or two over the Tenant-Right question. Are we to understand from this that so zealous a friend as the honourable member for Lincolnshire is to lead over Tenant-Right, just as Colonel Barttelot was put up for the Malt-tax? If so, as Mr. Biddell would say, this looks very like being "sold again."

In much that Mr. Sewell Read said about the Malt-tax on Tuesday he is not merely inconsistent but almost unintelligible. He was returned in the first instance to deal with this matter, and ripening into a thoroughly Party man, he now believes that his Party never will repeal it. There is surely something rather inconsequential here. He began his public life by suggesting a beer-tax; he voted with the majority for recommending this as a substitute on the Commons Committee, and he has continually advocated such a change at meetings amongst his constituents. And Mr. Read now says "Transfer it to beer, and see what a pretty kettle of fish you get into. Look at the brewers." And, again, "as to putting it on beer, when once it is shifted in that way you will find that the working classes would in a very little time get it off." We never heard Mr. Sewell Read talk in this fashion before, although of course we have said so much ever since the beer-tax substitute has been named. Thus, when the deputation from the Chamber went up in March, we wrote how "they tried to fight barley against tea and sugar, and went on to suggest a substitute the very mention of which would put one of the most influential interests alike in the House and the country dead against the movement. The deputation asked by way of relief for the imposition of another duty, fiddling and inquisitorial in its character, whereby people would be required, under the direction of the excise-man, to stick postage stamps on their beer-barrels, and so forth." And, again, "the Chamber of Agriculture has now the credit of reviving a scheme, the very mention of which will raise hostility on all sides." We have certainly said so much, but always under the impression that we were at direct issue with Mr. Read when we did say so.

But the point of Mr. Read's speech—and we can imagine his giving it with all that due deliberation he does when making a point—is that had the Government even proposed to reduce the Malt-tax it would have gone out of office. And what then? To a body of agriculturists would such a possibility have been regarded as so great a calamity as that which Mr. Read manifestly considers it? Within the last few weeks the farmers have been educated up to a standard of utter indifference as to who is in or who is out of office. Mr. Biddell says the Whigs do at least speak out, and the prevailing feeling at the Farmers' Club on Monday night was that if such vital questions to occupiers as the Tenant-Right Bill and the Hare and Rabbit Bill ever become law, it will be through the Borough members and other "outsiders" for which Mr. Read appears to entertain so great a contempt. It is not quite so clear that we have anything to expect from the *insiders*, if we are to judge, as somebody said, by "the change which has come o'er the spirit of their dream" since the last election was lost and won.

The mistake of Mr. Sewell Read's public and promising career, as we say again with real regret, is that he has identified himself too much with a Party, as he now clearly puts the interests of his Party first and the interests of Agriculture second; and that Party, as Mr. Biddell tells us, *has sold the farmers.*

AGRICULTURAL REPORTS.

EAST RIDING OF YORKSHIRE.

[ORIGINAL.]

Gramina jam redunt campis
Arboribusque comae.

After a winter of almost unparalleled mildness, the warm summerlike weather of early spring has given an impetus truly reviving to all vegetation: on every side trees wear their freshest green; apple-trees are brilliant with pink blossom, following close after the white masses on the peas and plums. Throughout the winter the wheat crop kept a good deep colour, and in April thrived and "gathered" exceedingly well, and is now most promising; in fact, one is almost tired of hearing one farmer say to another, "How well wheat's looking!" qualified by the occasional reply, with a true grumbler's privilege, of "Aye, too well, I doubt." Few and far between, indeed, are thin and yellow-coloured fields; some there are certainly on poor soils, and where, more particularly on the sea coast, they have been exposed to the cutting north and east winds. The sowing of spring corn is wellnigh finished; a much greater breadth of wheat, after turnips, has been drilled than usual this year, in consequence of the fine and dry season; a large acreage of barley too has been sown, and I hope the growing crop may be as profitable as last year's. By the bye, at present prices, the luxuries seem to pay better than the necessities of life. Both oats and barley have come out well, and seem, especially the latter, wonderfully vigorous. Winter beans are forward, and have that bright gloss which is a sure sign of health; peas also are thriving well. Turnips, though expected last autumn to be a very full crop, have disappointed many, who, beginning extravagantly, have latterly been compelled to somewhat pinch their flocks. There has been a downward tendency for all stock, particularly for sheep; but, thanks to the genial spring, the growth of seed pastures has been most rapid, and they are quite ready for "turning out time;" this may in some measure check any further fall; but I do not apprehend that mutton will take the high range it did last year. For stock of all kinds the winter has been most favourable, beasts being as comfortable in the open yards, which are used for feeding in this neighbourhood, as in the stalls and boxes of Norfolk. Sheep have been able to find dry lying in the folds, and have moved about free from those heavy balls of earth which cleave in wet weather to their wool, known to Yorkshire shepherds as "claggs." Fortunately cases of foot-and-mouth disease have been almost unknown in the Riding. The lambing season has been variable; in some cases we hear of large crops of lambs, whilst in others there are great losses, many of which are, I firmly believe, traceable to the disastrous winter of '73, and the ravages of foot-and-mouth disease in that year, which some of the ewes have never been able to shake off. Altogether I am quite of opinion that the prospects for the year '74 are most encouraging; and, though the farmer may not yet have found the El Dorado, still, I think, if the "rainy Hyades" be not too much in the ascendant, with a fine May and June, there is a harvest in store comparable with the best he has known. Happily the relations of master and man are on a satisfactory footing, and we know nothing of the troubles of our brothers in Cambridgeshire and Suffolk.—May 7.

ISLE OF ELY.

[ORIGINAL.]

The "Merry month of May" has come, but, alas! has brought with it sadness to the farmer's heart. The crops, everywhere so luxuriant and promising all through the winter and early spring months, looked more hopeful than ever during the bright sunny days and high temperature of the last month; but just as April was closing, warmth gave place to cold, heat to ice, and May was ushered in amid sad and disastrous changes. Many of the crops which before had been so magnificent were cut down to the very ground, the brilliant green giving place to a dirty brown, the whole aspect of nature being changed. We may express sympathy with the farmer under these distressing circumstances; but that will not restore verdure to his fields, nor place money in his pocket. In many instances his losses must be very heavy. It is very

discouraging and disappointing to see one's efforts and expectations so suddenly reared fruitless and destroyed. But such is the lot of the Fen farmer, and the spring even brings with it grounds of fear and apprehension, and but seldom passes without inflicting more or less injury upon Fen crops. Farm work generally is very forward, with the mangels and kohl-rabis sown, and tillage operations advanced. Rain, which is now falling in small quantities, is much needed for the spring corn and root crops. Grass keeping on good lands is plentiful, and grazing animals in forward condition realise high prices. The corn trade feels the sunshine and the shade, and is influenced by the high and low temperature, in about the same way as the growing crops are, but with different results.—May 5.

WEST SUSSEX.

[ORIGINAL.]

We have had no rain in this district since the 13th of April, when we had a heavy fall with hail. Previously to that day, however, in some portions of this division, there had been too much wet for farming operations, and the land could not be worked. From the 20th to the 27th of April we had the most growing weather that could be desired, and the progress of vegetation was remarkable. Since then, however, a change has gradually come, and up to this day we have had weather gradually becoming colder, with frosts at night. We have seen some of the young ash leaves cut down quite black, and in cold, low-lying situations the potatoes have suffered. On the clay land of the Weald, the wheat has turned yellow, and looks out of sorts. On good land the check will be very beneficial, for, certainly, in very many fields the plant is too thick by half. Last year it was just the reverse, nearly all the wheat was too thin on the ground. It is early to predict anything as to the crop of this year, but if we get much rain there is every reason to fear that much of the wheat in the good land will be laid and ruined as regards sample. Some fields of spring corn do not look well; the wireworm has been very busy, and the crop looks poor and spotty. Young seeds are now generally well set on the ground, and if rain comes now there may be a good average crop. Mangold Wurzel is being put in; the ground is too dry now, but a day or two may alter this. Hay continues cheap. Fat stock has rather gone down in value for some weeks, but seems now inclined to rally. Our markets have been rather over-stocked with fat sheep. To-day we have had rain and hail, with a thunder-storm in some parts.—May 8.

A GOOD SHOW.—Our belief is that Saint Vitus lurks somewhere about the old Priory, stealing out with a fiddle in the silvery night, and giving the cobs a dancing lesson; for in no other way can we account for the many good steppers ever to be found at Thurgarton. Look, who is this haughty dame? The beauteous Nella, a sweet hack, with elegance in every movement, as she goes off with her own young man to a gentle air, her tail nearly over her back, and throwing out her nicely-formed limbs with that freedom which one rarely sees except when a first-rate mover has got loose; while her head, high in the air, turns to the right and left, as with expanded nostrils she snorts forth defiance like a tragedy queen. Wo-ho; there's a show! "Beat that," says her full eye as plain as printer could put it in type, while she stretches out with head and tail well up—a head as clean and expressive as a premier's, and a tail as grand as his surplus; a show that would make the fortune of any breeder, could he get it patented, raise the hopes of the most desponding dealer, bring forth a burst of eloquence from "self," and cause "partner" to pitch his lusty voice a key higher—"Run her down again," as our description falls as short of the reality as the forced gait of a shuffling hack. "Say what you like, but keep your hands off paper," is old Weller's advice to his son; but we cannot keep ours off with such cattle before us as Comtesse, Renira, the Ladies Constance and Nora, The Black Swan, Armyuel, Lonsdale, Thorgon, Princess Thyra, Home Rule, and Creswell.—*The Field*.

THE WEST SUFFOLK FARMERS' DEFENCE ASSOCIATION.

At a general meeting at the Angel Hotel, Bury St. Edmund's, when about a hundred members were present, Mr. W. Manfield in the chair,

The first business was the election of a president, and Mr. W. N. KING proposed Lieutenant-Colonel Wilson, and Mr. GRAHAM seconded the motion, and it was agreed to.

Mr. MANFIELD proposed that Mr. Hunter Rodwell be chairman of the Association, Mr. J. H. TURNER seconded the motion, and it was unanimously agreed to.

Mr. P. HUDDLESTONE proposed as vice-chairman Mr. Stanley, Mr. W. HARVEY seconded the proposition, and it was agreed to.

Mr. STANLEY, in assuming the chair, said his aim would be to conduct everything, as far as possible, with moderation, but at the same time with firmness. If he had been asked to take that position last year he should not have shrunk from it, because he then believed the Union would by this time have found its level, and would have worked itself out. But the more he saw of it the more convinced he was that it was necessary for farmers to take some definite steps in the matter. They were all aware that the first outbreak of this movement was at Leamington, and that was his native place. He had been visiting there last week, and many of his friends who were influential farmers there said they wished they had taken the same steps as the Eastern Counties' farmers are now doing, as if they had there would not have been the same commotion that there is now throughout the country. But the reason why they did not was that when Arch commenced this movement there was a very flourishing trade in the North, and the ironmasters and manufacturers were securing all the labour they could. They thought that there would be an end to this demand, and that the men would go back to them again, and to a certain extent they had done so. All in that room would agree with him that they would not have taken the steps they had done had it not been for the strike at Exning. A great deal had been said about the rules of the different Unions, and that they ought to make a distinction between them; but he confessed he preferred the Lincolnshire rules to the National rules, because the Lincoln rules were plainer, and told them what they meant to do with them, and the National rules did not. The national Union spoke by their actions; and he would ask whether there was any justification for the strike at Exning for another shilling a-week when they entered upon it. Their corn at that time was not making so much money; they were suffering from bad crops; sheep were depreciated at least 15s. a-head; and beef was also lower. He thought that showed what the National Society meant to do. They would stop at nothing till they got their point.

Mr. HARVEY (Wattisham) proposed, and Mr. PETO seconded, the appointment of Mr. Frank Ford as secretary, which was agreed to.

On the motion of Mr. HARRISON, seconded by Mr. GAYFORD, Messrs. Huddleston, Green, and Co., were appointed bankers; and on the proposition of Mr. WALLER, seconded by Mr. T. THORNHILL, jun., the following were appointed the General Committee of the Association: The Marquis of Bristol, Colonel Wilson, Major Bennett, Messrs. Hunter Rodwell, P. Huddleston, J. H. Heigham, M. Praed, T. Thornhill, jun., W. Burrell, W. Manfield, W. Harvey (Bildeston), W. Harvey (Timworth), G. Gayford, W. Baker (Melford), J. Peto, G. Goldsmith, H. Stanley, J. Harrison, W. Mathew (Knettishall), — Hunter, T. Newdick, J. Halls, J. Jillings, J. Sturgeon, O. Johnson, — Case (Hinderclay), Jabez Place, B. Hunt, and — Graham (Elmswell). On the proposal of Mr. W. GRAVE, seconded by Mr. W. N. KING, the following were chosen as the Consultation Committee: Colonel Wilson, Messrs. Rodwell, Huddleston, W. Burrell, W. Manfield, G. Gayford, W. Harvey (Bildeston), H. Stanley, W. Harvey (Timworth), W. N. King, J. H. Turner, and Graham (Elmswell).

The CHAIRMAN said the next business was to consider the rules drawn up by the Provisional Committee, and Mr. Salmon would now read the preface to those rules, which was rather important. It had been the subject of a great deal of very careful thought, and while there was every disposition to

avoid anything like antagonism or despotism, and to have everything open, frank, and fair as could be, this really stated the precise object of the Association. It had been submitted to the President, the Chairman, and to Lord Bristol, and they all approved of it.

The following is the preface, which was then read by Mr. SALMON, the solicitor, and agreed to: This Association has been formed for purposes of defence, and to enable employers to determine the best mode of meeting the attacks to which they are or may be subjected by the action of the various Unions on behalf the agricultural labourer.

The rules as drawn up by the Provisional Committee were then read by Mr. SALMON and approved, with but one addition, namely, that the Committee should not have authority to lay more than a penny rate on the rateable value of each member's land without the express consent of a general meeting expressly called. The entrance fee is fixed at 2s. 6d., and the expenses are all to be defrayed by the rate or rates alluded to. The Association is to undertake the prosecution of all labourers or others who may be guilty of using any threat or of any unlawful act.

The CHAIRMAN read a portion of a letter from the Marquis of Bristol, in which he expressed his entire concurrence with them, as being suitable to a purely defensive Association, such as this.

Mr. PAINE asked what number of members they had, considering it essential they should have large numbers if they had to pay expenses according to their rating.

The CHAIRMAN remarked that the Association as yet was in its infancy. He was not yet in a position to say whether the Hartismere farmers would join them. They wished to do so, but were waiting to know their rules. He also understood the Stowmarket farmers wished to join them, though he had had no formal application. They had not quite 200 enrolled here, and they were all of them very large farmers. There was no ground for supposing any great expense would be incurred. They did not propose to compensate tenants for any loss or inconvenience caused by the lock-out. That was not the object of the Association at all. They merely proposed to raise sufficient to carry on the Association, and he thought a penny in the £ would carry them through the first year.

Mr. BAKER thought the assessment of the members must be more than £50,000 now.

The CHAIRMAN: The members average over 500 or 600 acres each.

Mr. BAKER suggested that a maximum rate should be fixed, beyond which the committee could not go.

Mr. MANFIELD concurred, and remarked that this would disarm any suspicion that they would require a large amount of money. He proposed that it be limited to a penny, and if the committee wanted more they could come to a general meeting.

This was unanimously agreed to.

Mr. WALLER remarked that nothing was said in the rules about the employment of Union men; he supposed they must not employ any Union men at all?

The CHAIRMAN: Certainly not.

Mr. WALLER: How far would that extend in particular circumstances? Suppose I have a flock of sheep that want clipping. It is not every fool that can clip a sheep properly. Supposing I could not get non-Union men, what am I to do?

The CHAIRMAN: In exceptional cases of that sort I think you may employ them; not for regular work.

The CHAIRMAN then read a letter from the secretary of the Norfolk Farmers' Association, asking for information as to the exact position of the Labour Question in this district, and containing the assurance that it was the wish of that Association to render such aid to the Suffolk farmers as lay in their power.

A letter from East Suffolk was also read asking that if any course of action should be decided on by this Association, or if the Labour Question should assume a different shape, it might be communicated to Mr. Johnson, the chairman, so that there might be joint action throughout the county.

It was determined to send to each society a copy of the rules agreed upon.

Mr. P. HUDDLESTON was glad to find there were persons out of the county, and on the other side of the county, who were willing to support them. They ought to thank them for that support, and at the same time to suggest to them that this was a matter that ought to be brought to a conclusion as soon as possible; and one of the best methods of doing that was to inculcate upon every person who was an employer of labour not to employ a Union man. It would be merciful both to their labourers and themselves to do everything in their power to finish it as soon as possible. The good of the labourer had always been at his heart, and he believed that the intention of all farmers had been to do justice to the labourer. The labourer had gone through great suffering, and he could remember the time when the great difficulty was to find employment for the labour with which they were encumbered in their several parishes. Two years ago there was a great draught of labour to the North, and the consequence of labour becoming scarce here was that it at once went up in value. At that time he attended a meeting of the West Suffolk Friendly Society at Stowlangtoft, and, addressing the labourers, he said they had got good times, and the only thing they had got to take care of was not to kick over the traces, and he believed everything would have gone on quietly. The price of labour would have risen in the natural order of events. The farmer would have reduced the amount of labour he employed, and so the matter would have righted itself. But, unfortunately—more so, he believed, for the labourers than for the farmers—there came these outsiders, and led the poor fellows altogether astray. As an instance of the absurdity that had been talked to the men, he stated that a gardener in his employ, who was nearly 70 years of age, and could scarcely get about, was asked to give his 2d. a-week, with the promise that he should have a pension when he ceased to work. He considered the Suffolk labourer, in his department, to be by no means a foolish man; but one thing he took care of—that one hand should not know what the other received. The first principle of a labourer in Suffolk was to conceal his earnings. The Correspondent of *The Times* had stated that the labourer did not know what he earned a week, and it was put down to ignorance; but if *The Times* Correspondent had known the Suffolk labourer so well as he (the speaker) did, he would have found a different reason for it. None of the farmers felt any unkindness for the labourer. Their only ill-feeling was to the outsiders. The landowner, the farmer, and the labourer were all in the same boat, and one could not come to grief without affecting the other. But he wished to impress on his brother-farmers that, having commenced action, they could not draw back. They must fight it out now, and they would never hear of it again. He was a long time before he could make up his mind how it was to be worked; but he saw the aspect matters had assumed, and he was quite sure there was no middle course. Arbitration stunk in their nostrils, and they would have nothing to do with it. He thought the letters which had been read ought to be answered, with a strong expression of opinion that to lock out the Union labourers was the best course to adopt.

Mr. BAKER expressed his agreement with Mr. Huddleston and urged them all to stand firm to each other. They could and would not, he remarked, try to make a bargain with men who had two masters. They had to deal with men who were bondmen and not free. The farmers had formed a Defence Association, but they were free to deal with their men; and as free men themselves they would have free men to serve them. They took this matter in its infancy at Sudbury, and before the men had been out three weeks they ran short of funds; and when they found that the men turned round on the system and threatened to chuck the delegates into ponds. If the farmers here had locked-out 12 months since, they would have easily settled it, but now they had got to deal with slaves that they would have hard work to free. They must let the gentlemen of the manufacturing districts, and the outsiders, see that they were a sturdy body of men not to be trampled under foot. There were numbers of men in the manufacturing districts looking to them and asking themselves, "Are the farmers of England a body of men who are going to succeed in stamping this out? If they do this, will they not free England of Unionism? Will they not set free all the industries of England?" If there were disputes in other industries, the farmers were too loyal to step forward to interfere with them. They allowed them to

settle their own differences; and surely farmers knew their own business better than men who were now stepping to the side of the platform agitators. Did they not know their business better than men who scarcely knew the right end of a plough, or the right nature of an agricultural principle? Let the farmers show that they knew their business, and would stand by each other.

The CHAIRMAN said he agreed with Mr. Huddleston that the Suffolk labourers were, to use a vulgar phrase, "not such fools as they looked." He could quite understand *The Times*' correspondent not being able to get at the actual earnings of the men. It puzzled most farmers to do it. On his farm only two or three of his men could write, but they could all calculate. He did not know how they did it, but they were marvelously accurate, and if he made a mistake they would soon tell him of it. He let his harvest at so much for tying and so much for cutting, so that there was a deal of arithmetic about it; and after he had paid the men, the "lord" of the harvest came to him and told him he had paid them 15s. short; and so he had. So he did not think their agricultural labourers were quite so stupid as some people tried to make them out. He did not know that the farmers were in a very great difficulty; but to a certain extent they were in a difficulty. They could not carry on their business without labour. That they must look fully in the face, and the question was how was it best to meet it? The Consultation Committee had sent round to each member a form for him to fill up, showing how many men they usually employed, the number of men they had now upon their farms, the number they had discharged, and the number they required now. These returns are to be sent in by the members every week, so that the Committee would be in a position always to know what were actually required by the members of the Association, and they had a scheme by which they thought they would be able to supply the demands of these gentlemen. He did not think it was necessary for him to state then what that scheme was; but they had a very feasible scheme which he believed could be carried out, and if the members would let them know what number of hands they wanted now, or a fortnight hence, and until harvest, he thought they would have no difficulty in supplying their requirements. They would probably have to take a step which they all very much regretted doing, and no man more so than himself, for he was quite sure none of his men could say he had been a bad master to them. If anything he had perhaps been rather too lenient. In some cases the agriculturists had been oppressed, but it had been generally by the small farmers, not the large ones. Yet the men who are most dissatisfied now are not the men employed by small farmers, but those employed on large farms. He had himself done all he could to improve the condition of his own men; yet they made a point of attacking him first for more money. He was a marked man in that district, because they said if they could get an advance from Mr. Stanley they could get it everywhere else. When he refused, all his able-bodied men left him; but the old men, though they were in the Union (which he did not know at the time), all stayed. The men had brought all this about themselves. The masters had waited patiently for two years to see how it would be settled, and at last they were obliged to defend themselves. One thing he wished to remark about emigration. If Mr. Arch were so sincere, as the delegates said he was, why was he, after going to Canada and reporting that that country was not ripe for our English labourers to go there, as he did six months ago—why was he now so instrumental in sending them there? If these men took the labourers away, the farmers must seek labour elsewhere, and also pursue a different mode of husbandry. He had taken the precaution (and it did not cost very much) to lay down as much land as he could for next year; so that if he did not meet with labour next year, there the land was, sown with grass; but if he did find labour, he could plough it up. If they had not the labour the land could not be cultivated as it is now. They must bear in mind that the Eastern Counties are essentially a corn-growing country. It was where England looked to for a large return of corn. Consequently they had always been supplied with English labour, because there had always been a demand for it. Now in Warwickshire it was different. The farmers there conducted their business at less expense per acre; and when they wanted labour, they got Irish over. They did not get Irish here, because they had plenty of English; but if the English left them and followed the advice of the Union, the

farmers could not help employing others. None of them objected to the men combining, if they thought it was for their good. He hoped it might be, but he sincerely believed it would not. Some farm-labourers said, "Why should not we be in Unions as well as other men?" But he had heard several mechanics say Unions were the worst things that could be, and they would have been better off if left free to make their own bargains; that these strikes were very much against their interests; and that the Unions seemed to be doing all they could to drive trade out of the country.

Mr. GAYFORD, while bearing testimony to the fairness of the reports in the local papers, said some of the London papers had represented him as being dead against the Farmers' Association. That was not the fact. He objected to combination whether of masters or men, but he said circumstances might arise that would justify them. The men had set the example, and the masters were only following it. The farmers

did not combine to oppress the men, but to resist dictation. They would not submit to lay their heads down to be trampled upon, without doing anything in self-defence. He himself, he was happy to say, had not a man in the Union. They had had a taste of it, and got sick of it. He agreed with Mr. Huddleston that the farmers needed to be more united; but they were not in this neighbourhood, and he thought they had great reason to complain of that. They never came forward as they ought to use the great power they possessed, both locally and politically. If that cap fitted any one present, let him wear it. When men came here and put their names down, and associated themselves to defend each other, and then went away and acted quite contrary, giving the men what they were striking for in other places, they were injuring the Association, and not helping it.

The returns received show the number locked out by members of this Association to be a little over 300.

THE MIDLAND FARMERS' CLUB.

THE POTATO.

At the last meeting, held in Birmingham, for the purpose of discussing the paper on "The Potato, with a view to elicit the best sorts for culture in the Midlands, and the best mode of cultivation," which was read by Mr. Badger, in February, Lord Yarmouth, M.P., the president, was in the chair.

Mr. LOWE said the paper which had been read by Mr. Badger was of such a practical character that he thought all persons, both farmers and others, who grew potatoes would do well to thoroughly ponder it over at their convenience. Mr. Badger had collected for their information a variety of opinions from the most practical growers all over the country, and the result was a pamphlet which he did not hesitate to say would be found a most interesting work on the potato and its culture. His own limited experience in the growth of the potato had led him to the conclusion that it was very important the variety of potato selected should be adapted to the soil in which it was to be grown; but the mode of planting and the manure and nourishment supplied to it should also be most carefully considered. The old-fashioned method adopted by farmers twenty or thirty years ago of dibbling in potatoes was, especially on heavy land, altogether a mistake, because if the soil was a little stiff or damp the process of forcing in the round pointed end of the stick hardened it and caused moisture to settle about the roots, which might retard or stop the growth of the potato. He was inclined to think the present plan of digging a trench and placing the seed at suitable distances both in the trench and in the rows was by far the best. He had found the use of lime in the trenches beneficial. He had also used leaves, and occasionally he had sprinkled soot over the potatoes before the soil was placed over them. The only varieties of his growing the year before last which really escaped the disease altogether were those planted in soot, with a very small proportion of lime. The antiquated custom of selecting for seed only those potatoes which were not large enough for the table or good enough for the pigs was to be deprecated; and he ventured to hope that it was now exploded. In the planting of the potato, as well as of anything else, the best seed should be selected rather than the refuse portion of the previous crop. He did not mean by that that they should have the largest, but that they should select good, sound samples of the kind they intended to grow. Farmers did not select the tail end of their wheat for planting, but that which was of the fullest growth, and the most perfect of its kind. The subject before them was one of great importance to the general community, and now attention had been directed to it in a special and very able manner. Considering the large importation of potatoes into this country which had taken place the last year or two, it behoved them to do their utmost to prevent or lessen the evils which this country had been subject to for some years from the potato murrain.

Mr. LYTHERALL read a letter from Mr. Bowen Jones, apologising for his absence, and enclosing a series of questions addressed on behalf of the Royal Agricultural Society to the potato growers who are testing by experiment the capability of particular varieties of potatoes to resist disease, and sug-

gesting that, perhaps, some of the members of the Club would take the matter up.

Mr. FARDELL had tried some 135 varieties last year on the Sewage Farm, at Salfley, and out of those he had selected 22 as the best sorts to be grown in the midland counties. Those for early cropping were: River's Royal Ashleaf, Veitch's Improved Ashleaf, Myatt's Prolific Ashleaf, Early Rose, Early Shaw, Giant King, Bresee's King of the Earlys. For second early crop: Jackson's Early White Kidney, Manning's Kidney, Dawe's Matchless, Bresee's Prolific, Bresee's Climax, Bresee's Peerless, Early Don, Drummond's Prolific, Gryffe Castle, Dalmahey. For late crop: Paterson's Victoria, Snowball, Red Skin Flour Ball, Walker's Improved Regent, Old Dunbar Regent. There was scarcely any disease at all in those he had selected, whilst the others were all more or less diseased. His own experience of potato growing was in favour of lightly-ploughed land, shallow planting, and well earthing the rows.

Mr. HEYDEN, as an old potato grower, enjoyed the paper read by Mr. Badger, from which he said he had gained much valuable information. He had grown potatoes for 16 or 18 years, and he found that on light land, such as his was, the Old Red Regent was the best variety to resist the disease. The Red Skinned Flour Ball, on his land, did not resist the disease, although it was a very profitable potato to grow. The largest crops he had ever obtained was with old mortar, on land which had been excessively manured previously. For some years he had grown potatoes with pig manure, which always produced heavy crops. He placed the manure on the land in the autumn, and allowed the rain to wash it in. He then merely turned the land over with the plough, and pegged the seed in, leaving a space of 3ft. between the rows. His plan of resisting the disease had been to select a piece of sloping land to plant on, and never to plant on flat land, or where it lay hollow. After potatoes had been once ridged up, it was a good plan to send the ridging plough two or three inches deeper into the furrows, so that the water might have a good chance of getting from the roots. He had been troubled very slightly with the disease, and in some places not at all. He coincided with the suggestions in the pamphlet as to removing the haulm after the disease attacked the potatoes; and with regard to the disease appearing in small patches in the first instance, similar to a kind of white blight, which is seen on swedes, he suggested that lime dusted on the haulms might be beneficial to prevent the progress of the disease. He had found it so in regard to swedes. He always found that when the haulm was first attacked, on removing the earth the tubers were spotted with very little white spots. In conclusion, he recommended as the most successful way of getting rid of the disease to throw the furrows open 2in. or 3in. deeper than was usually done, to plant on sloping land, and to get the water away as much as possible. He found potatoes grown with superphosphate of lime, or dissolved bones, most excellent eating, and he advocated it being used along with other manures.

Mr. FELTON, being called upon, said it was some years since he had grown anything like a crop of potatoes. About

three years ago, for a whim, he grew two tubers each of four varieties of potatoes, and with the produce won two firsts, two second prizes, and a "highly commended," at Bingley Hall. They were grown above the ground, being placed on the surface and the soil heaped round where he saw any sign of a root coming. Proctor and Ryland's potato manure and soot were the only manures used, and sixty-seven was the largest, and fifty-four the smallest number he dug up from a single root; none being small enough for seed according to the old-fashioned notion. Some years ago he grew fifty-two varieties, and in doing so took particular care that the seed should never touch the manure, which was always placed under it. A little soil only was pulled down into the trench, and manure was afterwards applied at stated intervals, as he believed surface dressing in showery weather was an excellent thing.

Mr. FARNDALL, in answer to Mr. Wells, said the manure he used was nothing but Birmingham sewage—the refuse from the tanks—mixed with lime, about 1,500 tons an acre.

Mr. BADGER said that one of the samples from the sewage farm—Pink-eyed Regents—on the table at the last meeting, and tried against every good kind, was in flavour equal to any of them, and in most respects better.

Mr. WISE said it had given him a great deal of pleasure to hear so much talk about the potato, because, in a small way, he was a grower. Every year he made a great many experiments, and he was convinced that they should always plant the tubers as large as possible, taking out several of the eyes with a sharp knife, and cutting off the bottom part, as in many cases without it the potatoes were apt to lie a long time without starting. Another thing he had found by experience on digging up the roots was that, while the seed was often completely decayed, in some cases it was as hard as when it was planted. With regard to the Red Skinned Flour Ball, he considered it was the very best potato grown. It not only resisted the disease, but if kept long enough—till, say this time of the year—and boiled sufficiently was exceedingly good to eat. He had planted this year about sixteen of the newest sorts, and should be glad to report the results at a future discussion, should one be held. As to the older varieties—those which had been grown for some years—his own experience told him that of the second earlies the best and most prolific cropper was Bresee's Peerless, and if he had a large farm and wished to have two crops he would certainly have a large area planted with it, because it would always be got up in time for market, and would always keep, while a turnip crop could be got after it. Milky White was very much thought of, but on his soil it did not do at all, and had to be discontinued. Paterson's Victoria was a very good potato and very mealy, but on his ground it always had a peculiar black mark all through it.

Mr. WELLS said that was when it was kept late. Now it looked very well.

Mr. WISE said he had discarded it for that reason. When he was in Ireland he grew the Dalmahoy very successfully. He always grew them in ashes, finding them very mealy; but in Warwickshire he could not grow them at all. They went bad directly. He believed the excellent paper read by Mr. Badger, and the pleasant chat they had had over it, would do the Club a great deal of good.

Mr. TYNDALL said the whole of his land was sloping, and all his potatoes were more or less diseased, and urged the value of carbon as a potato manure, pointing out that most of the manures which had been mentioned as needful contained it in other forms.

Mr. BADGER, in summing up, expressed regret that some of the statements he had ventured to make had not drawn out a little more information from members of the Club. But those who had taken part in the discussion had so far acquiesced in them that he hardly knew what he had to reply about. In regard to manures, and the time to apply them, the great point in potato cultivation, no doubt, was to do nothing which could give the slightest encouragement to the disease. In the Bliss competition in America, which resulted in such extraordinary results, and which he was at first inclined to question, the person who won the first prize with a crop reported to be enormously large had put in actual practice the plan he (Mr. Badger) recommended in his paper. The crop was grown on a field after a green crop, which had required a heavy manuring, and for a large planting no doubt

that was a good plan to follow. He quite agreed with Mr. Farndell as to the necessity of planting on friable land lightly ploughed. Councillor Heyden's hints were worthy of most careful consideration; but, as to his unfavourable remarks about the Red-skinned Flour Ball, he (Mr. Badger) might state that while on a visit to Messrs. Suttons' establishment, during the preceding week, he was informed that the whole of their crop of that variety which they offered to their customers this season was dug up in the presence of several leading horticulturists, and the editors of agricultural and horticultural journals, who could testify that out of the entire crop there was not one single diseased potato. He had heard reports as to the variety being unsuccessful in some soils; but he thought it one of the best potatoes in cultivation. He did not know the acreage which Messrs. Sutton had under the crop; but understood it was extensive, as they were some time in lifting it. He might add that it was grown on light land. To sum up, he would strongly recommend everybody to make the selection of good seed, properly prepared, the first point; and nothing was more important than to separate it into thin layers, to keep it from getting heated. Next, they should select the kinds which would be likely to produce the results they aimed at; and he recommended them to choose sorts which had short haulms and ripened early, for reasons he had pointed out. The kinds mentioned in the list would enable them to select those which possessed these characteristics. Further, they should plant on well-drained light soil, and if possible, that on which a green crop, heavily manured, had been previously grown, rather than apply the manure at the time of planting. Burn the dibble, and plant thinly in trenches. In conclusion, he advised them to try experiments on a small scale, to make careful notes of their mode of procedure, and report the results to the Club or some other body.

Specimen potatoes which were placed upon the table were from Mr. Newdegate's gardens at Arbury, Nuneaton.

A vote of thanks to Mr. Badger for his paper concluded the proceedings.

THE GARDEN.—The winter is the time for the book-work of gardening, for benefiting by the advice of friendly experts, for arming yourself against the enemies, whether in the shape of frost or drought or insects, which are only waiting till the season of growth begins to put out all their strength against you. As the year goes on there is room for constant observation of your own success or failure, and of the points in which you can gain a hint from the experience of your neighbours. If there is much wall space about the house, how to cover it to the best advantage becomes a study of itself. If you have a special love for roses there is not a week, from the day in February when the trees are first pruned down to the day not far off from Christmas when the last bud which the frost has condemned never to open is sorrowfully gathered, that has not an interest of its own. All these pleasures relate to the intellectual side of gardening. There are as many on its physical side. No man enjoys a summer morning more than he who turns out the moment he has got his clothes on to note what progress has been made since yesterday. No man appreciates the cool of the late afternoon more than he who feels it approach amidst the sound of trickling water-pots and the sight of reviving plants. The long saunter round the garden is interrupted at every step by the detection of something that he can do himself or must tell the gardener to do to-morrow. The knife, the scissors, the string, and the stick are never long in the pocket of the man who really loves gardening. There is always something to be done with one or other of them. That tree wants pruning, those dead flowers want nipping off, that bent stem calls for support, that straggling branch has to be nailed in. It is the great merit of a garden that it adapts itself to every variety of income, and the more of your own labour you give to it the greater is the pleasure derived. There is no single form of recreation open to Londoners that can be set against a garden.—*The Cornhill Magazine.*

BLANDFORD FARMERS' CLUB

TENANT RIGHT.

At the first public meeting for the season, Mr. Owen C. Richards in the chair,

Mr. G. GALPIN said, It is proposed this evening to take into consideration for discussion the "Tenant-Right Rules of the Blandford Farmers' Club." These rules were, I believe, drawn up some years ago by a committee of the Blandford Farmers' Club, with the intention of suggesting means by which the outgoing tenant might be compensated for any unexhausted manures and for improvements in the farm from which, owing to his quitting, he had not received the benefit to which he was entitled. If it could be calculated it would be found a very serious item which the country loses every year through the change of tenancy in farms. When we consider that a tenant quitting a farm in the absence of any system of Tenant-Right, allows that farm to go to ruin by the non-employment of labour and by the disuse of artificial foods and manures, and when we take into consideration the time (years it may be) which it takes the next tenant to get that farm into good order and condition again, the money loss to the country at large in the interval by the decrease of production must be something enormous. It is therefore absolutely essential, not only to the landlord, whose estate is deteriorated in value, and to the tenant, who has to make a much greater outlay than he would otherwise have to do, besides waiting for the return of his capital which he has buried in seeking to restore the land to its original fertility, but also to the community at large, who are sufferers to a greater or less extent in consequence of the non-production of food. It is imperative that a well-devised system of Tenant-Right for unexhausted improvements should become universally applicable. It is as much the interest of the landlord as of the tenant that this should be the case, for if the landlord's estate be well managed and the land enriched it will command a greater price in the market, and consequently an increased rental. And it is on this account that I think these rules do not go far enough. They are intended only to apply between the outgoing and incoming tenant; but does it not seem equitable, for instance, that a tenant taking a farm worth, to rent, say 25s. an acre, and by means of good cultivation and the investment of a large capital he gradually improves that estate so that it shall be worth, to rent, say 30s. an acre, ought not that tenant in the event of his being obliged to quit to receive a compensation from his landlord over and above the percentage of unexhausted manures which he receives from the incoming tenant? It is his capital and industry which have enhanced the value of the estate, and he ought to receive compensation for permanent improvements. The great chemist Liebig, in one of his works on agricultural chemistry says the time will come when the agriculturists will keep a debtor and creditor account against each field of the actual constituents of the soil which have been either added to or taken away from it; but without going quite so far as this, I think the time may come when at each entry and quitting a detailed survey of each field with its condition noted in both instances will be made, and if the tenant can prove, that by means of good cultivation and the addition of manures, he has enhanced the value of the farm over and above what it might have been enhanced or deteriorated by other circumstances, then he ought to be entitled to some compensation from his landlord. I have known instances where farms, or at least fields, have been converted from comparative barrenness to fertility much above the average, and this has been done by good cultivation and the application of large quantities of manures; of this I have had ocular demonstration, for I could go over those fields and pick up pieces of bone which had been used as a manure, and had not yet been assimilated by plants. Gentlemen, I do not know whether I should be out of order in entering into the question of farm agreements; but, if you will allow me, I will very shortly give you my ideas on the subject. First, then, are leases or yearly agreements more advisable? I do not think it is policy for a landlord to grant a lease to a tenant unless they are personally acquainted. A good understanding between landlord and tenant depends on so many other things over and above what may be reduced to writing and embodied in an agreement that I think it is well they should go on for a year or two under a

yearly agreement, and then, if the landlord approves of his tenant, he can offer him a lease. For it is very annoying for either party to be bound for a number of years and find, after all, they do not get on well together, for in farming the relations of landlord and tenant are, or ought to be, of a much closer nature than we find in mere mercantile transactions. As to the cropping of the farm, I think much more ought to be left to the discretion of the tenant than is usually the case. If we look over some of the old leases and wade through the amount of legal verbiage, and if, when we get to the end of one line, we remember what was in the line preceding it, we shall find that in the majority of cases both landlord and tenant have entered into an agreement which neither of them understand, and which, if they did understand, they do not mean to carry out. So long as a tenant is prevented from deteriorating the farm, I think he ought to be allowed pretty much to pursue what course of cropping he likes, providing he does not grow more than a certain acreage of corn in each year. There is one clause which I have seen inserted in some agreements which I do not think a bad one; it is that a tenant shall be obliged to keep a certain amount of stock each year. This does not mean, of course, the greatest possible amount of stock which the farm is capable of carrying on it, but a fair proportion. This will necessitate the growth of forage crops, and consequently keep up the fertility of the land. With regard to the entry on our arable farms, I believe a Michaelmas entry to be preferable; and I would make the entry to extend over as short a space of time as possible. If the outgoing tenant sows the turnips to be taken at a valuation by the incoming tenant, there would be no necessity for pre-entries; and the outgoing tenant should only be allowed a limited time for the purpose of thrashing out and selling his corn crop, unless it were taken off by the incoming tenant, in which case the outgoing tenant would leave everything at Michaelmas. With regard to game, public attention has of late years been directed towards the Game-laws, and much has been written and said on both sides. There is no doubt but that the over-preservation of game has created an adverse feeling in the country against the operation of the Game-laws, and advantage has been taken of this by some interested parties to make political capital out of them and to use them as one of their weapons against the landed interest; but I believe that if the landlords of this country will be only reasonable in the amount of game on their estates, and be content with a fair day's sport, the Conservative spirit of the tenants—their natural love of sport combined with the thought that what gives pleasure to their landlords is a source of gratification to themselves—will array them on the landlords' side, and they will become a source of support instead of being antagonistic. At the same time I think the tenant should have equal rights with the landlord in killing the ground game. If this were the case I am convinced the serious damage committed in some instances would be avoided, and the tenant would do his utmost to preserve the winged game for his landlord, and it would also be the means of removing the source of many annoyances between landlord and tenant.

The CHAIRMAN said their principal business would be to consider and decide as to the adoption of rules which had been passed some years ago by the club, and he thought it would be best for each rule to be read separately.

Rule 1.—This rule stood as follows: Bone manure with turnips to extend over four years; quantity not to exceed three sacks per acre. First year, the outgoing tenant, should be quit without taking a corn crop, to be allowed 15s. in the £; second year, when a corn crop has been taken, 10s. in the £; third year, 5s. in the £; fourth year, 3s. in the £. Mr. R. Fowler proposed "That three should be substituted for four years, as he considered it fairer to all parties." Mr. J. Ford was of the same opinion, and it was agreed, on the proposition of Mr. Fowler, seconded by Mr. G. Galpin, "That the rule should be altered to three years." Mr. C. Flower said he considered an outgoing tenant ought to be allowed 20s. in the £ instead of 15s. if he quitted without taking a corn crop. To this Mr. Fowler replied they had to consider what was fair to

both parties—the outgoing and incoming tenant. Would they feel as placed in the position of incoming tenant, that it was fair to pay the full amount? In framing the rules it was desirable they should be made unobjectionable to the incoming tenant and also to the landlord. Mr. Galpin considered 15s. was too much for the second year, at any rate if they allowed only 15s. for the first year. After some further discussion, Mr. Richards proposed, and Mr. Galpin seconded, “That the first year should be 15s. in the £, the second 7s. 6d., and the third 5s.” Carried.

Rule 2.—Guano, superphosphate of lime, and all artificial manures used for turnips; purchased yard, pig, or any decomposed manure, over three years, and value not to exceed 30s. per acre. The same regulations as to corn crops as in Rule 1. First year, the outgoing tenant to be allowed 15s. in the £, second year 8s., and third year 4s. in the £. Mr. Fowler proposed “That the word ‘two’ should be substituted for ‘three years.’” This was seconded by Mr. T. Fry, and carried. With regard to the allowance for the first year, Mr. C. Flower said he considered if a man laid out £1 or £2 per acre he ought to receive every farthing if he did not have a corn crop. He proposed “That the allowance should be 20s. in the £.” Mr. T. Fry considered if the turnips were fed off by the incoming tenant he ought to pay the 20s. He seconded Mr. Flower’s proposition. Mr. Fowler remarked it should not be forgotten that turnips were fed off by Michaelmas—the time when an incoming tenant’s occupancy generally commenced. Mr. Galpin proposed as an amendment “That the allowance should remain as before, namely, 15s.” This was seconded by Mr. John Ford, and on a show of hands was carried.

Rule 3.—Linseed or cake, fed in the last year of tenancy by fattening stock or sheep, to be paid 20 per cent., the outlay not to exceed 20 per cent. of the rental. Mr. Galpin proposed that the words ‘oil’ and ‘fattening’ be omitted. Mr. Richards considered that where a man left a lot of manure in a yard or elsewhere, 20 per cent. was very little to allow him. Mr. Fowler suggested that where a corn crop had been taken the allowance should be 20 per cent., but otherwise 40 per cent. was not too much. Mr. Galpin remarked that the object of the rule was to repay the outgoing tenant in feeding his cattle for sale. There would be a great deal of difficulty in procuring vouchers as to what had been expended. After some further discussion Mr. R. Fowler proposed, and Mr. Richards seconded, “That the rule should stand thus; ‘Linseed or cake, fed in the last year of tenancy by cattle or sheep, to be repaid 30 per cent.; where no corn crop has been taken, the outlay not to exceed 20 per cent. of the rental.’”

Rule 4.—Lime, if used by itself, or with common mould, according to the following scales: Heavy soils six years—First year the outgoing tenant to be allowed 20s. in the £, second year 17s., third year 14s., fourth year 11s., fifth year 8s., and sixth year 5s.; and for light soils—First year 15s. in the £, second year 10s., and third year 5s. in the £. Mr. R. Fowler proposed, and Mr. Galpin seconded, “That four years should be substituted for six years.” Carried. Mr. T. Fry proposed “That the word ‘heavy’ should be struck out, and that the allowance should be for the first year, where no corn crop has been taken, 20s. in the £, second year 15s., third year 10s., and fourth year 5s. in the £.”

Rule 5.—On the proposition of Mr. Galpin, seconded by Mr. Ford, was adopted without alteration, as follows: Chalk, if done by tenant, the price and quantity per acre to be first agreed on. Eight years, viz.: First and second year the outgoing tenant to be allowed 20s. in the £, third year 15s., fourth year 16s., fifth year 13s., sixth year 10s., seventh year 7s., eighth year 4s.

Rule 6.—Draining, whether with pipes, tiles, turf, or other materials, pond and tank making where the materials are found by landlord, the tenant doing the carriage. Ten years, viz.: First year, the outgoing tenant to be allowed 20s. in the pound; second year, 18s.; third year, 16s.; fourth year, 14s.; fifth year, 12s.; sixth year, 10s.; seventh year, 8s.; eighth year, 6s.; ninth year, 4s.; tenth year, 2s. Mr. Fowler proposed “That the words ‘turf or other materials’ should be omitted, and that the rule should read, ‘pipes, tiles, or stone,’ and that after the word ‘carriage’ ‘and labour’ should be added.” This was seconded by Mr. Barrett, and agreed to.

Rule 7.—Any hedge planted by tenant, with consent of landlord, to be subject to valuation.

Rule 8.—If any tenant make, or fresh lay out, any water meadow, the landlord doing the weir work, over ten years, the same scale to be adopted as in rule 6. Both these rules were adopted without alteration.

Rule 9.—French grass to be paid for according to value not exceeding four years. On the suggestion of Mr. Fowler, “sainfoin” was substituted for “French grass.” Mr. Richards said he thought three years was long enough, and in this Mr. Gay concurred. The former gentleman said he had a piece which he left to an incoming tenant in Hants which was growing even up to that time. He found, if ploughed up every two or three years, and the crop changed, the same land could be used again in ten or twelve years, but, if the crop was continued for several years in succession, the land had to rest for a long time. Most of those present being of opinion that four years was a suitable time, the rule as it stood was agreed to.

Rule 10.—Extra buildings required, to be subject to a special agreement between landlord and tenant, was struck out.

Rule 11.—Temporary buildings. Any shed put up for sheep, cattle, or manure, &c., by tenant, to be taken at a valuation or removed. Mr. Fowler proposed, and Mr. T. Fry seconded, “That the words ‘or removed’ should be struck out.” Carried.

Rule 12.—That for conversion of all pasture land into arable, the incoming tenant to pay 15s. in the pound before the first corn crop. Mr. C. Flower characterised this rule as one of the most extraordinary he ever heard of—that a man should lay out 20s., and only receive 15s. Certainly he was entitled to his corn crop or compensation, and, if from any cause he left his farm, he ought to have 20s. in the pound. Mr. T. Fry concurred in this, and, after some further discussion, Mr. Ford proposed, and Mr. Flower seconded, “That the rule should be struck out.”

The following rules were adopted:

Rule 13.—Planting orchard with consent of landlord. The outgoing tenant to be paid for the trees as follows: The first year the cost of the trees, and to the sixth year according to their increased value. From the sixth year to the twelfth year to remain at the same value. After the twelfth year to be considered the property of the landlord.

Rule 14.—That if at the expiration of any tenancy the land is not left in proper and husbandry-like condition, the outgoing tenant shall be liable to be assessed for such neglect, the amount to be settled by arbitration.

Rule 15.—All chalking and draining, the making of water meadows, ponds, and tanks, to be with consent of landlord, and in writing, and, if done by landlord, tenant to pay five per cent. on the outlay.

Rule 16.—That twelve months’ notice to quit be given in all cases by either party.

Rule 17.—If any dispute arise between landlord and tenant respecting any of the afore-mentioned rules, to be subject to reference, one to be chosen by each party, and a third to be named before proceeding to business, whose decision shall be final.

Mr. FOWLER said his object in asking that the rules which were formerly passed by the Club should be considered was because he desired to elicit the opinions of the various clubs in the county on the question. As they were aware, a bill had been framed, and brought before the House last session, but the parties who had charge of it (Mr. Read and Mr. Howard) could not undertake the proposition of another—Mr. Howard not being in Parliament, and Mr. Read otherwise engaged. Their committee (Chamber of Agriculture) were going to prepare a bill, which would be entrusted to Mr. Pell and Mr. Chaplin (!!!), and he was desirous of getting the opinion of the farmers and all belonging to their clubs as to the rules which had been brought before them. Mr. Fowler expressed his opinion that very little could be gained, for they would not find half-a-dozen farmers to agree to this. Mr. Fowler said the opinions of the several parties would be submitted, and it would be for the Council to adopt any suggestions made.

The proceedings closed with the customary votes of thanks.

MAIDSTONE FARMERS' CLUB.

NITROGEN.

At the last meeting, T. B. Lovett, President, in the chair, the subject for discussion was Nitrogen, and its agricultural relations, by Mr. G. Jones, F.C.S., of London, Professor of Chemistry.

Professor JONES said there was no element known to chemists of more importance, in an agricultural sense, than the one which they had met to study that evening. He proposed in that, and in his next lecture, to consider the fertilising elements of manures, and for this purpose had divided his subject into two parts. First, he should consider the chief organic elements of manures, and in his next lecture the mineral portion, the phosphates of lime and magnesia. It would be impossible to draw any strong line of separation between the elements of these two kingdoms, the organic and the mineral, or to say that such elements for example as carbon, nitrogen, sulphur, or phosphorus were purely organic or purely mineral. Carbon, for instance, was the characteristic element of the vegetable kingdom. If they took any organic substance as wood, paper, straw, or guano, and burnt it, what was the result? The elements of carbon at once became manifested by the appearance of what was commonly called "charring." Thus the element of carbon was at once revealed. They might take it as a general rule that any substance that would char belonged either to the animal or vegetable kingdoms. At the same time that very element of carbon was one of the principal elements in some of their most important minerals. If they took limestone they would find that carbon existed as a carbonic acid gas in large quantities. Nitrogen was not found in any appreciable quantity in the mineral kingdom; it was almost purely organic. Phosphorus and sulphur were found in both. They were accustomed to a chemical classification of the elements of matter for the sake of simplifying study, and they therefore divided them into the two great groups, organic and mineral (or inorganic) Elements. The chief organic elements were carbon and nitrogen, with the elements of water, and their chief characteristic was volatility at a great heat. If they took any organic substance, he might mention guano, and burn it in the flame of a spirit lamp, they would see the difference between substances of organic and mineral origin—the former being combustible and the second incombustible. He would now take some guano, place it in a platinum capsule, and place it over the flame of the spirit lamp with which he had fortunately come provided, as he found that it was impracticable to adapt the gas in the room to his experiments. The guano first began to char, then to blacken, and next, smoke was produced. A great portion of the carbon passed away in the form of smoke; the elements of water and of nitrogenous matter were given off; the animal matter was burned away, and only a white or greyish ash remained, which formed the mineral portion of the guano, consisting chiefly of the phosphates of lime and magnesia, potash, soda, &c. In the process of burning, the carbon had become oxidized, partly at the expense of the oxygen of the air, and partly by the oxygen in the guano itself; and was given off as carbonic acid gas, the whole of the organic matter being burned away. The nitrogen was likewise volatile, at a red heat, passing away in combination with the organic elements. There were two kinds of organic food for plants, viz., nitrogenous and non-nitrogenous; the latter being sometimes called carbonaceous. Most substances of animal origin belonged to nitrogen, such as hair or wool, fecal matter and muscular tissue, while starch, sugar, gum, oil, and woody fibre were non-nitrogenous. So that in a few years' time they would find farmers studying chemistry in conjunction with agriculture, and this would be a very beneficial course to pursue. They would know what substances to accept as manures, and what to reject. Starch matter would never become an element of manure being deficient in nitrogen, but sugar, gum, oil, wood, and sawdust, might be brought into mechanical contact and mixed with manure too rich in nitrogen, simply by breaking it up to allow the rain to get to it. It was chiefly from the animal sources that they obtained the supply of nitrogen for the growth of plants. In the fecal matter of animals and birds, and in

wool or shoddy, leather cuttings, &c., they met with nitrogen as the most important characteristic element. In speaking of nitrogen he would deal with it by itself. As an element it was found in small quantities only in the vegetable kingdom. It was a characteristic element of the grasses, or "cereals," and for the growth of wheat, oats, and rye, it was indispensable. Nitrogen was the chief element in nitre or saltpetre. It was a singular fact in regard to animal substances that in their ultimate stages of decomposition, they were resolved into nitre, no doubt as the result of the decomposition of animal matter. It was found in Peru covering a large extent of land, and it existed in great quantities in the soil of grave-yards. He had had water for chemical analysis, perfectly clear and apparently fit to drink, which he had been obliged to condemn for drinking purposes because it contained nitrates, which indicated previous sewage contamination. Water containing nitrates should be condemned, as it came from a dangerous source, and would do harm to-morrow if not to day. Nitrogen was an invisible gas; it was non-explosive, and neither supported life nor combustion. It was a perfectly inert, tasteless and odourless gas. Four-fifths of the air they breathed consisted of nitrogen, and seemed to have been designed by the Great Creator for the sole purpose of diluting the active oxygen upon which mankind depended for existence. When nitrogen was required for experiment it was usually procured from atmospheric air by removing the oxygen when the nitrogen would remain. He held in his hand a jar, which he had previously filled with air, and in which a piece of phosphorus had been burned. The phosphorus having been consumed at the sole expense of the oxygen of the air, the nitrogen alone remained. Taking a lighted taper in his hand Mr. Jones proceeded with the experiment by placing it within the glass jar where it was at once extinguished, there being no oxygen to support the combustion. In the same way it would be impossible for a human being to exist in such an atmosphere. The experiment of the lighted taper, the lecturer continued, was a safe one to try where impurity in the atmosphere was suspected, for where this impurity really existed the taper would be at once extinguished. Therefore the conclusion might be drawn that human life would also be sacrificed. He would now empty the jar of gas and fill it with air. When he introduced the candle again they would find that it continued to burn so long as there was oxygen to support the combustion. The carbon of the candle in burning combined with the oxygen, and was converted into carbonic acid gas at the expense of the oxygen, the candle gradually going out. There were no experiments which he could show them with nitrogen, as it possessed no marked characteristic, except its inertness. It was only in its compounds that the study of nitrogen became interesting. The first compound of nitrogen was ammonia, formed of nitrogen in union with hydrogen. He did not suppose there was any chemical fact more difficult to get over and understand than that of chemical combination. They might get two substances totally distinct from each other—they might be gases possessing entirely different properties—and when combined they would form sometimes a liquid and sometimes a solid, possessing totally distinct properties. Nitrogen gas had no taste, smell or colour; hydrogen was an explosive gas without colour or taste, and when these two were chemically combined a gas was produced which was distinct from either. It was highly pungent, would burn to a certain extent, and possessed various properties of its own. The name for it was ammonia. He did not think that they two substances had been combined directly by man, but in the secret laboratory of nature many such wonderful transformations were wrought. Ammonia was first discovered by the ancient alchemists who procured it by distilling the horns of the hart, hence the term "Spirits of hartshorn." It was called ammonia, after the temple of Jupiter Ammon, in Lybia, near to which it was first distilled. It was distilled from camel's dung, and all fecal matter. Ammonia was a volatile and very pungent gas, and when combined with acids, formed a group of useful salts. The carbonate of ammonia was used as smelling salts by the ladies, and when dissolved in water

the spirit was called sal volatile. Carbonate of ammonia was merely the salt of ammonia possessing its odour. Ammonia was called the volatile alkali, and it had the property of turning vegetable reds to blue, yellows to brown or orange. He would take for instance a solution of litmus—the extract of blue cabbage would do—and they would see that by combining with acid the blue was turned into red. By pouring some ammonia into it it was again turned into blue. Continuing the experiment the lecturer showed that by the application of ammonia to mustard the presence of turmeric could be detected, the mustard in that case turning slightly brown or orange. Ammonia when combined with sulphuric acid, crystallised into prisms, and was a most important fertiliser, especially in “top dressing” for wheat. Exhibiting some ammonia made from bones—a rather expensive plan—the lecturer continued by saying that the plants had the property of absorbing the ammonia, and then recombining the nitrogen, and converting it into the substance of which the plants were composed. Wheat cereals were converted into gluten and albumen, and peas and so on into substances slightly differing from albumen. It was a very curious fact with respect to the assimilation of nitrogen by plants, that some were converted into gluten, albumen, or legumen, while others were turned into deadly poisons. Morphia, strychnia, and belladonna were all nitrogenous compounds, so that nitrogen might form an element of food or poison, according to the disposition of the plants. Ammonia was very soluble in water; he would show an interesting experiment illustrative of the affinity of ammonia for water. A glass tube containing dry ammonia gas was then dipped at the open end into a bowl of water, and the water speedily rose within the tube, absorbing the gas, and turning the water, which had been previously tinted red, into blue, the presence of ammonia being thus proved. Two properties of ammonia were thus illustrated by one principle. The extent of the solubility of ammonia in water was 600 times its bulk, which meant that one cubic inch of water would absorb six hundred cubic inches of gas ammonia. This was an important fact in agriculture, as they would presently see. Ammonia had a great affinity for acids, and when the two substances were mixed great heat was developed, and clouds of the resulting “salt” was obtained. By taking a jar, moistening the inside with hydrochloric acid, and placing it over a dish containing ammonia, clouds of salt ammoniac would rise and fill the jar (Experiment accordingly). It was customary for manufacturers of soluble guano to add sulphuric acid to the raw material for the purpose of “fixing” the ammonia. Peruvian guano contained ammonia, sometimes carbonic ammonia. By adding sulphuric acid they fixed the ammonia, and there was at the present time an excellent manure of that description and sold under the name of “Ammonia-fixed Peruvian Guano.” It did not smell, and farmers were deceived and rejected samples of manure for this reason. There could not be a greater fallacy. If they took a sample of Peruvian guano, in which the ammonia had been fixed by the action of sulphuric acid, and combined it with liquid potash, they would get the smell of ammonia directly. This could not be done, however, when nitrogen did not exist as ammonia but as animal matter. These manures were just as good, although less direct in their action upon the plants. Ammonia was found in small quantities in the atmosphere; from one to forty parts in a million parts of air, and it was this circumstance which rendered rain so nourishing for vegetation. Atmospheric ammonia was formed by the union of the nitrogen of the air with the hydrogen of the aqueous vapour, the union being brought about by means of electricity. The rain which descended during electric disturbances was thus the richest in ammonia. Ammonia was as useful to the experimental chemist as to the farmer. When dissolved in water, it formed one of the most useful agents for the separation of metallic oxides, and for the detection of substances in solution. It was a good test for copper, iron, alum, and other substances. He would show an experiment with copper. Taking a solution of blue vitriol, much used to prevent smut in wheat, they would find that directly he added ammonia they would get a partial separation of the oxide of copper, and by adding enough ammonia, the copper would dissolve, leaving a beautiful azure blue solution—the colour they saw in druggists windows. Ammonia was also used for the detection of iron, and by taking a solution of the chloride of iron and adding ammonia, the whole of its iron was deposited as red oxide. In the same way ammonia added to a solution of alum, pre-

cipitated the oxide of aluminium. With another salt, called uranium, a yellow precipitate was formed, so they would see that ammonia was very useful in the laboratory, as by its use chemists could tell by the colour of the precipitates what the substance was. When they wished to obtain ammonia gas there were many ways of doing it, the simplest being that of distillation from any of the salts of ammonia by means of lime, when the gas ammonia would be given off in abundance. Ammonia may likewise be obtained by the dry distillation of animal substances, rich in nitrogen, such as wool, leather, blood, bones, &c. These materials were mixed with dry lime, and heated in iron retorts, when the nitrogen would be distilled in union with hydrogen as ammonia. Ammonia salts were now obtained mostly from coal tar, which was very rich in nitrogen. Shoddy took a long time to decompose in the soil; two years or more would elapse before it began to act upon vegetation. Leather cuttings took still longer, but blood, although it contained no ammonia, decomposed at once. Having exhibited a sample of the blood used in blood manures, the lecturer proceeded by saying that Faraday succeeded in liquifying ammonia gas by distilling it under pressure of about 97 lbs. to the square inch. He also discovered that ammonia under other conditions could be formed into a white crystalline solid. Nitrogenous substances, when heated in close vessels, produced another class of compounds besides ammonia, according to the way in which they were heated. Under certain circumstances they produced a series of salts called cyanides; and ferro-cyanides when iron was present. Let them take for example leather cuttings, and put them into an iron pot, with iron filings, and a little carbonate of potash, closing the vessel, and subjecting it to heat. When sufficiently heated, let the pot be taken from the fire, and allowed to cool, the mass emptied out, and treated with water, and a beautiful salt, called ferro-cyanide of potassium or yellow prussiate of potash would be produced. This was one of the ingredients of Prussian blue, which he would now proceed to make in their presence. By the addition of chloride of iron in certain proportions to a solution of ferro-cyanide of potassium the Prussian blue was then precipitated in the form of a solid. It was a singular fact that plants, such as the cereals, should take up nitrogen from the soil, and convert it into gluten, while another plant, such as the deadly nightshade, should take it up and convert it into belladonna; and what plants could do, chemists were enabled to imitate in an inferior degree. Nitrogenous substances might be either distilled into ammonia, or converted into cyanides. The cyanides and ferro-cyanides contained the elements of Prussic acid, and it was in that way in fact that the dreadful poison was made. The almond tree (*Amgdalus communis*) took up nitrogen and formed a substance called amygdalin, which could be converted into prussic acid by fermentation. Nitrogen united they would thus see with other elements, forming many substances of great dissimilarity. They could not study them all in one, or even a dozen lectures, so they would pass on to the consideration of another group of substances of much interest to agriculturists, viz, the oxides of nitrogen. The first of these was called nitrous oxide, or laughing gas, now much used by dentists, and very useful for the purpose. The next, oxide of nitrogen, was called nitric oxide, or dextoxide of nitrogen, containing twice as much oxide as the laughing gas. Taking a jar of the dextoxide of nitrogen, and placing a piece of white paper behind, showing it to be entirely free from colour, the lecturer explained that this gas possessed a peculiar affinity for oxygen and when exposed to the air it became oxidised and converted into per-oxide of nitrogen. This was a gas having an orange colour; it contained four times as much oxygen as laughing gas, and possessed an acid reaction. When he removed the stopper of the jar now exhibited, and admitted the air, they would at once see the change in colour, the acid reaction at once turning the blue tinted water red. The next oxide of nitrogen was the well-known nitric acid or aquafortis, one of the constituents of nitrogen. It contained five times as much oxygen as laughing gas, and was one of the most important acids in commerce. If they wished to obtain the lower oxides of nitrogen they must make them from nitric acid; and in order to make the nitric acid of which he had spoken, if he mixed copper filings in a retort with nitric oxide, and applied heat, abundance of the gas would be given off. Having successfully performed the experiment, the lecturer went on to state that this nitric acid was usually obtained from the native nitrate of soda by distilling it with sulphuric acid. Nitrate of soda was

an important agricultural salt, being of great service as a manure, both on account of its nitrogen and soda. Nitric acid dissolved copper, iron, and some other metals, but not gold. If he dipped a discoloured penny in nitric acid they would perceive the action of the acid upon the metal, the portion brought into contact immediately becoming bright. The penny was handed round, the lecturer remarking that an immersion of a few minutes, would have completely dissolved it. The other nitrogenous substances of agricultural interest were blood, shoddy, and leather. These must undergo prolonged fermentation or rotting in the soil, before their nitrogen could be assimilated by plants. This was notably the case with shoddy, which usually took about two years to rot, and was therefore only fitted for land where immediate production was not important. He now came to manures and would first of all take a sample of guano. This, he knew, contained ammonia, as he had analysed samples, and by applying the test of a small solution of potash, he at once obtained the smell of ammonia. If he took some of Odams' blood manure, he would get no smell of ammonia, and yet it was strange that Odams' blood manure was rich in the element of nitrogen. He used this experiment in order that they might not be deceived in a sample of manure, simply because it did not smell. He produced a sample of Odams' blood manure, containing 6½ per cent. of nitrogen which would produce about 7 per cent. of ammonia by decomposition in the soil. In order to distinguish between nitrogen existing in the form of ammonia, and as simply animal matter, such as blood or flesh, they could not have a better agent than potash and lime. Dried blood formed one of the most useful manures known to agriculture. If he took some of this and put a little potash into it there was still no smell, but if he took a sample containing sulphate of ammonia, and put potash into that there was no mistake about the smell. The nitrogen which blood manure contained must be converted into ammonia by decomposition, and this was why animal matter was so valuable as a fertiliser. The agricultural salts such as those of ammonia and the nitrates were seldom pure. Here was a sample of red muriate of ammonia, the red appearance of which was due to the presence of cyanide of ammonia, a product of the distillation of coal, and poisonous to plants. Red sulphate of ammonia sometimes contained small quantities of this poison, but a small proportion would not have any effect upon the plant. He should warn them against this sulpho-cyanide of ammonia which was poisonous to plants and unfitted for manure. They must not suppose that a small quantity had a bad effect; it had really no effect at all. He had here a solution of red sulphate of ammonia with which by means of chloride of iron, he could detect the presence of the sulpho-cyanide of ammonia—a most striking experiment. [Taking a plate in his hand the lecturer immediately produced, in the way mentioned, a substance closely resembling human blood.] They had seen that nitrogen entered into the composition of food and poison; it was also an element of explosives. Gunpowder was explosive on account of the action of the nitre upon the other ingredients, sulphur and charcoal. Fulminate of silver was a variety of cyanide, or, in other words, a nitrogen compound. Iodide of nitrogen was most explosive, and if dissolved in ammonia and water for about half-an-hour, and then placed upon an iron tray, with a light beneath, would go off with a bang. The nitrogen compounds of manures possessed an additional interest to the agriculturist in their relations to the soil. He would consider in the first place ammonia. This formed what men called "double salts." With sulphate of potash it formed ammonia alum, and with clay which was a silicate of alumina it formed silicate of alumina and ammonia. When, therefore, sulphate or muriate of ammonia was applied to land, this double silicate was first formed, and that was probably the reason why a good clay soil was best adapted for the growth of wheat, and of the cereals generally, the ammonia being retained by the clay, and every grain of it utilised. Clay had a strong affinity for organic matter generally and for water. They must all have noticed how a clay pipe would adhere to the lips unless provided at the end with a coating of sealing-wax. French chalk, as it was called, which really was only clay, was used for cleansing cloth from dirt and greasy matters. This property of clay depended upon its affinity for greasy matters; it would not be at all useful to the cleanser except for this chemical affinity. The base of clay, the alumina, was used to precipitate colouring matters in the manufacture of "lakes;" and clay was one of the ingredients, he believed, in the

"A B C" process for the precipitation of the constituents of sewage. Nitrogen existed then in the following conditions: In the atmosphere as a constituent, although of its potency in that condition as a manure they had no proof; in nitrate of potash and soda as nitric acid, acting in the soil as an oxidiser of organic matter, and also in the formation of ammonia. Next, nitrogen existed as organic matter—a loose term applied to complex animal matter; and, lastly, it existed as ammonia. In each of these conditions it was taken up by plants, and its elements made to assimilate with other elements, forming the various principles of which plants were composed, both food for man and cattle, and baneful poisons or substances of medicinal virtue. The nitrogen compounds were interesting to the farmers on account of their conversion one into the other. Sulphate of ammonia, for example, was placed upon the land. Wheat converted it into gluten, and gluten supplied man with nitrogen for his flesh and blood. Man died, his flesh and blood decomposed into many substances, chiefly ammonia compounds and nitrates. Again, the bullock took nitrogen from the grass and other vegetable food, converting it into muscular fibre. This was given for man's support, as he was unable to eat grass, and the bullock thus acted as the intermediate agent for the conversion of grass into human muscle. Man lived upon animal and vegetable food, and returned to the earth when life was over, giving back his elements for the building up of future plants and animals, for "dust we are, and unto dust we must return." He had now said all he considered agriculturally interesting upon nitrogen and its compounds, and on the next occasion he would address them upon the subject of phosphates and the other mineral portions of manures. For the present he trusted that his remarks upon the chief organic elements of manures had been rendered sufficiently interesting to his audience.

Mr. CATCHESIDE said that so much depended upon the chemical examination of materials used for food and manure, that it became more or less an essential part of a farmer's education that he should be acquainted with the science of chemistry. He thought Mr. Jones must have raised the fears of some of their shoddy friends if that material remained in the ground two years before it became assimilated to the plant. Perhaps the lecturer thought that all the shoddy used in Kent was pure. They all recognised shoddy as refuse wool, and he had seen hundreds of tons of it before it came into the hands of the manufacturer. Shoddy was made from shoddy by sulphuric acid. He had not met with a pure sample of shoddy since he had been in Kent, although he had examined several specimens. Pure shoddy was £4 per ton, but there was shoddy which could be bought at 50s. and 60s. The material which was bought at the lower price had been treated with sulphuric acid, and probably it was better for instantaneous action than pure shoddy. If, however, pure wool refuse was applied, it would take two years or even longer before it was assimilated to the plant. He thought the lecturer should have called attention to the fact that nitrogen should be present in manure in a soluble condition. He was glad to hear Mr. Jones speak about the smell of ammonia, and the fallacious idea that in proportion to the badness of the smell, the manure was considered better in quality. A great many farmers thought that unless sprats smelt as abominable as they sometimes did, they were no good; and sometimes to deceive farmers, guano was by artificial means made to smell of ammonia, but it must be remembered that the smell of manures was no test of quality. The best superphosphate had not the slightest smell at all, yet it was quite as valuable as if it possessed the bad smell of sprats. Some samples of shoddy had no smell; others smelt very bad. He thought it was only due to those interested in shoddy to refute the ideas that that material will lie in land two years without having an effect. As a brother chemist, he could testify to the fact that what Mr. Jones had said was of the utmost importance to farmers. The science of chemistry had been neglected by farmers, but they should devote more time to the rudimentary study of it. He was pleased to see the members of the Maidstone Farmers' Club inviting men of the position of the present lecturer who would come down and lecture to them, not only because the subject was new and strange to some, but because it was useful. The rough tests mentioned by Mr. Jones were of great use to them, and he had great pleasure in testifying to the ability displayed in the lecture they had heard that evening.

Mr. BARLING thought that if people were willing to pay a fair price for shoddy they could obtain an article worth the enhanced price they paid. They all knew that feathers were valuable to hop growers. Feathers contained a larger quantity of nitrogen than any material obtained from the land. There was also a large number of other things containing nitrogen more or less. With regard to wool waste or shoddy it contained a large proportion of nitrogen, and if they looked down a list of articles showing the per-centage of nitrogen contained in manures shoddy would be found to stand three or four from the top. Nitrogenous material was extremely valuable, and wherever farmers could obtain it they should do so, and they should also avoid its loss. Bullock's hair also contained nitrogen, and fish, and the blood of animals more or less. It was true the smell was not a criterion of the quality of manures. They might say they did not smell ammonia in a certain sample of manure, but it would be a pity if they did, for where there was smell, waste was going on. Mr. Barling concluded by pointing out that in applying manure containing nitrogen to crops farmers must use judgment, because the amount supplied might exceed the right quantity required and the plant would be injured.

Mr. F. PINE said that if farmers would give the price formerly paid (50s. or 60s.) for wool waste they would get it; but if they only gave 50s. or 60s. they would get an adulterated article. A pure wool waste could be obtained if an adequate price was paid, but as to whether it was to lie in the ground for two years before it had any effect on the plant, that was another point. He believed it acted quicker than that, although it might not wear out under a period of two years.

Mr. STONHAM said he did not see why shoddy should be rejected because it was combined with sulphuric acid; it had been stated that sulphuric acid was manure itself. The field which had been thrown open by the lecture was so wide that it was almost bewildering. The science of chemistry was in its infancy. Liebig announced to the world that providing they put mineral manures into the soil the atmosphere would

give them ammonia. Experiments made by Mr. Lawes had proved that to be a fallacy. He (Mr. Stonham) believed from practical experience that the smell of ammonia was a general test; but he did not say that they could not have manures with ammonia unless they possessed a smell. He thought the lesson they ought to learn was not to rely so much as they did on artificial manures, but to make their own manures. However valuable they might hold artificial manures as auxiliaries, they ought to consider as their sheet-anchor the manures they made in the farmyard.

Mr. ELGAR explained that all shoddy sold at 50s. or 60s. was not adulterated. After the oil had been taken from shoddy sold at 80s. to 90s. it was resold at 50s. or 60s., and after the oil had been removed it was better for agricultural purposes than it would have been if the oil had been allowed to remain.

Mr. JONES, in reply, said when he spoke of shoddy taking from two to three years to decompose, he meant that the whole of the shoddy would not be thoroughly decomposed until that period had elapsed. He had analysed a great number of samples of shoddy and he very seldom found it adulterated. Oil of vitriol was not applied to shoddy to fix ammonia, but this oil was put into it to make it more favourable for introduction to the soil. If shoddy was placed on land in bulk it would not decompose so soon as if it were broken up, and the best way to break it up was to mix some oil of vitriol with it. Smell was no criterion, but it might be regarded as an auxiliary test in the analysis of manure. The smell of decomposed fish was not due to ammonia, but to the change which was taking place in the tissue of fish. Fermentation brought about results which chemists had never been able to unravel. Bullock's hair did not decompose so soon as shoddy. Ammonia would always reveal its presence in a free state, although every rule had its exception; if it combined with clay they could not smell it.

A vote of thanks having been passed to Mr. Jones, the meeting terminated.

CROYDON FARMERS' CLUB.

AGRICULTURAL CHEMISTRY.

At the last meeting, Mr. Robert W. Fuller, the president of the Club, in the chair, Mr. J. R. P. Gould delivered a lecture on agricultural chemistry.

Mr. GOULD said: I have the honour of appearing here this evening for the purpose of bringing before you certain information in regard to the chemistry of agriculture and I must commence by introducing some elementary facts which I am afraid you will find rather dry. The principal simple chemicals influencing the growth of vegetation are carbon, oxygen, hydrogen, and nitrogen. The organic constituents of plants are starch, gum, sugar, gluten, and albumen. They are the products of plants endowed with life, and cannot be produced without the operation of life; hence they are termed organic, being the products of living organs. The inorganic constituents of plants are silica, alumina, potash, soda, lime, magnesia, phosphate of lime, common salt, sulphate of lime, &c., varying according to the soil in which the plants grow; a certain number of them, however, are indispensable to their healthy nutrition and full development. These inorganic constituents are all compounded of two elementary bodies. Starch is a substance of a mealy nature, found in the seeds of our various kinds of grain. Gum is a juice exuding from cherry and plum trees. That which gives mechanical support to plants, forming, as it were, their bones and blood vessels, is called "vegetable fibre," or, when it has become tough, insoluble, or indigestible, "woody fibre." Vegetable albumen is a substance which we meet with in the sap of plants; it coagulates by boiling like the white of an egg. Vegetable casein is a substance which we meet with in peas and other leguminous fruits; it is extremely like cowmilk cheese. Gluten is a substance which we meet with in the seeds of oats, wheat, rye, and other kinds of grain. The beet, turnips, mangold wurtzel, maize, &c., are termed potash plants. The tobacco, beans, peas and clover are termed lime plants. Barley, oats, rye, and wheat are termed silica plants. So far as the ingre-

dients of its leaves are concerned the potato may be classified with the lime plants, but its tubers, containing only a trace of lime, belong to the class of potash plants. By the term alkali we mean potash, soda, and ammonia. Potash is the alkali of land plants, soda of sea plants, and ammonia of animal substances. Not being easily raised in vapour by fire, potash and soda are fixed. Unless fixed by something else, ammonia always exists as vapour. By the combination of alkalis with acids, compounds are formed, termed salts. Acids occur in all the kingdoms of nature; they constitute a very large class of chemical bodies. Phosphoric acid is of animal origin, being found in bones. Oxalic acid is of vegetable origin, found in sorrel. Sulphuric and carbonic acids are common in mineral bodies. Vegetable fibre, starch, vegetable mucus, gum and dextrine, sugar, fat and oil, resin, and vegetable acids, are substances destitute of nitrogen. Albumen, casein, gluten, chlorophylle, and vegetable bases are nitrogenous substances. By qualitative analysis we convert the unknown constituents of a given compound into certain forms or combinations with the properties of which we are acquainted; and we are thus enabled to draw correct inferences respecting the nature of every individual constituent of the compound in question. Quantitative analysis, by weight, has for its object to convert the known constituents of a given compound into such forms or combinations as will admit of the most exact determination of their weight, and of which, moreover, the relative and combining proportions are accurately known. The physical properties, such as porosity, colour, attraction for moisture, or state of disintegration, have great influence upon the fertility of a soil. Those alkalis, earths, and phosphates, constituting the ashes of plants, are perfectly indispensable for their nutrition and development; in fact, no plant can flourish on any soil which does not contain these compounds. Almost all the different families of plants are distinguished by their containing certain acids; therefore the necessity of alkalis

for the vital processes of plants will be obvious. When we observe that the proper acids of each family of plants are never absent from it, we must admit that the plants belonging to that family could not possibly attain perfection if the generation of their peculiar acids were prevented; hence, if the production of tartaric acid in the vine were rendered impossible, it could not produce grapes, or in, other words, it would not fructify. Now the generation of organic acids is prevented in the vine, and, indeed, in all plants which yield nourishment to men and animals, when alkalies are absent from the soil in which they grow. The organic acids in plants are very rarely found in a free state. In general they are in combination with potash, soda, lime, or magnesia; thus, silicic acid is found as silicate of potash, acetic acid as acetate of potash or soda, and oxalic acid as oxalate of potash, soda, or lime. The potash, soda, lime, and magnesia in these plants are, therefore, as indispensable for their existence as the carbon from which their organic acids are produced. In order not to form an erroneous conclusion regarding the processes of vegetable nutrition, it must be admitted that plants require certain salts for the sustenance of their vital functions, the acids of which salts exist either in the soil (such as silicic or phosphoric acid), or are generated from nutriment derived from the atmosphere. Hence, if these salts are not contained in the soil, or if the bases necessary for their production be absent, they cannot be formed. The juice, fruit, and leaves of a plant cannot attain maturity if the constituents necessary for their formation are wanting, and salts must be viewed as such. These salts do not, however, occur simultaneously in all plants. Thus, in saline plants, lime soda is the only alkali found; in corn plants, lime and potash form constituents; several contain both soda and potash, some both potash and lime, whilst others contain potash and magnesia. The acids vary in a similar manner. Thus one plant may contain phosphate of lime, a second phosphate of magnesia, a third an alkali combined with silicic acid, and a fourth an alkali in combination with a vegetable acid. The respective quantities of the salts required by plants are very unequal. The aptitude of the soil to produce one but not another kind of plant is due to the presence of a base which the former requires, and the absence of that indispensable for the development of the latter. Upon the correct knowledge of the bases and salts requisite for the sustenance of each plant, and of the composition of the soil upon which it grows, depends the whole system of a rational theory of agriculture. The development of the stem, leaves, blossom, and fruit of plants is dependent on certain conditions, the knowledge of which enables us to exercise some influence on their internal constituents, as well as on their size; it is the duty of the chemist to discover what these conditions are, for the fundamental principles of agriculture must be based on a knowledge of them. There is no profession which can be compared in importance with that of agriculture, for to it belongs the production of food for man and animals; on it depends the welfare and development of the whole human species, the riches of states, and all commerce. There is no other profession in which the application of correct principles is productive of more beneficial effects, or is of greater or more decided influence. Hence, it appears quite unaccountable that we may vainly search for one leading principle in the writings of agriculturists and vegetable physiologists. The methods employed in the cultivation of land are different in every country and in every district; and when we inquire the causes of these differences we receive the answer that they depend upon circumstances. No one, however, has yet devoted himself to ascertain what these circumstances are. Thus also when we inquire in what manner manure acts we are answered by the most intelligent men that its action is covered in mystery; and when we demand further what this means, we discover merely that manure is supposed to contain an incomprehensible something, which assists in the nutrition of plants and increases their size. This opinion is embraced without even an attempt being made to discover the component parts of manure, or to become acquainted with its nature. Mr. Goold then read a table showing in what proportions the inorganic constituents of plants are contained in the ashes of the various crops. He next gave a full analysis of farm-yard manure, produced from horses, cows, and pigs, and then proceeded: The composition of farm-yard manure of course varies according to the animals yielding it, and again according to the varieties of food upon which they have been fed. From the analysis it will be seen that yard manure contains every single constituent that is necessary for the growth

of plants. It has, however, this serious drawback—the fearful amount of waste in its application, caused by the large quantity of water it contains. What farmer, therefore, can calculate the expense he is put to in its use. Inasmuch as very few, if any, farms which produce an amount of farm-yard manure sufficient for their requirements, recourse must be had to artificial manures. In a good many districts, if not in all, the mere mention of the artificial manures creates an amount of disgust in the minds of many farmers. They complain that they have been so miserably duped, that they have lost such sums of money not only in worthless manures, but from losing their crops consequent upon their use, that they very frequently term manure manufacturers rascals, robbers, people devoid of principle, &c. Now, as every effect has its cause, let us inquire into one or two of the many reasons for the existence of such a state of things as this intensely antagonistic feeling of farmers towards those who manufacture manure. In the first place let me inform you that it takes a very large capital to embark in the business of manufacturing manure—at least from such materials as manures ought only to be made from; and the scientific knowledge requisite for the chemical manipulation of the various materials is anything but trivial. Now, admitting these two points, what has happened? Farmers, finding they have not sufficient yard manure for their manurial requirements, are led to purchase artificial, and how do they proceed about it? They themselves, with very few exceptions, know nothing whatever about chemistry, although in reality little chemical knowledge is requisite, as I shall hereafter show. The farmer goes to market, bent upon purchasing so many tons of manure, and in his own mind he considers manure simply as the compounding of so many substances, hoping that its results may be beneficial to his crop. His invariable cry is for cheap manure. The materials that ought to enter into its composition trouble him very little. He wants manure, and he wants it deep. His only idea is that a ton of manure is but a ton of manure, and his reasoning powers trouble themselves no farther. Unfortunately, most unfortunately, there are people in the world who are scrupulous to an extent, but to a very small extent. Their principles are of a slightly loose kind; their reasoning mind is not too stringent upon the moral obligations affecting their intercourse with their fellowmen, even in point of business; they live, perhaps, with a tolerably fair idea that the chief aim of life is to make money—*how*, is a totally different matter; this affects their calculations but little; they embark in business, and some may possibly choose the manure trade. With little capital, totally ignorant of the chemistry of their profession, all that they believe it requisite to know is that certain materials, although, perhaps perfectly worthless in themselves, and perfectly worthless in their ultimate compounding into manures, yet that those certain materials, added together, form—well, what shall we call it? Manure? No, hardly such a term as that, for remember, gentlemen, there are even honest manure manufacturers, and to give such a compound as I am picturing the name of manure is an insult to those who carry out fair and legitimate trading. To carry out my picture to the end: The unscrupulous man, with, say £10,000 capital, has made his compound. The farmer at market wants a cheap manure; he can have it at any price. The sequel you all know. The worthless stuff, costing little to make, yielding therefore (say at £4 per ton) a handsome profit, nefariously gained, for its producer, and a large commission for the agent, is sold. The consequences perhaps many of you have experienced. I do not wish it to be misunderstood. It is possible, nay it is more than probable, because it is an absolute fact, that some manure manufacturers with a small capital, go in simply for a local trade, and supply an honest article, always, however, at a fair price—a price consistent with its composition, and the materials used in its manufacture. Now, gentlemen, having given you the principal reason why you all are a little prone to regard manure manufacturers in a scarcely fair light, considering that you are yourselves not free from blame in purchasing popular so-called manures at a price which it is perfectly impossible an article worthy of the name of manure can be made at, and without troubling yourselves to inquire into its composition, I will proceed to explain to you how it is absolutely impossible, if you will follow my advice, that in future you need throw your money and your crops away in buying trash. My serious advice to you who have sons is, if they are to become farmers, let chemistry be one of the studies of their education. It is a grand noble science; it

embraces everything this world contains; its range is immeasurable; its study and contemplation ennobling to the mind. Anyone with a spark of reasoning power and intellect cannot fail to be engrossed with its fascination, for fascination it certainly has, when you come to consider of what it is capable. A perfect master of your profession, independent of everybody, the study of this science will enable you to carry on your farming operations with such a degree of skill, ensuring perfection in cultivation; for, believe me, farming will ere long be conducted simply and solely on scientific principles, and with the exacting competition of the present day in all articles of produce, the farmer of the future will need the aid of science more than ever. Should circumstances be such that either you have no sons to study chemistry, or that you yourselves feel more inclined to follow in the old track of those who have preceded you, for your own sakes consider the importance of the following means by which you may secure yourselves against imposition. There really is no occasion whatever, for any degree, however slight, of mystery, or anything to be concealed, in the manufacture of manures, and I venture to say, as there are several large firms of undoubted honesty of purpose and integrity, if when you are in want of manures you apply to a respectable well-known firm direct, or their agent, you can always, if you choose, know from what materials the manures they sell are made. This does not in any way affect the question of trade secrets, for there are certain materials requisite for the plant, and which ought to form a part of each compounded concentrated manure. Their manipulation alone, as affecting the various chemical reactions produced in their manufacture into manure, are secrets which obviously undoubtedly belong to each manufacturer. With these you have nothing to do, further than knowing the materials your manures are made from. It becomes a question for you to test their ultimate value by the results they severally yield your crops. It is always open to you to know the market value of raw materials, and knowing the materials supplied to you as manure, you have a true safeguard against dishonesty. No adulteration would be possible, honesty would be ensured, crops increased in their ultimate value to the farmer, if he would but use ordinary discretion, and then manufacturers would not get into disrepute, if the means were taken from dishonest men of vilely and systematically being able to defraud. The analysis of soils unquestionably is a source of very material benefit to the agriculturist, inasmuch as by analysing a soil, it points out to him the elements of which it is composed, and, to a great extent, the state in which they exist. It is quite possible for a soil to contain rich fertilising matter, and yet that this matter may not be assimilated by, and available to, the plant; and why? Because the elements composing certain compounds may exist in a state in which the plant cannot take them up as food. Chemical analysis in such a case as this may, by a few simple tests, be able to point out the method by which these compounds may be readily acted upon and decomposed, and thus rendered valuable food to the plant. Again, analysing a soil shows a farmer at once the reason of his land being foul, and supplies him with information as to the means of making it again fertile. Some farmers, growing certain crops requiring the presence of an abundance of lime in the soil, are surprised to find, notwithstanding that they may have put large quantities of farm-yard manure on the land, and consequently, as they suppose, have done everything to ensure a heavy and healthy crop, that the crop does not reach maturity, is anything but full and heavy, and, as a sequence, their money-return is anything but remunerative. A case in point came under my notice some time since, where a large farmer, and a man decidedly intelligent, lost, to a great extent, a root crop, simply because his land required liming. Now, had a very simple test been applied to a small portion of his soil, prior to the seed being sown, it would have at once indicated what was necessary to have secured a healthy and invigorated plant. There are certain conditions in which many organic compounds existing in a soil are a source favourable to developing disease in plants. Chemical analysis, again, rescues the farmer to a very considerable extent, from the ravages of disease which otherwise would have become certain. I have now, therefore, given you one or two reasons why you should always avail yourselves of the benefit of soil analysis, especially if, as in some cases, it is possible for you to get it done free of expense. Epitomising my remarks again on this head; Soil analysis shows you the compounds present in the soil, the

state in which they exist, whether you have symptoms of organic compounds so constituted as to favour disease, whether your land requires liming, and what compounds are requisite for you to replace, so as to secure successful results. So far chemistry is able to help you. It cannot, of course, control the seasons which may, under adverse circumstances, be against you. The way properly to take samples of your soils is to take, say, a dozen different lots from various portions of your field, well mix them together, and from the aggregate send two or three pounds for analysis. I do not make a single statement I am not prepared to substantiate, consequently I will now give you the list of material manures ought to be composed, of and which embrace all the elements it is possible for a plant to require. They are bone-dust, bone-ash, sulphate of ammonia, sulphate of potash, sulphate of magnesia, concentrated acid, muriate of ammonia, precipitated phosphate, and bones. These materials are all costly, but they are the cheapest in the end to the farmer. The lower class of raw materials are: Coprolites, 52s. to 73s.; animal charcoal, 95s. to 110s.; kainit, 60s.; German phosphate, Carolina phosphate, Estremadura phosphate, shoddy, greases, leather, scutch. The sole value of a manure depending upon the materials from which it is made, it is easy for you now to form a pretty good idea of what sort of materials a manure selling at £4 per ton can be made from, considering that a mixture of coprolites and acid could not even be sold retail for the money. The analysing of manures is a matter of very great importance. The very great annoyance, however, to manufacturers of finding the leading scientific chemists of the day analysing their manures, and if a sample taken from the same bulk is sent to four different chemists, yielding, according to their analyses, four entirely different results, it certainly either shows considerable carelessness on the part of the chemists, or their assistants who do the analyses, or else it plainly shows that from the want of union amongst scientific men, commerce is to be the victim of the errors necessitated by each chemist following his own peculiar process for the determination either of the ammonia or phosphate; whereas, if a standard process were to be determined upon by a council of scientific men, this source of serious inconvenience both to buyers and consumers would be done away with. The valuation of manures, again, is a matter our friends, the scientific chemists, are very fond of meddling with, when they really do not know anything whatever about it. It is, in fact, a purely commercial question, and according as the markets vary so also do the commercial values of the compounds found in and constituting manures. Again, there are some materials which yield an exceptionally high analysis so far as the ammonia, calculated from the nitrogen found, is concerned, but this ammonia is not available to, nor capable of being assimilated by the plant. A noticeable instance is the fact of two different manures, both prepared with the greatest care, and highly concentrated, yielding, on chemical analysis, the same quantity of nitrogen, which in the element determined to calculate the quantity of ammonia contained in a manure. The source of the ammonia in the one case may have been guano, whilst in the other case sulphate of ammonia may have been used. Now, in guano there is a large amount of a compound called uric acid, which is not ammonia, and which is not available to the plant. This uric acid contains one of the elements composing ammonia, namely, nitrogen; and consequently, when a manure made from guano is analysed, the whole of the nitrogen is determined, and from the whole an equivalent amount of ammonia is calculated, thereby giving the farmer a perfectly erroneous impression, because the quantity of ammonia as calculated in this case is not real, and is not available to the plant. On the other hand, you will see that if sulphate of ammonia is alone the source of ammonia in the other manure, the whole exists as pure available ammonia, capable of being assimilated by the plant, and the total nitrogen found is correctly the index of the quantity of ammonia contained in such a manure. This manure certainly is far more valuable intrinsically than that compounded of guano. Now, these are points no scientific chemist troubles himself about, and when he is asked by a farmer to estimate the value and analyse a manure, the first thing he does is to supply a wrong analysis, or, at least, if three others are analysing the same manure, and have to estimate its value too, you may generally depend upon getting four different sets of results, and four different values set upon the manure. Consequently, who is right? Again,

when scientific chemists undertake the valuation of manures, they not only attach what value they think proper to the compounds constituting the manure, perfectly independent of their real commercial value, which, to say the least, is a most unfair state of things and much to be condemned, but they also leave out entirely the business expenses of a manufacturer, which naturally should have some recognition from them, and

some place in their calculations. These expenses, which they ignore, are cost of manufacture, coals, wages, salaries, bags, cartage, carriage, discount, commission, interest of money, rent, rates, and taxes, and insurance, and certainly to my mind they merit some little consideration.

Vote of thanks were accorded to Mr. Gould and the chairman.

SHEEP AND SHEEP-BREEDING IN AUSTRALIA.

The following paper was read by the Hon. G. H. Cox at a monthly meeting of the Sydney Agricultural Society:

It is now somewhat more than two years since I gave a lecture upon sheep and sheep breeding, before the members of this society. I then endeavoured to show the enormous national gain that would accrue were sheepowners to bestow more care and attention in the breeding and culling of their flocks, comprised in the 15 or 16 million sheep the colony of New South Wales contained. I also dwelt upon the inane attempt of those gentlemen to try and breed the same class of sheep in every portion of this large territory, and also the disastrous effects of indiscriminate crossing. I tried to point out how the characteristics of our Australian merino were ruined by the introduction of Rambouillet, Negretti, Saxon, and other fine-woolled rams, undoing all that our fine climate had effected for generations past, in establishing the qualities for which our wool was so renowned, as long ago as 1828, before a committee of the House of Lords. Mr. Henry Hughes, wool broker, London, says: "The Australia and Van Diemen's Land wools have been of varied qualities, but all possessing an extraordinary softness, which the manufacturers here so much admire, that they are sought for more than any other description of wools, from that peculiar quality which is supposed to arise from the climate alone. They are known to require less of the milling or fulling power than any other description of wools. They are better adapted than the German wools to mix with British wools, because the superior softness which I have stated gives a character when mixed with English wool, that the other does not, from the hardness of the fibre." Mr. Stuart Donaldson, merchant, London, says: "I have no hesitation in pronouncing that the wools of New South Wales and Van Diemen's Land are decidedly preferred to the apparently similar descriptions of German wool. They have a softness and silkiness about them which, when worked up into cloth, shows itself more distinctly than in the raw material. I conceive that it is dependent on the climate alone. I am of opinion that wool of that quality could not be produced in any part of Europe." Mr. Thomas Lezz, wool-stapler, Bermondsey, and Mr. Thomas Ebsworth, wool-broker, London, gave evidence to the same effect. Notwithstanding the great care taken with sheep-breeding in Germany compared with the loose and careless system pursued in New South Wales, how astonishing must be the effect of climate to produce such results in so short a time! Almost every sheep-breeder of note in the colony now admits that the use of imported sheep latterly was a mistake; for not five per cent. of their progeny proved of any value. The only exception I would make is with the Silesian merino, the wool of which, in all its natural points, is very similar to that of our own sheep. But I contend that where we have all the advantage of climate and pasture, and pure merino blood to start with, there must be something radically wrong in our management if we cannot now dispense with fresh importations. I would ask, Do the sheep-breeders of Germany or France go to Spain, the parent country of all fine-woolled sheep, to obtain animals to cross with the flocks they have established and proved to be suited to the condition of the countries they inhabit? No; they are aware that they would undo all that has been done for generations past in perfecting the animals they have obtained with so much care and attention. While we continue to follow the rule of thumb plan of putting (say) a number of rams indiscriminately with a certain number of ewes, without any attempt at previously proving the merits of the sires and keep no record of the progeny, we can never attain perfection, except, of course, by chance. It is sheep-breeding certainly, and which requires a certain amount of knowledge and judgment, but it is not scientific breeding, and the results must always be uncertain and unsatisfactory. It is not always that the finest-looking ram proves to be the best

sire. One of the finest and heaviest-woolled rams I ever bred never produced a lamb worthy of himself; and I have known a somewhat ordinary ram beget lambs that were almost all unexceptionable, sheep that you could pick out anywhere by their style and even appearance. The first animal I allude to was the first cross by an imported German ram. This experience could never be gained by the slipshod method usually adopted. Again, the only scientific or rational system is in-and-in breeding, instead of out-and-out breeding, by constant change of blood. I shall quote from an excellent and well-known author (Mr. Henry S. Randall) bearing upon this subject. (Page 115 of Randall's Sheep Husbandry): "It is probable that the Creator—who organised all animals into either families, flocks, or herds, which strongly incline to remain together, and implanted in none of them but man a disinclination to incest—at the same time established a physical law which rendered incestuous connection, *per se*, an element of deterioration and final destruction. Amongst wild brutes, brothers and sisters must constantly pair together. Some kinds of birds are hatched in pairs, as if for the express purpose of remaining together and inter-breeding, and the connection of brothers and sisters is the closest possible inter-breeding. Has any one discovered, or even conjectured, a deity of the wild denizens of earth or air on this account? Does any one imagine that the elephant is smaller or weaker than he was when he trampled down in armed squadrons on old barbaric battlefields, ages and ages ago? or that the African lion is a less formidable animal than when his angry roar shook the Roman coliseum. It may be said that inasmuch as the strong males destroy or banish from the herd the weak animals, and that in times of scarcity and hardships the weaker animals of both sexes perish, a natural provision has been made to guard against deterioration, whether arising from in-and-in breeding or any other cause. In respect to animals which herd together in large numbers, and which are periodically exposed to severe vicissitudes of climate and periods of scarcity of food, this would be in a great measure true; but there are portions of the earth where some classes of animals, particularly those of the lower organisation and solitary habits, cannot be supposed to be subject to wide casualties, or to any which would have the effect of regularly weeding out those possessed of less than the average of strength and hardness. And I apprehend we shall find no natural laws necessary for the protection of animal life and vigour enforced in respect to the higher and not the lower organizations, or which require a special and local set of circumstances to bring their benevolent effects into operation. Interbreeding between near relatives becomes fatal to physical imperfections, but the drift of testimony goes to show that it is innocuous to perfection. I do not recommend *per se*, for who shall decide what perfection is? There comes a time generally when close in-and-in breeding between the artificial species, which have been partly moulded by man, produces loss of vigour and degeneracy, and sometimes this fatal overthrow is but one step away from the pinnacle of apparent success. But I would quite as sedulously abstain from running round from family to family and individual to individual to obtain a perpetual recurrence of disturbing and unnecessary crosses. And when crossing is resorted to, let it be in a uniform way and direction. Let every breeder establish his own standard, and breed steadily to it. The French do this; Mr. Jarvis did this; both therefore succeeded in establishing a new variety, not as uniform as an old variety, yet far more so than if either had pursued a deviating and changeable course. The sheep-owner who changes the family and style of his rams every two or three years—now, for example, getting short thick fleeced, and now long open fleeced ones—now golden and dark, and now dry and light coloured ones—now low broad-carcased, and now tall ones, &c., &c.—will never obtain that degree of uniformity which is

essential to a decent-bred flock." I quite endorse the concluding remarks of the writer, but then every wool-grower should not try to become a breeder of stud sheep: let him rather continue to purchase year after year rams from some good stud-breeder, and not change at all, unless he finds that the progeny of these sheep do not stamp his flocks with the character he desires. But if indiscriminate crossing with sheep of the same class is to be deprecated, I am at a loss for words to denounce the insane folly of those who are endeavouring to establish a cross between the merino and the English coarse-wooled breeds. If persisted in the results will be most disastrous to the owner, and detrimental to the interests of the colony. My theme does not include the breeding of coarse-wool sheep, some kinds of which I think very suitable for parts of our enormous territory, and I should hail with much satisfaction the introduction of small flocks of this breed of sheep upon the holdings of our free selectors and tenant farmers, not only as a means of adding to their wealth and providing them with food, but chiefly that they would enable the cultivators to renew the fertility of the soil, which must inevitably be impoverished by the present rotation of crops without manure—wheat, corn, and hay, until the land is thoroughly worn out. The most astonishing thing to me is that people will not learn from the experience of others. The crossing of the merino with the English breeds, ostensibly to obtain a heavier fleece with larger carcass, was tried thirty years ago, and resulted in a most miserable failure. Anyone gifted with the most ordinary common sense, and knowing the extreme vicissitudes of the climate in the interior of this great continent, cannot but be aware that the inactive heavy-framed Lincoln (which appears to be the favourite breed) could not travel the distance under a scorching sun to find the wherewithal to support life during a season of drought. The first cross, I will admit, is generally a handsome sheep, and covered with a useful fleece; but continue the cross, and in two or three generations you will have a wretched long-legged mis-shapen animal, with a worthless fleece, and having lost all aptitude to fatten. It would be amusing were it not so lamentable to hear the absurd ideas of some sheep-breeders in the colony. I heard, only the other day, that a squatter who was very anxious to obtain some imported rams, attended a sale in Sydney at which some English and Tasmanian sheep were submitted to auction; he endeavoured to purchase the former, failing which he bid for the latter. What his object was, except to get imported sheep, it would be hard to fathom. We know that there are many parts of the world where coarse wool can be grown, and we also know that the range for the growth of such fine wool as we possess is limited. Let us, then, adhere to the breed we have proved to be so profitable for the last fifty or sixty years, and not ruin our flocks by the attempt to attain the unattainable. Reverting to the previous portion of my paper as to the inutilty of, if not actual damage resulting from, the introduction of foreign sheep, I shall endeavour to analyse the properties of the recognised breeds of fine-wooled sheep, and show that we have nothing to gain by their use. To commence with the Spanish merino, I believe the old and world-renowned breed of sheep, the Transhumantes, or migratory flocks, are fast deteriorating. They consisted of four or five distinct breeds, which may thus be summarised. The E-curial cabana belonged to the king, but latterly to the friars of a convent attached to the E-curial place; they were supposed to possess the finest wool. The Guadalupe, having the most perfect form, and celebrated for the quantity and quality of their wool. The Paulars also bear heavy fleeces of a good quality, but have a greater degree of throatiness, and the lambs have a coarse hairy appearance which is, however, succeeded by good wool. The Negretti, which is the largest of all the Spanish travelling sheep, have the same throatiness or loose skin, and the lambs the same hairy coat when young; and one or two other breeds of lesser note. The characteristics of the merino were thus described at the beginning of the present century. "The body compact, the legs short, the head long, and forehead arched. The rams generally have very large spiral horns, have a fine eye and bold set. The ewes have generally no horns. The wool is quite different to English wool, and cannot be compared with it. It is twisted and drawn together like a corkscrew; its length does not exceed two inches, but when drawn out will stretch to nearly double that length. The wool outside has a very dark look, owing to the excess of yolk, and opens in strips or squares. The wool completely covers great part of the head, and descends to the hoof of

the hind leg, particularly in young sheep. Many of them have kemp, or white hairs in the wool. The fleeces of the ram weighed about 8lbs., of the ewe 5lbs., but would lose half in washing." The fibre taken from a picked Negretti fleece had the diameter of 1-750th part of an inch. Next comes the Rambouillet, or French merino, a flock which has not been crossed since first established. These sheep are much larger than their ancestors, and cut a heavier fleece, but which runs short on the belly. They are chiefly remarkable for the quantity of loose pendulous skin which hangs about their neck, and lies in folds about their bodies. It is supposed that this extra skin gives so much more space for the growth of wool, but it is scarcely possible to cut it off. A very wrinkled ram would occupy an hour in shearing it properly. The wool is hard and inelastic. The Saxon merino, although originated from the same flocks, and about the same time as the French merino, nearly one hundred years ago, have assumed a totally different type; the size of carcass and weight of fleece have diminished, but have developed an extreme fineness of wool with softness of touch. The staple is not more than three-quarters of an inch to one and a-half inches in length, but so pliant and elastic that it will stretch to more than double its length. The fleeces do not average over 2lbs. washed. More than 40,000 fibres have been counted in the square inch. The Silesian merino (the best known breeders of which are Prince Lichnowsky and Mr. Fischer) have many points in common with our Australian merino, and I need not therefore describe them here. Besides these there is the American merino, an animal which by careful breeding and good tending has inherited not only all the good qualities of the original Spanish race, but with a much heavier fleece, some of the best flocks averaging from 4lbs. to 5lbs. of clean washed wool. The Saxon merino was tried in America; but as there was little or no demand for such fine wool by the American cloth manufacturers, its culture has been abandoned. I shall now attempt to describe the true Australian merino. The body should be symmetrical; the carcass of the wether, when fat, weighing 60lbs., the ewe from 48lbs. to 50lbs., covered with wool having a staple of not less than 2 inches in length, so dense that it stands at right angles to the skin, nowhere drooping or falling over like emu's feathers. The forehead and cheeks well covered with wool of moderate length, the nose having a soft velvety feel, without any admixture of white hairs (many highly-bred sheep have brown spots on the nostrils, which I do not object to); ears coated with short mossy hair (a naked ear is objectionable as indicating a light fleece); the hind legs well covered with wool to the hoofs, as well as inside the thighs on no account to be mixed up with kemp or hairs (this by-the-by is a fault which few imported sheeps are without). The wool on the foreleg to run full to the knee, the armpits only should be bare. The whole fleece should present a uniform even surface of a dark colour, and the masses of wool between the cracks or divisions which are always seen on the surface should be of medium size; if too small they denote lightness of fleece—notably some Germans—if too large, they indicate a harsh wool, as the Negrettis. When opened, the skin should show a streak only of a rich pink colour, the wool parting without intermixture of fibre, showing a curve uniform from bottom to top and soft to the touch. All these qualities, with fineness, clearness of colour and lustre, in combination gave to the fleece what is called character or style, a word of well-known meaning but not easily described. Yolk is a necessary ingredient in wool; without it the growth is checked and the staple becomes unsoned, or it mats or felts, from the absence of the lubricating properties of this natural oil; the continual friction of the fibres against each other caused by the motion of the animal makes the wool mat or cling together, owing to its milling or felting properties. This is often caused by fever after lambing, or by grass seed, the skin from these causes failing to secrete the yolk necessary for the proper nourishment of the wool. Again in a very dry season dust accumulates upon the back of sheep, preventing the rising of yolk, and the wool deprived of its nourishment dies and becomes rotten just as a tree rung dies from want of sap. There is much diversity of opinion with regard to the colour and quantity of yolk desirable in a fleece—as a rule the Spanish and French and German merinos have a yellow thick yolk, while the Tasmanian and Skipton (Victorian) sheep have a white oily yolk. Our New South Wales merinos are between the two, not so yellow and clammy as the first or so white and oily as the last. Too great a

secretion of yolk is, I think, very objectionable. I have known a ram's fleece weighing nearly 20lbs., and when washed, a difficult process with such sheep, reduced to 4lbs. I think I have now shown that if we cross with Spanish we lose elasticity and quality; with Saxon we have weight; and if with French softness and quality without any corresponding benefit. I must again impress upon the attention of sheep-breeders the importance of studying the capabilities of the country in which they reside, to enable them to breed that class of sheep which will best adapt itself to the nature of the soil and climate. You cannot fight against nature, but assist her, and she will reward you abundantly. With the wide range of soil and climate in this island-continent, many parts of which are quite unknown to me, I am unable to give any opinion to guide the sheepbreeder as to the type of animal best fitted to thrive in any particular locality; but it requires no great amount of intelligence to discover that the sheep which will flourish on the saltbush plains of the interior may be very unfitted to withstand the bleak and humid mountains of Monera or New England; as well expect the delicate Leicester or the heavy Lincoln to live in Northern Highlands of Scotland. The prevalence of catarrh, footrot, fluke, and other diseases in many parts of the country, the last five years, must make it very evident that the merino which delights in a warm climate and dry soil, is not suited to the cold and spongy mountain runs that have proved so fatal in the localities suggested. Having now touched upon the principles that should guide the sheep-breeder, I cannot conclude this paper without a short statement with respect to the getting up of the article produced for the market. My experience goes to prove that however carefully you may breed your sheep, and however superior the wool may be which they grow, your returns will be disappointing without the greatest attention is bestowed upon the washing of your clip. Every gentleman who has judiciously expended money upon the necessary plant and appliances for spout-washing his wool, will freely admit that the returns are one hundred-fold. Some three or four years ago the sheep-owners of the Mudgee district were anxious to obtain the opinion of manufacturers as to the general getting up of their wool and the sorting of their fleeces. We used to get periodically the brokers' stereotyped report that "so many bales of wool were sold—that the attendance of buyers was limited or otherwise—that some bales were seedy and moity, and others rather tender"—all of which we knew, and, knowing, could not remedy; but we could never learn what the manufacturer said about it, whether it con-

tained too much or too little yolk; too dry from over-washing or too heavy from under-washing; was the sorting satisfactory, &c., &c. Well, we engaged the services of a gentleman who went through the cloth-manufacturing districts, and who supplied us with much valuable information, which we utilised, and which I shall now be happy to impart to others. Our directions were never to use water for the soak beyond 110 degs. Fahrenheit; never to use alkalis, such as potash, soda, or hard soap, but that any quantity of soft soap might be used; in fact, using it to any extent was merely a matter of £ s. d.; but that all alkalis destroyed the fibre of the wool, making it harsh and dry, and, what the manufacturers say, making it work unkindly. We use spouts with a quarter-inch opening, and with a pressure of eight feet. The great object to be obtained in washing wool is not only to make it white, but to make it bright. After leaving the spout, the fleece when squeezed by the hand should pull out again, not feeling sticky, and should glisten in the sun with a peculiar brilliancy; if too little yolk is left in the wool it will be wanting in softness; if too much, it will become sticky, and after a time turn yellow. The number of days that should intervene between washing and shearing must depend partly upon the state of the weather as well as upon the condition of the sheep. Yolk will rise quicker in fat sheep than in poor ones, but from two to three clear days is generally sufficient. In sorting we skirt very heavily, taking about one-half from the fleece and making it into what we call broken fleece or pieces and locks. The remainder is sorted into combing and clothing sorts. Time would forbid my entering into the merits or demerits of paddocking, had I even sufficient experience to enable me to give an opinion upon this debatable topic. But I believe that those who have pronounced against the system have failed from want of care, either in having the paddocks too large, or else in allowing the sheep to get too wild from want of tending. In conclusion, I can only say that unless some measure is passed to limit the number of useless curs that swarm through the now thickly populated parts of the country, paddocks will be of little benefit to their owners. In almost every other colony and country there is a dog-tax, while here we are every day losing numbers of valuable animals by dogs that owners do not want, and do not feed, but are fed at the expense of their neighbour's sheep, and find amusement by worrying their neighbour's cattle.

A vote of thanks was accorded to Mr. Cox for his valuable paper.

A M Y S T E R I O U S D I S E A S E.

At the last meeting of the Cornwall Agricultural Association, Mr. Edmund Tucker, of St. Germans, called attention to a disease in cattle which had recently broken out in his neighbourhood. The subject, he said, had recently been referred to by the chairman of quarter sessions, who stated that because of its sudden fatality it had been considered infectious; but an inspector from London had been brought down, and had decided that the disease was not infectious; and, so far as the law was concerned, there the matter ended. He (Mr. Tucker), however, regretted to state that on the 30th of March he was requested by Mr. William Coryton, of Pentillie Castle, to examine the carcasses of three cows which had died that morning. One of them was Mr. Coryton's and the other two belonged to a neighbouring farmer—Mr. George Snell. He saw the carcasses at Colonel Coryton's kennel, and on examination found that they had died from a similar cause as others, which, from time to time in years past, he had been called on to inspect in that neighbourhood; and, judging from those former cases, he anticipated that the fatality would be serious. He suggested that Professor Symonds, as veterinary inspector for the Royal Agricultural Society, should be requested to come down and investigate the matter, not with a view of deciding as to the infectious nature of the disease, but in order to ascertain its cause. Professor Symonds was prevented from coming, and his deputy, Professor Axe, came down, and after examination of the carcasses and of animals that were ill, he pronounced that the disease was a blood-poison, and what was termed (in Mr. Tucker's opinion improperly) by the Professor "splenic

apoplexy." But the cause of the disease, and how it was to be successfully treated, still remained a mystery; and it appeared to him that steps ought to be taken, either through this society or the Chamber of Agriculture, to call the special attention of the scientific world to the subject, with the view of ascertaining the cause of this disease and means for its prevention. In a few days seventeen very valuable animals, chiefly cows, and most of them Shorthorns, had died, and several others had narrowly escaped. In the course of a few days, however, the disease passed away, and no more was heard of it; but similar outbreaks had occurred from time to time in years past, and he suggested that efforts should be made towards ascertaining its cause. Mr. Tyacke asked whether the cattle had been drinking stagnant water. Mr. Tucker said he believed not; and Mr. Snell said his brother lost ten cattle from one yard, where they drank clear spring-water, such as the family used for drinking purposes. Mr. Snell confirmed Mr. Tucker's statement as to the deaths of seventeen cattle, and stated that four subsequent cases were of a slighter character. He was sorry to say, however, that two days ago a horse died at Pentillie, apparently from the same disease; and when Mr. Axe came down he gave warning as to both horses and pigs. Mr. Axe called the disease splenic apoplexy; the spleen was invariably affected, and the blood was in a fearful state, full of either animalcules or fungi. But how the disease was produced, or how it was to be cured, scientific men were at a loss to say. Mr. Tucker stated that in years past there had been a general impression in his neighbourhood that animals had been maliciously poisoned;

and in some cases he was induced to believe it. In one case he requested that portions of the viscera should be sent to Mr. Herapath, the analytical chemist, and his answer was that the cow died from a large dose of strychnine. But he (Mr. Tucker) was satisfied that the disease was the same as that of which he had now spoken. In another instance he was called to Stoke, where fifteen bullocks died. Professor Symonds came down, and stated that the disease was certainly taken in at the mouth, but in what manner he could not say. In another case an analytical chemist reported that the animal died from a lead poison, perhaps taken in with paint; but he (Mr. Tucker) was now satisfied that in those cases the cause

was neither lead nor strychnine, but a disease similar to that to which he now called attention. It was, he considered, the duty of agriculturists to call the attention of men to the subject; and he had mentioned it now in order that perhaps the press might direct attention to it. Possibly this society, or the Chamber of Agriculture, might take action in the matter with a view to discovery of the cause and nature of the disease, together with remedy and means of prevention. Colonel Tremayne said the subject was one of great importance, and they were very much indebted to Mr. Tucker for bringing it before the council.

THE CONDITION OF A FRIENDLY SOCIETY.

At the 27th annual general meeting of the Dorset County Friendly Society held at Milborne Port, Sir W. C. Medleycott, Bart., D.C.L., in the chair,

The Rev. C. W. BINGHAM read the following report: "The number of members on the books at the close of the year was—males, 2,599; females, 165; total 2,764 being an increase of 25 males and 7 females, and a total increase of 32 members. The total number of members enrolled during the year has been 194. Six endowments, amounting to £56 19s. 2d., have been paid off, and £55 has been paid on ten deaths. Contributions of members, 1873, £3,207 7s. 5½d.; ditto, 1872, £3,139 17s. 4¾d.; increase in 1873, £67 10s. 6¾d. Honorary subscriptions 1872, £243 10s. 6d.; ditto 1873, £231 5s.; decrease in 1873, £12 5s. 6d. Capital in the year 1873, £12,392 5s. 6¼d.; ditto 1872, £11,755 13s. 8¾d.; increase in 1873, £636 11s. 9½d. Sick pay has been allowed to 639 males for 6,059 weeks and four days, amounting to £2,142 18s. 10½d.; and to 27 females for 47 weeks and one day, amounting to £95 4s. 9d., making a total period of sickness of 6,496 weeks and five days, and the total amount of sick pay £2,238 3s. 7½d., being a decrease of sickness, as compared with 1872, of 93 weeks and one day, and a decrease of sick pay of £116 13s. 1d. The summary of results is as follows: Four new branches, increase of members 32, increase in members' contributions £67 10s. 6¾d., decrease in honorary subscriptions £12 5s. 6d., increase in capital £636 11s. 9½d., decrease in sick pay £116 13s. 1d. In many important respects, with the single exception of the decrease in the honorary subscriptions, we believe that this must be deemed a more satisfactory report than we have been enabled to make for several years. No decisive action has been taken with reference to the proposed revision of the rules and tables, principally because it was thought advisable to wait for the quinquennial valuation, which was not received till very recently from the eminent actuary by whom it has been made. The results which he presents appear to the Committee of Trustees to be worthy of such immediate and serious attention that they have ordered Mr. Samuel Brown's letter to be printed, so that at least every Branch Committee and medical officer should be in possession of a copy. It will be seen that, according to his calculations, the estimated assets of the society fall short of the possible claims upon it by upwards of £2,000, attributable, in his opinion, mainly to the facts that the average proportion of sickness to the number of members, and the average duration of sickness, have been greatly in excess of what might be, in either case, expected from the tables on which the amount of contribution is based. The investigation which he suggested before, and again suggests, is doubtless difficult to institute; but still it is obviously necessary that we should ascertain the causes why certain branches weigh much more heavily than others on the funds. In the meantime, we earnestly unite in the recommendation that increased vigilance should be exercised by the Branch Committees and surgeons both in the administration of sick pay and the admission of members. On that vigilance, fully but not harshly carried out, we feel that the prosperity, if not the very existence, of the society depends; and the members may congratulate themselves that they have—what is wanting in too many clubs—the grand safeguard of a periodical valuation to inform them of their true position, and to stimulate them to greater carefulness in the management of the institution." Mr. Bingham also read the actuary's report. In moving the adoption of the annual report, Mr. Bingham said there were a few remarks which he

thought it would be advisable for him to make. First of all, in order to explain why they considered this report to be more satisfactory than those of several previous years, he was glad to state that the number of enrolments had been greater. And he was instructed by Mr. Davis that the number of enrolments scarcely represented the whole increase of members, because it often happened that stewards did not forward applications for admission until the end of the quarter, and consequently some members who were not actually enrolled until this year ought to have come into 1873. Another satisfactory point was the establishment of four new branches. For some little time they stagnated, and it seemed as if the society was not going to spread. One of the four was Blundford, which was an offshoot from the Pimperne branch, and, therefore, could hardly be called quite a new branch; but their experience had shown that wherever a branch bifurcated they got a good many new members. Cranborne had also applied for admission, and that branch, although showing not a very large sum in the broadsheet this year, commenced under very good auspices, because there were no better friends of the society in this county than some in the neighbourhood. Lord Ashley took a great interest in the society, and would no doubt help on the Cranborne branch as he had done that at St. Giles. There was a flourishing little branch at Tarrant Gunville, and one had also been commenced at Kimmidge under the auspices of Colonel George Mansel. So that he thought in that respect the report was satisfactory; certainly, they had not for many years had so many as four new branches in one year. On the other hand, they had some little points to discourage them to a certain extent. He was sorry to say they had to report two defaulting stewards in the course of last year. There was no reason why he should not mention where they had defaulted—viz., at Pimperne and Church Knowle. He believed their guarantees were all in order, and he trusted they should obtain the amounts of their defalcations, if not from themselves from their guarantors. He would say in passing that wherever there were honorary stewards—and it was very desirable there should be one in every branch—the honorary stewards should not satisfy themselves merely with a guarantee on the part of the actual stewards, but should themselves take some little interest in the accounts, and so perhaps save their own pockets, as well as a lot of trouble to the management. Well, he was sorry to say the sick pay of the past year, though slightly less than 72, was still very far above the amount which, according to the actuary and according to their own tables, had been expected. The slight improvement on the previous year was not sufficient to give them much comfort. The most satisfactory point was the increase of capital. He knew some of the trustees—one of them particularly—did not care at all about that. That trustee thought the having more money did not secure them a safer position; but it seemed to him (Mr. Bingham) that the more money he had in his pocket the safer he was from his creditors. He saw that gentleman shaking his head; but he hoped there were no other members present who agreed with the idea that the club would be in a safer position for having less money. If they had £50,000 in the bank they should be able to meet all their liabilities to a perfect certainty, even if they paid in no more contributions. With respect generally to the report of the actuary, it certainly seemed to him to be a very instructive document, and a document they ought to pay earnest attention to. It ought to make them more cautious and watchful; at the same time he did not think it should

alarm or discourage them. It certainly ought not to drive any of their members to other societies, where they had no valuation. He believed if they were to have such a valuation of the general run of clubs throughout the county they would find that something like 99 per cent. were in a worse state than they (the Dorset County) were. And let them not forget that after all, whilst they endeavoured to get all the good and instruction they could out of the actuary's report, it was really only an estimate. They must not confound facts with estimates. A fact was something done, and could not be retrieved; but an estimate was simply a valuation; it was founded, no doubt, on very good tables and principles, but it might be mistaken to a certain extent; it was a mere probability at the utmost. In the present case, they hoped that by giving increased attention to the administration of sick pay they should be able to falsify that calculation and show that their assets were after all greater than their liabilities. He heartily trusted such might be the case, and he was now concluded by moving the adoption of the report, and its printing and circulation in the usual manner.

The Rev. TALBOT BAKER, chairman of the trustees, said they had met twice at Dorchester since Mr. Brown's report was received, and that report had caused a good deal of—he would not say uneasiness, but anxiety and discussion. He could not understand the principle upon which it was based, the actuary's office being a science he had not studied; but when a doctor was called in the best thing was to take his advice and act upon it. Mr. Brown seemed to consider that their constitution was faulty—he did not say it was actually faulty in its inception, but that it was at this moment faulty; and the faultiness arose from the amount of sickness which prevailed in many of the branches of the society. Mr. Brown spoke generally of the society at large, but Mr. Davis would tell them it arose from two or three of the branches being constant drains upon the funds. One of two or three things that were discussed at the trustees' meeting was whether they could thoroughly investigate the causes of those branches being drains upon the body politic of the society. It was suggested that more care might have been used in the admission of members, and he should like to ask the stewards whether they had thoroughly brought the position of the society (especially lately) before the surgeons? So much depended upon the surgeons with regard to stopping this evil in the constitution of the society, that he thought it would be well at once to communicate with them and say, "Gentlemen, you must exercise a little closer supervision than you do, or the society will not be able to hold its head above water." He had spoken to Dr. Rhodes, the surgeon to the Weymouth branch, and Dr. Rhodes thought it would be a very good plan if a fee were given to the surgeon (laughter) for the examination of every candidate. For the little the surgeons were paid by the club they could not give the necessary time and care required in a strict medical examination. They received a fee of a guinea for examining a candidate for life assurance, and Dr. Rhodes thought 5s. would not be too much for a similar examination in connection with the club. Not that it would be of any consequence to him (Dr. Rhodes), with his large practice and little club of 40 members; but there were surgeons to whom 5s. would be a consideration, which would make them more attentive in that important matter. With regard to checking the too free flow of sick pay, something might be done by asking the officers to be very careful in exercising strict supervision and not allowing members to go too suddenly on the club, or to remain too pertinaciously on the books. Another idea that struck him was that in every case they should ask the clergyman to kindly work with them. In most cases the clergyman was already helping them, as an hon. steward or a subscriber; but in one important case, a defaulting branch, he was not. Is it they could always enlist the clergyman's sympathy and active interference it might do a great deal towards checking the evil, because the clergyman often knew more about a sick member than the doctor could know, and was able to judge better whether he was imposing on the society or not. They (the clergymen) were thought to be very easy and soft. He was told by a lawyer in Weymouth the other day that he did not understand human nature. But he believed if this were put before certain clergymen, and shown to them as a business thing, it might do good. Again, in order to check the depletion of the funds by those ulcerous branches, he would suggest that a committee of two or three trustees should go down

occasionally to those branches, and meet the stewards and surgeons, and look into the sick pay list, and just ask some particular questions. It would be a bit of a check, and would make those branches sensible that they were a source of weakness instead of strength to the society. Certainly it was an ugly fact that in Dorsetshire, with no outburst of illness, there should be nearly double the amount of sick pay that was calculated upon; there was "something rotten in the state of Denmark" which ought to be met by some means or other, and he had ventured to contribute his little quota of ideas on the subject.

The Rev. H. E. RAVENHILL said there was one point of great importance which had not been yet mentioned, and that was that they should stick thoroughly to their rules. Their excellent secretary came to Buckland Newton a few years ago, and the one piece of advice he gave to them was to stick to the rules. Now there was one rule which he believed was generally broken throughout the county—viz., the rule as to committee meetings. Rule 7 said the committee of each branch should meet at least twice every quarter; but from what he heard he believed they did not meet. Even if they had no business they ought to meet, and indeed if there was no business—no sick pay cases—so much the better; they could talk over their affairs and see how they were getting on. He thought it should go forth that the committee meetings should be regularly held, and he had no doubt they would have a good effect in checking the sick cases. In his own parish they certainly had that tendency. At the two last meetings they had had cases before them which, but for those meetings, would have had no special attention directed to them. A man's wife complained bitterly that the doctor had refused him sick pay. The case came before the committee, and the doctor said the man was able to be at work. That man wanted to change his doctor. Another case was that of a man who was always ill in the spring, about the time his garden wanted planting. Well, for all such cases there was nothing like a full investigation; and he would urge them to keep up their committee meetings, and he had great hope that in that way they might decrease their expenses.

The Rev. C. W. BINGHAM remarked "the proof of the pudding is in the eating." A proof of the successful working of the Buckland Newton branch was that last year they paid in upwards of £23, exclusive of £2 5s. honorary subscriptions, and the sick pay was only 7s.

Mr. ELIOT said he was one of the members just now referred to by Mr. Bingham, for he shook his head as to a big balance being a criterion of the satisfactory state of the society. They must remember that an increasing balance meant increasing liabilities. Six years ago, previous to the quinquennial valuation, although they had a smaller balance than at present they were richer by £3,000. What I want to point out is this—that if Mr. Bingham had £100 in his pocket and owed £100 to his tradesman, he would be no richer than if he had £5 in his pocket and only owed £5. Therefore they must remember (continued the speaker) that an increasing balance in the case of an insurance company like this almost invariably meant increased liabilities. They had heard the actuary's report, and he must say Mr. Bingham had disguised nothing. It was a great safeguard to the society that the committee disguised nothing, and that fact would always recommend itself to the public. They were sure that if the society was unprosperous they would know it; nothing was concealed, they understood the working of the society, and there was no chance of their being taken in. Mr. Bingham had placed the position of affairs very fairly before them; he had shown them the disagreeable part, and he had also shown them the satisfactory part. Now he (Mr. Eliot) wanted to impress upon them the importance of the disagreeable part and the necessity for serious consideration of Mr. Brown's report, and to try and point out to them what course they should take upon such a report as that. The deficiency which existed at the present time, according to the report, must arise from one of two causes—either from the tables on which the society was based being faulty, or from some extraordinary excess of sickness. An excess of sickness might arise, either from an unhealthy season, some temporary cause which was present this year and passed away the next, or from some laxity on the part of those who admitted members. Now he thought he could satisfactorily show them it did not arise from any extraordinary or exceptional sickness; because Mr. Brown stated in his previous report, six years ago, that

there was then an excess of sickness over what it ought to be. He remembered that at that time they thought "Well, perhaps it is an exceptional case;" but now they found the same thing going on, and therefore they must come to the conclusion that it was a steady and permanent sickness. Then came the question, "Is there any fault to be laid at anybody's door? Were the medical men too lax? Did unhealthy lives get into the society? Did they now begin to feel the burden of lives admitted years ago that ought not to have been admitted? Those were the things they ought to talk about to-day. Very proper remarks had been made about sticking to the rules and holding committee meetings. Everything should be done by every member to see that only strictly healthy lives were admitted into the society, and that medical men were really spurred up to the mark in striking men off the sick list the moment they ought to be. Medical men and clergymen, who really had the power of keeping a man on the list, must now allow themselves to be led away by any charitable thoughts. Mr. Ravenhill had told them of a woman who pleaded for her husband to be allowed to "go on the club;" that of course would be done, and if a man found he could stay a fortnight longer, that of course would be done. But medical men must take a caution from this meeting, and remember that every week a man stayed on the club he was taking money out of poor neighbours' pockets. A member of the committee (Mr. Pearson), who would have been here to-day, but was telegraphed for to a distant part of the county, asked him to mention one or two points which he would himself have suggested. One was a hint to honorary members who subscribed less than £1 or £1 1s., or whatever the full subscription was, to increase their subscriptions, and so bring up the amount to that which they were supposed to meet. Another suggestion was that they should not be satisfied with a quinquennial valuation. Not that it would be necessary to lay the figures of the society so fully before an actuary every year; but Mr. Pearson thought, and he certainly agreed with him, that it would be desirable to get a report every year, at any rate until they were in smoother water. It would not cost very much, and it would be satisfactory to the members to know year by year how the society was progressing. They must remember that already more than a year had passed since Mr. Brown's report was drawn. The ship had a leak then, and he did not know that anything had been done to stop that leak yet. Therefore they might suppose it was still going on, *i.e.*, the sickness of the society was in excess of what it ought to be according to the tables. Now, supposing they were assured that every care was taken in the admission of lives, and in the administration of sick pay, and so on, there was one other alternative; and that was to make some alteration in the tables. That they would find was also suggested by Mr. Brown. That was the last alternative, to which they would be driven, supposing the other means they were proposing to take should fail.

Mr. WILLIAMS BELL thought the affairs of the society certainly deserved very serious attention, and the valuable and useful observations which had been made should be put into some practical form. With that view he was about to propose a resolution. He had carefully analysed the accounts of the society from the beginning, and the result of the analysis was to convince him that the causes which had led to an excess of expenditure over receipts in different branches were not temporary; but that there was some permanent cause at the root of the matter which was deserving of inquiry. He found, as a rule, that those branches which were bad had been systematically bad from the commencement of the society, and the good ones had been systematically good. It was not the fact, except in very few, that a club got into difficulties for a few years and then righted itself. He was very much disposed to think that the evil arose from great kindness or great laxity in the management of the branch by the steward or the surgeon, or both combined. In illustration he would give the particulars of three branches with which he was acquainted. In one branch he knew the manager and the surgeon intimately; they were both prudent, careful, painstaking men; and in that branch the per-centage of surplus over receipts was 33, which, as compared with other branches, was extremely good. In another branch, the manager of which he knew equally well, the surplus was still better—52 per cent. There was another branch, particulars of which had been under the management of two stewards since he had known it. In the one case the steward was an easy, kindhearted, lax man, and

during his holding of the office the payments gradually grew larger than the receipts, until in the last year they were as £11 to £6. Then a new man came, and under his management the payments decreased to £1 5s. 3d. against £7 receipts. (Mr. Bell read a list of the figures for several years in each case). That made him believe that serious results were produced in some branches by careless management. Mr. Bell then read a draft of his resolution, the effect of which was to appoint a committee of investigation, and went on to remark that there were many of the society's rules which required revision. Certain rules had always appeared to him inequitable and unfair, and the result of one of those rules was that a member who had only paid in for sick pay when the infirmities of old age incapacitated him from work received the same pay as one who had paid a much higher rate in order to secure that annuity. On those points many of the local stewards could give valuable information, and there was no one better able to collate it than the senior steward, Mr. Shephard, of Gillingham. A great many local clubs were breaking up, and he (Mr. Bell) was very anxious indeed that this county club should succeed and flourish. The valuation before them suggested very serious considerations, which must be met. Without giving the names of the branches whose affairs required the most careful attention, he could tell them there was one branch which had spent £127 for every £100 it had received, another £112, and another £165, and there were others in the same category. As to an alteration in the scale of payments, he thought if they had to resort to that the society would collapse. It was very difficult to make it grow and increase now as it ought to do. After some further remarks Mr. Bell (at the request of the meeting) read the names of those branches to which he had referred, and it appeared that Backland Newton was one of those which showed a bad valuation. His resolution, in a somewhat modified form, was as follows: "That in the present state of the society, as disclosed by the actuary's valuation, the trustees be requested to appoint forthwith a sub-committee to investigate and report to the trustees the causes which have led to such a result, and that the trustees be requested to take such action thereupon as they may consider desirable and proper."

Mr. E. L. KINDERSLEY seconded the motion, and observed that a society of this nature was essentially on a very dangerous footing. It was to the interest of the members themselves, to a very considerable extent, to be on the sick list; it was not contrary to the interest of the doctor that they should be so; and therefore they naturally had a state of things which *prima facie* ought to tend to insolvency. On the one side they had anxiety to go upon the club, and on the other side the person who had the power of saying "you shan't go" being lax, there was nothing beyond high principle to prevent his signing the paper. He felt, therefore, it was essential to find the means of checking this necessarily downward tendency. It was quite true other societies did go on without getting into this mess—and they (the Dorset County) were in a big mess—it was also quite true they were not going to break, but they must look to it in the sharpest possible way to avoid breaking. It was only because he had such full confidence in the centre of management, Mr. Bingham himself, that he ventured to say they should not break. This deficiency of £2,000 or £3,000 was a very serious matter indeed, and if they only discussed it to-day as a thing that was to be lamented they should not do much good, and they should come to harm. He would go farther than Mr. Bell, for he would get full particulars of the bad branches and publish them throughout the county. Publicity was the best check they had for many things, and by putting forth an account of what local branches were doing their duty, and what were mis-appropriating funds, they might save the society. He was going to great lengths, he knew, but he felt strongly that great reprobation was due to those who had so mismanaged the funds. They did not seem to care how the thing was going on, as long as members could go upon the sick list and get their sick pay as they pleased. What were the stewards doing? Had they got committees, and if so, what were they doing? What were the medical men doing? It seemed they were all playing into each other's hands, and to what result? That in five years they got a deficiency of £3,000! It was a monstrous state of things. The speaker next quoted the actuary's remarks as to the per-centage of sickness, and said the state of things on the female side was frightful; but that was natural, as the doctors, being men, were of course more easily affected in their case.

However, the thing must be looked to in the very closest and fiercest way, and he proposed, in extension of Mr. Bell's motion, that the results be published.

The Rev. C. W. BINGHAM thought Mr. Kindersley need not have spoken quite so fiercely. They must remember that the great value of a county society was in the fact that it was an insurance, not merely of member against member (as in a small society), but also of branch against branch. Perhaps for a series of years a branch might be in default from circumstances which were quite unavoidable. He knew a small branch in which there was a sick member, a man who had been sick for years and would be so as long as he lived. That man swallowed up at least half the contributions of that particular branch, but it could not be helped; it was God's providence that he should be so. He was admitted as a healthy life, but shortly afterwards his lungs became affected, which brought on asthma, and threw him permanently upon the club. It seemed to him (Mr. Bingham) that the great advantage of belonging to a county society was in helping to meet such a case as that. He wished that to be recollected, as perhaps it might a little cool his friend's fierceness. But he quite understood Mr. Kindersley's strong sympathy and hereditary affection for the society, in spite of his fierceness. He could only say that at head-quarters they would do everything they possibly could to promote the investigation that was proposed, and that they were only thankful to have it set about in a practical form.

Mr. KINDERSLEY said he ought to have guarded himself against doing wrong to branches which had been simply unfortunate. His own branch was one of those; they had two sick men, and they always drew more than they paid. They spoke for themselves, and it could only be very small branches that were put in that position.

Mr. DAVIS instanced Langton Matravers as a case in point. During many years that branch was drawing from the society £30 or £40 a year. The Rev. Mr. Trotman found that branch in that state, and zealously set to work to place it on a better footing. He left no stone unturned, and last year he had a tea which realised £7 towards the funds. The branch was now in an excellent state, and paid in a surplus last year of £51. Swanage and Worth Matravers were also recovered branches, and the only conclusion he could come to was that of late they had been better managed.

The report was adopted.

Mr. Bell's motion for a sub-committee of investigation was carried *non. con.*, as also was the following motion, proposed by Mr. Bell and seconded by the Rev. C. W. Bingham: "That, in consideration of the present state of the Society, and in the light of 27 years' experience, it is desirable to have a careful revision of its rules and tables; and in order that the views of those practically acquainted with its working may be ascertained and duly considered, it is desirable that the stewards of the several branches should communicate their suggestions to one of their number who will undertake to collate, arrange, and digest the same, and submit the results for the consideration of the trustees; and that Mr. Shephard, of Gillingham, being the senior steward of the Society, be requested to undertake this duty."

Mr. KINDERSLEY briefly proposed the re-appointment of the Rev. C. W. Bingham as hon. secretary, and Mr. Davis as assistant secretary, and the proposition was carried.

The Rev. C. W. BINGHAM said one point he should like to refer to, which had been mooted by Mr. Baker, respecting the demand of one of the surgeons for a fee of five shillings on examination of a candidate. It seemed to him that when they had doctors fighting for the post of medical officer to one of their branches they need not propitiate them any further with additional fees. And, indeed, it was immensely to the doctor's own interest that he should admit only healthy members, seeing that he had to visit and find medicine for the sick. He (Mr. Bingham) hoped that, please God, he might be able during the coming year to give as much attention to the affairs of the Society as he felt at this crisis they would require.

Mr. SHEPHARD said he was quite sure no member who knew anything of the working of the club would for one moment impute any laxity at head-quarters. But after what

the hon. secretary had said he felt bound to stand up and bear witness that both Mr. Bingham and Mr. Davis were always ready to do their utmost to prevent any harm coming to the Society, and he was quite sure no one could be more careful with the figures and accounts than Mr. Davis was. He spoke from long experience, as he happened to be senior steward. About the doctors he felt very strongly they had nothing to complain of. They were the first cause of any disturbance in the Society by striking for a higher rate of payment; it might be gathered from Mr. Brown's report that the surgeons of this Society were paid above the average, and that was a point which he thought should be put to them.

The treasurer of the Society, Mr. Herbert Williams, was unanimously re-elected, and Mr. Cross and Mr. Lush, of Dorchester, were appointed auditors. Mr. Lush was elected in the place of Mr. Shorto, who has left the county.

THE ENGLISH CLIMATE.—From whatever cause, the climate of Great Britain is changing. The most noticeable fact is that, while the winters are less severe, and the summers not so intensely hot, as formerly, there has crept in what may be called a jumble of weather throughout the year. We have cold when we should expect heat, and warmth when we had every reason to look for snow. Meteorologists, who profess to speak scientifically, fail to enlighten us on the cause or causes of these phenomena. It cannot be said that, as regards the culture of grain crops, or the rearing of cattle, sheep, and other marketable animals, there has been any falling off. In these departments of affairs, and we may add in the forest culture, there has rather been an improvement than otherwise. Change of climate has been more specially demonstrated in the case of fruit, the crops of which are exceedingly liable to be damaged by unseasonable frost. Chance frosts in the later spring months are the terror of gardeners; and unfortunately the destruction so caused is becoming so serious in many places that some kinds of well-known fruit are no longer worth cultivating. Better, it is thought, to import fruit than try to rear it. A paragraph has been going the round of the newspapers regarding this mysterious change of climate as concerns Scotland. At a recent meeting of the Botanical Society Mr. McNab read a paper on Further Evidences of Climatal Changes in Scotland, and mentioned that several old Scotch gardeners, as well as amateur cultivators, concurred with his opinion, that many varieties of fruit now cultivated in that country were by no means equal to what they were about ten years ago. Ribston pippins and Nonpareil apples are alleged to be inferior in size and flavour as well as number to the specimens formerly seen. The Jargonelle pear, once extensively grown and thoroughly ripened on standard trees in various districts of Scotland, is now exceedingly scarce. The famous Carse of Gowrie orchards, which half-a-century ago were so remunerative, and in which seventy varieties of apples and thirty-six varieties of pears were cultivated as standards, still exist, but with a sadly diminished production of fruit. The Clydesdale orchards are in the same fading condition. The daunson shows signs of becoming extinct, and the common black sloe and brambleberries are in like manner on the decline. From the old minute-books of the Caledonian Horticultural Society it appears that from 1810 they offered prizes for peaches grown on open walls without the aid of fire-flues; but after 1837 these were discontinued, and the generality sent are grown on flued walls or in peach-houses. Similar painful evidence was given with regard to cherries, gooseberries, and Scotch-grown American cranberries; and even the filberts and hazel-nuts are, it is stated, not by any means so flourishing now as formerly. From 1812 to 1826 the large white poppy was cultivated in the field in various parts of Scotland, for the making of opium; and about fifty years ago tobacco was frequently grown in certain districts. All is changed or changing now, although several winters of late years have been remarkable for their mildness, and proved most favourable for flowering plants. The Scotch, however, cannot feed on flowers, and are much to be pitied under the calamity with which they are threatened of being dependent on our English greengrocers and fruiterers for their supplies of fruit.—*Chambers' Journal.*

THE AGRICULTURAL LABOURER IN PARLIAMENT.

The agricultural labourer has got into the House of Commons. At any other time this would not be a matter of much moment, but just at present the fact of the farm-servant taking, as he did, possession of the floor must necessarily command some attention. The occasion was the second reading of Mr. Trevelyan's Household Franchise (Counties) Bill; and although Mr. Disraeli declared that the persons who would be benefited by such a measure must be of "a very various character," the chief speakers during the debate, including the Premier himself, dwelt almost entirely on the case of the labourer—as so distinguished from other classes. In the very outset the introducer of the bill raised a somewhat startling point when he said it might be urged that "the agricultural labourers were represented by the farmers;" although such an argument might be more readily disposed of than Mr. Trevelyan seemed to see by the now pretty general admission that the farmers themselves have really no representation in Parliament. Mr. Forster went further, and maintained it would be "a mockery" to say that the farmers could represent the labourers, remembering the antagonism of interest which prevailed. In truth, the discussion turned more especially on the lock-out and its collateral issues.

The Bill was rejected by 287 against the second reading, and 173 for it, there being for a Wednesday a very full House. It is not our purpose here, however, to attach much weight to the mere division, seeing that the proposal, like that for the ballot is pretty certain to come on again and again. Nothing, the rather, would threaten to be more dangerous than, on the strength of a composite majority burying our heads in the sand and refusing to see all which is going on. Comparatively, the agricultural labourer has a large or, as Mr. Disraeli says, a small interest in any extension of the County Franchise—"that is as it may be"—but it is very clear that the framers and supporters of such household privileges have "the ploughman and the shepherd" in view. "The artisan was represented, and measures were proposed for the improvement of the dwellings of artisans in towns, but they would look in vain for measures to improve the cottages of the agricultural labourers." Again, we must not shut our eyes to this charge, putting aside for the time all reference to strikes and lock-outs. Has there been any necessity for any measure to amend the country-man's cottage? Mr. Disraeli, in answer, says that these "abodes" are infinitely better, although he is careful to add "there is room for improvement, which he hopes to see accomplished." And to this every thinking man will say *Amen*. The "infinitely better abodes" are only the exception on well-managed properties, and the wretched hovels still too often the rule. Even further, putting aside the question of a vote, it is clearly one of money-value to the employer—as we have continually had to show—that the labourer should be decently housed, the contingency being that he will be a better or worse workman and a better or worse citizen almost proportionately as his home comforts are cared for. Beyond this, the more respectable an appearance a voter is able to make, the more likely he will be to vote the right way; whereas if on his own threshold he encounters only neglect, the extension of the franchise may, as Mr. Newdegate fears, lead to a Republic, to despotism or to Dr. Manning.

Following in something the same line, Mr. Trevelyan says "Session after session has passed away without any

attempt to deal with that most deleterious and demoralising truck which enforced the payment of agricultural wages in spirituous liquors;" while Mr. Forster, as a means for putting down professed agitators, would have the representatives of the agricultural labourer in the House when Parliament "could deliberate more thoroughly on the Master and Servant question, on the Liquor Laws, on the subject of Land Tenure, on Elementary Education, and on possible Reforms in the Church." And here came "a laugh," although Mr. Forster has shown himself not only an able but a careful Minister, as never distinguished for his support of Quixotic or visionary schemes.

With the difficulty only increasing in intensity, it must be surely useful to bear, if not to heed, how the question is spoken to in the most important assembly in the world. Much which was said here was not very palatable, as still more not warranted; but it is good to watch what is going on, and to take action or council thereby. When the strike first broke out, two or three years back, it was regarded with indifference, as a movement which would die out again in a few weeks or months; as, indeed, the chairman of the Farmer's Association admitted at Bury St. Edmunds on Wednesday. At this time, however, the struggle promises to be as obstinate and protracted as any ever fought by a trades union. Some men here and there have gone back to work, and a few masters have given way, but the lock-out, like a fever, is spreading with little hope so far of checking its course. The Lincolnshire Farm Labourers' League, as we previously intimated, have erased their three objectionable rules, while they are ready to add a clause providing that there shall be no strike without a previous notice of two or three months to employers. The sudden notice was regarded as an especial grievance, but even these concessions have had no influence whatever on the Farmers' Associations in the Eastern Counties, where the feelings against the Unions only increase in intensity, and the lock-out is running from parish to parish like wild-fire.

"I cannot understand," said a North-Country man to us during the past week, "how it is there is so much outside sympathy with the men, as a strike is not often a popular movement." One of the chief causes for any such feeling is no question the most ostensible cause—the condition of the cottage in many places; and it certainly does seem to us that the landlords could not be better employed than in "looking at home" over the business. For many years the farmers have been complaining of a want of proper accommodation in this way; while *The Times* of only this morning, in speaking of some of the better sort of housing, says: "The agricultural labourer is not so foolish as he is sometimes represented, and the garden, the cottage, the allotment, and the fresh air and healthy occupation of village life, help to explain the reason why it is so hard to get him to leave the village, and why the National Union Executive have been forced to warn locked-out members that such of them as have had work provided for them at higher wages in the North of England will forfeit the Union allowance unless they leave the villages and take this work." We have said this over and over again, both before and during the present contest, as no question one of the best of means for fighting the emigrant agent or the professed agitator is that improvement in the labourer's cottage which Mr. Disraeli "hopes to see accomplished."

THE SCOTCH GAME BILL.

That faint border line, over which people now travel by train without knowing it, serves nevertheless to still maintain a strong distinction between the habits and customs of England and Scotland. In fact, our Northern territory is yet as peculiar in some of its practices as when a gentleman took a wife simply on the strength of saying so much, or by virtue of having got a few miles' start of his impending father-in-law. The observance of the Sabbath continues to require the laying in of a good supply of liquor over night; and although betting lists and circulars have long been regarded as immoral agencies in England they have just up to this time been encouraged as developing a highly respectable business in Scotland. Again, perhaps no country under the sun, so far as the farmer and the labourer be concerned, has suffered so much from the game evil; though the right to the game remains in the outset as the privilege of the owner, whereas in England it is the property of the occupier. This, in proof, does not amount to much, but still on the face of it there is something strange in tipsters and black-legs and hares and rabbits having, as it were, the sanction of the Legislature to eat up the people in Scotland, whereas such petty larcenies are, if somewhat mildly, discountenanced in England.

It was only the other day that a bill was passed which will put down the betting-list houses in Glasgow and Edinburgh, as these have already been suppressed in London and Liverpool; and on Wednesday another bill came on for a second reading, by which the Scotch farmer would have the prior claim to the game, from which it was further proposed to strike off the hares and rabbits. Mr. M'Lagan's measure, however, goes too far for an English House of Commons and not far enough for a Scotch Agricultural Association; it was thrown out in Westminster on Wednesday, and denounced as "a sham" at Kincardine on Monday. The truth is that they feel the game grievance far more on the other side of that invisible border than we do here, as was demonstrated before the recent Commons Committee; and while we should be content with the abolition of hares and rabbits, they will be satisfied with nothing less than total abolition, and petition accordingly in favour of Mr. Peter Taylor's bill. But then the Southron knows little or nothing of grouse and deer.

Still, on one point the more moderate reformers from either side would look to be pretty well agreed: Mr. M'Lagan goes against ground game in Scotland just as Mr. Sewell Read has done in England, and any movement in this way would be certain to receive the very general approval of the farmers of the United Kingdom. We regret to say that we do not see the slightest chance of anything being attempted in this direction on behalf of the English farmer, unless Mr. Albert Pell should carry out his threat and bring in a bill on his own account to sweep the rabbit off the face of the earth as a nuisance, alike in the field, on the table, or as "a political engine." Should the honourable member ever succeed in stamping out such vermin, this will be the best political agent which he ever could employ at election or any other time.

As it was, nothing could be more unsatisfactory than the spirit in which any proposal for amending the game abuse was received on the part of the Government by the new Secretary, Mr. Cross. After dwelling with some force on the inconvenience of making one law for Scotland and another for England, he proceeded to touch on a point which, as we have just shown, is common to either

country. In fact, it is already clear enough that, let the proposal come from where or whom it will, the Conservative Government has no intention of dealing with the fearful damages done by ground game: "if this passed into law the persons first to cry out against it when it came into operation would not be the landlords, but the tenants, if it should open the land to anybody that chose to shoot hares and rabbits. You cannot expect but that people will go and shoot them when they know that they cannot be punished if they do so. The damage to the crops that would then take place would really be due to our action in passing this bill. That would be the effect of passing this bill." So said Mr. Secretary Cross, as to this the House of Commons said *hear! hear!* And yet we have here something like an utter ignorance of the very rudiments of the case. If hares and rabbits be struck out of the game list, it must of course be with the object of lessening the numbers of such animals; whereas Mr. Cross seems to assume there will be as many preserved as ever, with, however, more people to kill them—a self-evident absurdity. Mr. Cross is evidently much concerned lest under such a state of circumstances the trespasser, or, as now called, the poacher, should damage the farmers' crops far more than the hares and rabbits. But this fear is altogether groundless; for where game is not heavily preserved poaching does not pay; and where the farmer has the right to deal with his own vermin he must be a fool if he leaves much for the trespassers, as, in any case, this must be his own look out, and thus Mr. Cross' sympathy is scarcely needed.

"At the late election one tenant-farmer was returned to Parliament who was able to represent them in a proper manner, but that farmer was now placed quietly on the Treasury benches, and they had not a single representative to bring forward the repeal of the Malt-tax, or any other farmers' question." We quote so much from the last discussion meeting at the Farmers' Club, while during the week there have been continual inquiries as to what the tenant-farmer member thinks of the aspect of Malt-tax, hares and rabbits, and Tenant-Right, now that we have arrived at a strong Conservative majority? Two of these questions have already come on, and over these Mr. Sewell Read has made no sign, as he has been careful neither to speak nor vote, and yet over such questions he is the farmers' great or only representative authority. It has always been a matter of some surprise to us that the lead over the Malt-tax was transferred by the Chamber of Agriculture from Mr. Read, who was returned in the first instance to look after it, to a gentleman who for some time past has shown himself so suspiciously shy of the subject as Colonel Bartolot. However that may be, by what curious ruling the matter was taken out of good hands, we must still bear in mind that Mr. Read in his own words accepted office "untrammelled" as to farmers' politics, and over these we still ask his aid. Mr. Fielden's measure might not have been quite opportune, and Mr. M'Lagan's bill not be just what we want in England, but over the discussion of such matters we do not care to note the absence of Mr. Read. It is surely the duty of one member of a Government to correct the mistakes or to extend the knowledge of another; as it would have been quite within Mr. Read's province, especially when "untrammelled," to show Mr. Secretary Cross and the House of Commons how unequalled for was the apprehension of "damage" to the farmer from placing the hares and rabbits under his indisputable control.

"S O M E K E N T F A R M I N G."

As a wind-up to the spring session of The Farmers' Club, Messrs. Robert and John Russell, of Horton Kirby, by Dartford, gave an invitation to the members of the Committee, together with some other of their friends, to pay them a visit, in order to see "some Kent farming." It was, in fact, one of those delightful outings, ever to be marked with a white stone, where enjoyment and instruction go hand-in-hand, as of which The Farmers' Club has already had some experience in Bedfordshire, Sussex, Surrey, Berkshire, Norfolk, and elsewhere. By the bank of the Ouse, or in Baronial hall, on the edge of the Southdowns, under the welcome shade of the home woodlands, or overlooking the far-famed Castle-acres, have "the London farmers" passed the loving cup, as they do here with the cry of barriers acting as ready chorus, and the "waters clean" of the "still Darent" glittering through the shallows at their very feet.

The Russells have farmed these lands, stretching away into quite a morning's ride, for generations, or we might say centuries, having settled here within just a hundred years or so of the old key of the gate, which, with the accompanying coat of arms, now hangs in the billiard-room and carries us back to the days of good Queen Bess, anno Domini 1589. The farm or farms, partly freehold, as at present held by the brothers Robert and John, extend to some 2,000 acres, chiefly arable, with a little pasture, and about 300 acres of woodlands, where Kent farmers grow their hop-poles. And there are critical people here to note how all this is done—Owen Wallis, late of Overstone in the Shires, but now gone due North for a settlement by the coally Tyne; Charles Howard, of Biddenham, according to the last quotations first favourite for the Royal hundred; Frank Sherborn, that mighty hunter with "The Queens," and good farmer, like his father before him, down Windsor way; Mr. Stoneham, from close by, apt to tell how money may be made by "some Kent farming"; or the worshipful Mayor Marsh, from Sandwich, learned in the worth, for mutton or fleece, of his long-coated nancesakes, who range o'er Romney's lengthening plain. Verily, Messrs. Robert and John, backed though you be by other brothers, like Richard, who farms another 2,000 acres for himself at Sevenoaks; George, with 1,000 acres well done by at Plumstead, and James, if there be a flaw in the system these folks will find it out, and let you know of it, too. And as we ride on we cross great reaching growths of wheats, so blooming, level, and strong, that the only thing to be urged against them is that they are here and there too thick; much of this being Spring or Nursery wheat, autumn sown. The grasses are as luxuriant, trifolium and tares sown after harvest, to be fed off with eake, corn, and hay by the Hampshire Downs, and then ploughed and fresh planted with turnips. The peas, again, are a really pretty crop, save where in some of the valleys or hollows they have been sadly nipped by the frost. And there is not a bit of naked fallow to be seen, and there is not a bit of twitch nor a dock to be seen, but it is altogether about the cleanest farming, as the chairman, Mr. Wallis, says at the dinner, which he has ever been over. But the chairman's admiration does not stop here, for during the earlier part of that delightful drive there was no telling how it *was* done. Saving a shepherd or two there was not a labourer to be seen about, and, for all the strangers found to the contrary, there

might have been a strike or lock-out hereabouts. Beyond the Italian bull, uncouth of form but "good to eat," who shares the hound paddock with a Swiss or two, there are no cattle; and Mr. Wallis sighs as he thinks of his Northamptonshire pastures and his ripening steers. The only weed about is that bit of Wild Dayrell which the Squire picked up at Tattersall's, and has fashioned into a farm "nag," as there are of course more smart hacks upon which to mount "the Recorder" and others; but of cart-horses we see no more than we do of ploughmen or cattle. We shall find them further on, no doubt; but so far the sheep clearly do all the work—those grand flocks we draw up alongside, of Hampshire Down ewes and lambs, all so thriving and all so sorry, bred up clearly to a certain stamp, and that surely an improved stamp, for we miss something of the good old-fashioned Hampshire's sour visage and coarse character. There was one lot of quite handsome, beautifully-matched ewes, alone worth travelling a long way to see; and now that Mr. Rawlence is getting out, the Horton Kirby flocks, numbering in this day's march to over 2,300, should stand in for some of these premiums, always the most telling class in a sheep show. But if the Messrs. Russell have essayed to improve the Hampshires, they have also tried their hand on the native Kents; and, what with a double cross of the Cotswold and Lincoln, have reached to a particularly bloodlike long-wool, which they are establishing as a breed of their own. Further on and we do cross the furrow of some capital teams at plough; as, on the hill-side pasture, a red Duchess-looking Shorthorn, another red Sussex cow or two, and a few Alderneys; but sheep farming from first to last is clearly the secret of success here, and the bull from Mentone, the broad-hipped beauty from Wateringbury, and the dainty Jersey from over the water, just as much a matter of "fancy" as Ruin, Roguish, and Lawless, in whose society these gentlemen go a-farming. Indeed, as Mr. Robert explains to you, if they did not have a little enjoyment they could never do it "at the money," while Mr. Richard, a more public man now as secretary to the West Kent Foxhounds, reminds his little brother how he was once manager here, as he is glad to see how closely they follow in his footsteps. The home business is now chiefly in the hands of Master John, while his elder brother Robert runs over to Vienna or follows the fortunes of the Hampshires through the ever varying routes of the Royal, the Bath and other Societies.

The toast-list, brief as it should be, included "the Russell family," with the five brothers scattered amongst the party; "the Men of Kent;" the health of a very happily-chosen Chairman, and "Success to the Farmers' Club;" in answering for which Mr. Corbet drew attention to that which should be the point of the day's story: There was then under decision a premium for the best cultivated farm in Bedfordshire, as it was just possible that the winner of that prize might be sitting amongst them. In any case, considering how strongly the sporting element prevailed in that tent, he would like to see a match made of which he had heard a whisper, viz., that Horton Kirby would show against the Royal's best man. The other speakers, Mr. Charles Howard, in response for his brother James, who was unable to be present; Mr. Stoucham, the representative man of Kent, and Mr. Sherborn, all "followed the Chairman" as to the remarkable cleanliness of the land and the general excellence of the system carried out in its cultivation.

THE RABBIT IN THE BALLOT BOX.

The hearing of the Launceston election petition was opened before Mr. Justice Mellor. Messrs. Leresche and Bompas appeared for Mr. Drinkwater, the petitioner; Mr. Serjeant Parry and Mr. Edwards for Colonel Deakin, the sitting member. In opening the case Mr. Leresche referred to the political history of the borough and the purchase of the Warrington estate by the defendant, who is a brewer in Manchester, and Honorary Colonel of the Lancashire Militia; his claim, as landlord, to the rabbits on the estate, and his sudden resolution when he became a candidate to permit his farmers to destroy them—a corrupt act in the opinion of the petitioners. Evidence having been given that Colonel Deakin had announced his intention of permitting his tenants to kill rabbits on his estate, and had paid for the publication of hand-bills containing a report of his speech granting the concession, he was himself examined. He said the Warrington estate consists of about 4,000 acres. He had about 201 tenants, 175 of whom were voters for the borough, but he believed that only about 30 were touched by the rabbit question. He had told his keepers constantly since 1872 to keep down the rabbits; by which he was not a gainer. Before the 28th of December he had not given permission to the tenants to destroy rabbits, and up to the Friday night they were not allowed to appropriate them. He could conscientiously swear that he did not intend to influence a vote by the concession he made. Mr. John Lethbridge Coward produced letters to show that Col. Deakin was aware that some tenants had expressed considerable dissatisfaction about rabbits at the last audit held on the 3rd of December. Emile Pavey, who has the control of the game on the Warrington estate, gave evidence that Colonel Deakin had frequently spoken to him about complaints made by the tenants about the rabbits and expressed a desire that they should be kept down. After the examination of a game-keeper and tenant the proceedings were adjourned. On the proceedings being resumed Serjeant Parry said he thought everything possible had been laid before the Court. It had been assumed that rabbits were the source of money revenue to Colonel Deakin, but that was not the case. He had, on the contrary, sustained loss from them. What he had said at the public meeting referred to was but the concluding act of a long

series of directions to kill the rabbits. He held that Colonel Deakin's permission to kill the rabbits was not bribery, but merely the utterance of his political sentiments with respect to the Game-laws. Colonel Deakin had been pestered about the rabbits, and he said, "Contound the rabbits, you may do what you like with them." The tenants did not wish for the rabbits, for since the election they have asked Colonel Deakin's trappers to kill them for them. Serjeant Parry concluded by contending that language hastily uttered by Colonel Deakin must not be taken seriously. After luncheon Mr. Justice Mellor delivered judgment. After reviewing the history of the election, and the circumstances of the disputed concessions, his lordship concluded by declaring his opinion that it was of a valuable nature. Having determined that it came within the statutory definition of bribery, the petitioner's claim to the seat was then gone into. Mr. Leresche, in his case, proved that the following notice was served on the electors, whereby he contended that the votes given for Colonel Deakin were thrown away, and that therefore Mr. Drinkwater was elected by the majority of valid votes. The notice in question was as follows: "Colonel Deakin having, for the purpose of influencing voters at the election, given to all his tenants on the Werrington estate and voters in the borough a right to trap and shoot rabbits, has, I believe, been guilty of a corrupt practice; and, as agent of Herbert Charles Drinkwater, Esq., a candidate at this election, I hereby give you, and each of you, notice that, under these circumstances, the said Colonel Deakin is disqualified from being a candidate, and that all votes given for him will be thrown away." Mr. Serjeant Parry contended that at that time Colonel Deakin had not lost his status as a candidate, as there must have been conviction by a regular tribunal before such a status could be destroyed. Here merely a slight notice had been given, and it was, he believed, the first instance in this country of such a claim by a candidate. His Lordship, after hearing the arguments, said he was prepared to grant cases on both these points, to be heard before the Court of Common Pleas, the whole costs to be determined by the result of the case. He should not certify to the House of Commons until after the case had been heard.

AGRICULTURAL REPORT.

THE NORTH-EAST OF SCOTLAND.

[ORIGINAL.]

After a winter of unusual mildness, spring opened favourably, with comparatively dry weather in March and April. The latter month was, indeed, one of the finest and driest months of April that we have experienced for many years. A slight snowstorm (which was the only one we had in the season) about the middle of March delayed sowing till the 25th of that month; but though the commencement of the work was thus not early, the weather continued so steadily fine that nearly the whole of the seed was committed to the ground within ten days from that date. Braird appeared favourably, and during the month of April we had promise of early grass. But in both these respects matters have been very much reversed during the present month. We seldom escape a cold northern blast for some days in May, and this season it has been of unusual duration and severity. Neither grass nor corn can be said to have made any progress during nearly two weeks. The supply of turnips was abundant throughout the season, but the supply of fodder in many cases ran short; and, mainly for that reason, cattle have had to be put afield in very inclement weather. The abundance of turnips, however, renders it probable that there is still some supply of fatted cattle to be brought to market during this month. Grain commanded a fair price during the winter, and it is not likely that there is very much of it now remaining in this

part of the country. Stack-yards are everywhere unusually bare, and comparatively few farmers store up grain after it is thrashed out. The price of cattle has varied a little from time to time, but it has on the whole been fair throughout the season. For the last two years or so the price of horses has been at least double of what it was some six or eight years ago. Farmers were very much hampered in buying and selling horses by the vigorous way in which the Horse-dealers' Licence duty has been exacted of late years. Its abolition will be a great relief. Nor will the relief from the Horse-tax be less acceptable to many who were ill able to pay. In former times the duty was not exacted except for horses actually used for riding or driving; but so stringent was the law made through alterations introduced by Mr. Lowe, that if a farmer took one of his "work horses" to ride on a hasty errand, or to church on a stormy day, the "Ganger"—now yeoman Inland Revenue officer—was down upon him for a fine of £1 or £5. The heavy charges for labour are now felt by farmers as a great drawback on the previously slender profits of cultivation. In consequence of this partly, and also of other circumstances, farms are in much less demand than they had wont to be. Some good farms have, of late, it seems, been slow in finding tenants at former rents. The wages of farm labourers, or "farm servants" as they are called here, have doubled within the last

twenty years, and within the period of our own recollection they have tripled. Neither the character nor the efficiency of servants has improved with the increase of wages, but very much the contrary. We have heard of Labourers' Unions, or seen advertisements about them for the last year or so, in this part of the country; but no farmer pays any attention to them. Our unmarried servants are engaged half-yearly at the hiring fairs, or "Feeling Markets" as they are called, immediately before the terms of Whitsunday and Martinmas, and they cannot, without breach of contract, leave in harvest, or at any time before the termination of the half-year. The wages, moreover, are not paid till the end of the period of engagement. In point of fact, most of them, or certainly a large proportion of them, do change

from one farm to another at the "terms" above stated. For this we are of course prepared. Both master and man go to the open market, and the latter of course endeavours to get the highest wages he can. The whole thing is directly regulated as everything of the kind must ultimately be, by "supply and demand." Wages for horsemen may be said now to be from £12 to £14 or £15, with board and lodging, for the half-year. On most of the larger farms there are two or three hinds, or cottiers; these are engaged at Whitsunday for the year. Turnip sowing has been generally commenced within the present week. Only 0.867 inch in depth of rain having fallen last month, the ground is getting very dry, and our greatest danger for the season now seems to be excess of drought. But *non videntur*; we cannot tell what a day may bring forth.—May 15.

WINFRITH FARMERS' CLUB.

SANFOIN AND CLOVER.

At the last meeting of the season at Wool, Mr. J. J. Bates in the chair,

The CHAIRMAN stated that Mr. Robert Fowler, of Whitechurch, had sent him a copy of the rules of the Blandford Farmers' Club on unexhausted manures and improvements. It appeared the Central Chamber were about to consider some Code of Tenant-Right, and he (Mr. Bates) supposed the chamber representatives in the different counties were working up in their respective districts the requirements of the tenant farmers. The president then read the rules of the Blandford Club, remarking, however, the subject was too comprehensive to have full justice done to it this evening. Mr. Waller, the Secretary of the Home Cattle Defence Association, was anxious to come amongst them and introduce a subject for discussion. With the concurrence of their worthy secretary, Mr. Randall, he had given him the opportunity of taking his chance at the present meeting or coming down on some vacant evening. It was agreed Mr. Waller should give his lecture at the October meeting, Mr. Longman postponing his until that in November.

Mr. SUTT said, the subject given me to introduce for your discussion this evening is, The Growth and Management of Sanfoin and Clover. It is not my intention to enter fully into it. My wish is rather to learn from the opinions expressed by others on this interesting topic. I say interesting, because it is so to me in a practical point of view, and must be so to every thinking man concerned in agriculture, especially in such times as the present when our attention is turned to the growth of those plants upon which our animals have to rely for their supplies of food. I will first make a few remarks on the cultivation and treatment of sanfoin. This I consider one of the principal of our forage crops, being a perennial deep-rooting plant. It was in cultivation on the Continent long before it was introduced as a field crop into this country. About the middle of the seventeenth century it was brought from France, and was first called "French Finger Grass," hence the term "French Grass." On lands suitable for its cultivation no farmer can grow too much of it; it will grow on any soil where lime is present, but more especially on lands of light dry calcareous formation; on such it will, I think, give a greater return than could be obtained from any other of our cultivated plants. Soils which contain a large proportion of clay are unsuitable to its cultivation. There are two varieties—the giant and common sanfoin. The latter is preferred where the land is intended to be kept down some years to its cultivation, but if only for two or three years, I think the former variety preferable, as a much larger produce is obtained, and the seed is generally cheaper. The seed is sown after a crop of hay has been obtained, which is not the case with the common variety. There is a very great advantage in growing sanfoin on thin soils, in consequence of its being such a deep-rooting plant. When soils have been found too close to the rock to carry the ordinary crops they have been brought into beneficial cultivation by being laid down to sanfoin for a course of years. The roots of the plant rainily through the clefts of the rocks and carry down with them the air and rain-water from above, and thus they bring to the surface large supplies of mineral food. In the preparation of the land for sanfoin great care should be taken

to clean it of weeds. This is an important consideration, and cannot be too strictly attended to. The principal districts in which sanfoin is grown are Hampshire, Wiltshire, and some parts of our own country, on the chalk soils. The usual practice is to sow down the sanfoin with the barley after turnips; but in so doing we should be very particular as to the hay fed with the turnips, as seeds of the hay, if too ripe when cut, as well as those of weeds, will germinate and soon produce a foul piece of sanfoin. The yield of the crop mainly depends on the condition in which it is sustained. If mown and carried off year by year, as is too commonly the case, the plant soon becomes weaker, the indigenous plants increase and rapidly displace the others, and the land becomes a mass of weeds. If, however, it be kept regularly pastured down or mown with hay, and fed upon afterwards with corn or cake, the condition of the land will be kept up and the plants maintain a vigorous growth. I think it is important not to feed from the first year's growth, but to let the plants root themselves well in the soil. In order to protect the crops as much as possible from the natural grasses it is a good practice to harrow the young plant in early spring, thus displacing the shallow-rooted weeds, and then, by adding manure, you encourage the growth of the sanfoin. The time of cutting for hay should be immediately it shows flower, for its nutritive value decreases as the flowering proceeds. It takes three years to arrive at its maximum of production, and if the soil be sustained by proper treatment and the crop kept clear of weeds it will keep up its rate of production for about five years, when the increase of the natural grasses generally tells on the crop and shows that it is time to plough it up. The other part of my subject is the growth and management of clover. This plant, as well as sanfoin, we are told, was not known in this country until the 17th century. Before that time many of the clovers were known as common weeds, and no doubt in the natural pastures had furnished food for the wandering herds. There are many species of the clover plant which are cultivated in this country for forage and feeding purposes, while many of the others are met with in the natural pastures. The common red clover is the most important to us, it being a very vigorous and productive grower in suitable soils, furnishing a large amount of nutritious and sweet herbage. Clovers enter so generally into the rotation of the present system of farming that we meet with them in cultivation on every description of soil. They form large roots, which have a tendency to penetrate deep into the soil and to seek supplies of food from the lower stratum; thus they secure the power of obtaining moisture while the more surface-rooted plants are suffering from the effects of the summer sun and drought. I consider in all cases we must endeavour to secure for clover a deep, well-tilled soil, and free from stagnant water. The proper place for clover is between two straw crops, which place it invariably occupies, and if, instead of sowing ryegrass with the clover, a mixture of clover with sanfoin and white Dutch could be relied on, it would be much more beneficial to the soil, for the ryegrass partakes of the same food and belongs to the same order as both the preceding and succeeding straw crops. The evils resulting from the continuous cultivation of the same crops on the same ground are known practically to every one.

The usual time for sowing is from the middle of March to the end of April; if it takes place too early, the danger is in losing the young plant by frost; and if too late, and the season be dry, the danger lies in the seed vegetating and getting a firm hold of the soil before the heat of summer. I think it best to sow part at the time of sowing the corn and part after the corn is up, before the land is finished off with the roller. After the harvest, when the young clover covers the land, pigs are turned into it for the purpose of picking up the corn left on the land, and they will sometimes take a fancy to the clover and tear up the plant, materially injuring it. Then, perhaps, some will turn the sheep on, which are apt to eat the clover down to the crown of the root, which, if left exposed to the winter's frost, is sure to die away before the spring comes. In its early growth the clover is a very tender plant, and the less it is touched after the straw crop is cleared off the ground the better; the great object is to get it well rooted before the winter. In the following summer when the crop is mown for hay, it is desirable to wait until the plant has begun to form its flower-heads, when it should be at once cut, and the less it is handled after the better, so that the leaf is preserved. Therefore, cutting with the scythe is preferable to the grass-cutting machine; when the crop is intended for seed the best plan to adopt, I believe, is to feed off the first crop before it arrives at maturity, and then lay up the field until the seed is matured; whereas the general practice is to take the hay crop first and then let the second growth stand for seed. Our climate is certainly far more favourable to the growth of clover than to its full maturity and seed produce, and consequently the seed crop is rarely satisfactory. It is important that the seed be fully matured at the time of cutting, and that it be left out in the field until it becomes quite dry and hardened. The diseases to which our cultivated plants are liable are very imperfectly understood; the crop now before us affords a marked instance of this great deficiency in our agricultural knowledge. The clover plant is frequently greatly injured by a form of disease called "clover sickness," but the real cause of such has never, I think, been really ascertained. These are mysteries far beyond the reach of the highest human knowledge, but the veil is sometimes capable of being withdrawn, yet only when people do not rest satisfied with a foregone conclusion, but are content to keep their minds open to fresh suggestions without indolently making up their bundle of faggots and wrapping themselves up in their own prejudices.

Mr. BUDDEN said he had put down his sanfoin with wheat and also with barley. In the former case he had a good plant and a good crop of hay, but in the latter the state of things was just as unsatisfactory, although the land formed part of the same field. He had been told he ought to have used milled hops. Mr. Scutt had informed him that maiden seed would not grow—which was worth knowing. Whether his (Mr. Budden's) was maiden seed he did not know. Mr. Scutt had told him his customers said maiden seed would not stand in the ground. Mr. Budden mentioned he was going to put into some strong and troublesome ground a mixture of two bushels of sanfoin with other seeds, Italian and clover, in proportion.

Mr. BESANT quite agreed with Mr. Scutt as to the advantage of growing French grass, observing that through his window he looked on the poorest hills in the county of Dorset and saw a good crop of hay from this French grass. (Mr. Scutt: And not much put on the land, either.) With regard to sowing ryegrass with clover, they often disagreed one with the other; ryegrass was an interruption to the growth of clover. He thought it would be a benefit to mix their seed more, and that they were not sufficiently particular as to the sowing of the best seeds. He considered it better to sow sanfoin on their land than get a crop of poor corn, particularly in these days, as by the former they could save the labour of a man and a pair of horses. He mentioned he had grown extraordinary clover with wheat stubble; he turned his pigs to grass, and he did not think they injured the clover. The subject, introduced by Mr. Scutt, concerned one of the principal branches of agricultural pursuits, and was, he (Mr. Besant) considered, very interesting.

Mr. LONGMAN (Belhuish) thought Mr. Scutt had introduced the subject in a very able manner; the cultivation of sanfoins and clovers was next in importance to corn-growing. Regarding French grass, he answered a question which had been previously put, by remarking Mr. Budden drilled too deep;

French grass, he said, should not be put very deep in the ground. He (Mr. Longman) had drilled on a light piece of land, and on no other occasion had he a better lot of French grass. With a reduced depth he had an extraordinary good piece of sanfoin. Foreign seeds were, as a rule, of bad quality; he thought they did not stand so well as those that were home-grown. Sanfoin, where there were chalky thin soils, was, he considered, most essential; nothing could be better for the lambs, after cutting the hay off, than a change of sanfoin. He recommended the earlier cutting of sanfoin.

The CHAIRMAN was sure they were much obliged to Mr. Scutt for having brought forward the subject in such an able manner. The great object now-a-days was to economise labour, and produce as much food for stock as possible. Italian and green rye came early for feeding sheep, but they were something between corn and grass, and the question was how far they depreciated the clover crop when sown with it. There could be no question as to the value of the early feed for sheep. The great question was as to the best mode of putting down their green crops—whether clover and sanfoin or whether mixed with Italian and other grasses—putting them down in the best manner so as to last the longest. They were crops which did not pay for breaking up too often. Regarding sanfoin, there could be no question that where the land was suitable it was one of the most advantageous of crops. How to plant and when to break up were important questions. One great secret was to get the plant well established before it got poisoned with a number of weeds and plants which they did not desire to cultivate. They should do everything possible to strengthen and invigorate the plant. Early mowing did the land injury and weakened the plant; feeding the first year and mowing the second were, he thought, advantageous with respect to sanfoins as well as clovers. They should be careful to avoid degenerating and weakening the plant. In conclusion, he said the subject had been introduced in a practical manner by Mr. Scutt, to whom he (Mr. Bates) was sure would be given a cordial vote of thanks.

Mr. SCUTT was sorry the attendance was so small, but he considered there had been a good discussion. Mr. Budden had said he sowed sanfoin with wheat, while he (Mr. Scutt) recommended barley. Whichever it was seemed to be quite immaterial. Possibly Mr. Budden might have put down the sanfoin too deep in the case of the barley. He concurred with Mr. Longman as to the avoidance of French common sanfoin seed, which he (Mr. Scutt) never touched, always getting English common sanfoin. He had customers who would never buy the former. The giant French was used more than formerly; but French seed, as a rule, ought to be avoided as far as common sanfoin went. With regard to cutting sanfoin early, Mr. Longman agreed with him; early cutting was better for the hay and better for the plant. Mr. Longman had spoken of harrowing in the grasses and rolling in the small seeds. He (Mr. Scutt) thought the shallower they put all the seeds the better; by harrowing in many, got too far below the surface ever to come above. Care should be taken not to sow sanfoin too often on the same land; that would be sure to fail. Mr. Scutt maintained sanfoin should be left the first year rather than be fed, as the latter course weakened it. The better heart the land was in, the better for the sanfoin. He believed it was disadvantageous in this county to save sanfoin for seed.

A PICTURESQUE COTTAGE.—You may fall in love with the spot at first sight, but on closer examination a good many drawbacks would suggest themselves, if you had any idea of quartering yourself in one of these dwellings—say for a week or two of an artist's holiday in the summer-time. Although the walls could never have been extraordinarily substantial, they may have stood as they are for a couple of hundred years. In all that time they have been patched, and plastered, and cobbled, but not once have they been put in thorough repair. The site is damp, for the cottage stands low in a hollow near the water, like most buildings of our earlier architectural periods, from the manor-house downwards. The foundations have been settling down and the walls splitting into cracks and rifts that have been roughly stopped with clay or mortar. The beams have warped and mouldered, and left gaping interstices between the roofs and eaves. The leaden framework of the casement has bent, and the small diamond panes are cracked and broken, and stopped

with rags from the family wardrobe. The mud floor has gradually worn away below the threshold till the water trickles in when there is heavy rain, to collect in odoriferous pools in the middle of the kitchen. The rotten ceiling is tumbling to pieces, and either from the under or the upper room you may hear and see all that goes on in the other. The staircase that communicates between them is a rude ladder, with half the rungs long ago gone for firewood. Outside things are as bad as they well can be from a sanitary point of view, considering that the cottage is in the country, and in one of the healthiest districts of England. Drains there are none; but an open gutter meanders towards the little weed-covered pool, and the two together generate the foulest miasma when the sun is hot and the atmosphere close. The untruned sprays of the ivy, and the struggling boughs of the apple-trees, shut out air and light from the little casements. When the weather is wet the drip from the trees overhead is perpetual, and in autumn the place is half buried in fallen leaves that are left to rot in masses in the garden. The inmates do nothing to help themselves, chiefly because their landlord has done so little to help them. The cottage is an object of general admiration to visitors with any perception of the beautiful, and, so long as he can keep it standing and roughly weather-tight, the proprietor is content. But his peasant tenants, having no sense of the beautiful, fail to appreciate the sole recommendation of their dwelling. They know that the rifts rudely held together by iron, which look so picturesque from the outside, let in those little streams of wet which are fatal to paper, or even to whitewashing. They know that the ivy that holds the damp cracks the mortar, making the interior of the cottage all

through the rainy season feel like the inside of a streaming umbrella. They may have become habituated to sitting with their feet in the mud on the kitchen floor, but the presence of the mud discourages any attempts at scrupulous cleanliness elsewhere. And the darkness and damp and discomfort in which they live breed physical as well as moral listlessness. It is not worth while to be up and doing where the work to be done would be perpetually recommencing. When the walls are mildewed and the ceiling is in holes and tatters; when the windows cannot open, and the only means of ventilation is by the door; when the smoke circulates round the room before it escapes up the chimney; when all shortcomings are covered by the prevailing gloom, it is worth no one's while to scour and polish and brighten. There is overcrowding of course. Probably the occupant has a large and growing family, and if he has not, he fills up his room with lodgers; for on properties where these picturesque cottages have stood from time immemorial there has been but very little new building going forward. There can be no great privacy where the floors and partitions are more sham than real, and decency stands but a poor chance. The family struggles up somehow, herding together, and accustomed to rough it, and almost forgets its increasing years till it is time for its members to take wing or to marry. Naturally the domestic virtues languish in such a place, and, should the daughters turn out to be tolerable wives and mothers, it is very much to their credit. Even when they go out of doors, in their dirty dress and ungainly manners, they reflect very much the character of their miserable home.—*The Saturday Review.*

THE MANCHESTER HORSE SHOW.

This experiment was inaugurated with a very comprehensive prize-list, which was made up in this way: Thoroughbred stallions 7; agricultural dray horses 3, ditto mares and foals, 10; stallion ponies, 7; hunters equal to 15 stone, four years old and upwards, 9; hunters, without conditions as to weight, four years old and upwards, 20; three-year-old colts or fillies for hunting purposes, 19; two-year-old ditto, 8; mares fit to breed chargers, 12 entries; chargers, or horses likely to make chargers, 16; Government artillery horses, 2; park hacks or roadsters exceeding 15 hands high, 24; not exceeding 15 hands, 27; ladies' horses, 13; ponies in saddle not exceeding 14 hands, 35; ponies in harness not exceeding 14 hands, 11; ponies in harness not exceeding 12 hands, 12; ponies not exceeding 12 hands, to carry children, 14; pairs of ponies in harness not exceeding 14 hands, 3; tandem of ponies not exceeding 14 hands, 1; harness horses not exceeding 15 hands, 20; ditto exceeding 14 and not exceeding 15 hands, 10; pairs in harness 15 hands and upwards, 5; best appointed tandems of horses exceeding 14 hands, 2; harness horse, four years off, 15 hands 3 inches and not exceeding 16 hands, bay with black points, and not bred in the Fylde, 4; agricultural horses (pairs), 4; single gelding or mare, 6 entries; dray horses (pairs), 3; van horses, 2; coal-cart horses, 9; seven entries of mules, six of foreign donkeys, two English donkey stallions, and two mares, and twelve donkeys used by the owners in getting a living. In the chief classes nearly all the first prizes were taken by horses already well known in the show ring. Thus the best thorough-bred stallion was the flashy, false-framed Laughing Stock, a double first at "the Royal," with Citadel, first long since at Islington, now second, and the steeplechaser, Alcibiade, whose owner died on the day of the opening, third. The prize pony stallion, Sir George, is as well known, while King Tom, a son of Honest Tom has already made his mark, and Young Champion has figured as a second or third-rate cart-horse over and over again. The champion hunter of last season, the West Country Palmerston, is still so far the best about; while

the neat Banker is still taking his revenge over the Royal judges (!) at Hull, who so strangely put him aside in a moderate class; and Loiterer, actually once more in the prize list; but Mr. Harvey Bayly's pair, The Chief Constable and Newsmonger were not noticed, beyond a commendation to the latter. Other well known names will be found on the record, the competition pretty generally being more remarkable for numbers than merit. A strong feature in the show was the entry of troop horses, and there were premiums for jumping, in which, as usual, the best horses took no part, backed by some cockneyed trotting matches, which threaten now to disgrace some of these outside horse shows. We question whether even in the days of "The Squire" and Rattler a trotting match was ever more really respectable than a dog fight.

PRIZE LIST.

JUDGES.—Colonel the Hon. T. G. Cholmondeley, W. Capper, J. H. Wood, W. Lort, J. Bromley, T. Dodds, and W. J. Barwick.

Thoroughbred stallions.—First prize, £50, J. Moffatt, Kirk-linton Park, Carlisle (Laughing Stock); second, £20, Major F. Barlow, Hasketon, Woodbridge (Citadel). Highly commended: B. J. Angell (Alcibiade).

Agricultural or dray horses.—First prize, £50, T. Statter (King Tom); second, T. Statter (Young Champion). Highly commended: J. F. Crowther, Knowl Grove, Mirfield (Sir Roger).

Cart mares and foals.—First and second prizes, T. Statter. Pony stallion, not exceeding fourteen hands.—First prize, C. W. Wilson, High Park, Keudal (Sir George); second, J. Renwick, Strangeways (Tain Glen).

Mares calculated to breed chargers.—Prize, S. Kirby, Manchester.

Agricultural horses.—First and second prizes, W. Brierley, Rhodes House, Middleton. Highly commended: T. Statter.

Heavy-weighted hunters.—First prize, £50, H. Jewison, Raisthorp, York (Palmerston); second, W. Armstrong (Cashier); third, J. S. Dayrell (Taurus).

Hunters, without condition as to weight.—First prize, W. Armstrong (Banker); second, A. R. Gladstone, Court Hey, Liverpool (Loiterer); third, Major-General Irwin, Leixlip,

Ireland (Firefly). Very highly commended, J. Goodiff (Marshall MacMahon).

Chargers, mounted by troopers in full marching order.—Prize, Major Vincent, Hulme Barracks.

Ladies' horses.—First prize, Sir G. Wombwell; second, J. Johnson, Lutterworth; third, F. C. Matthews, Driffield.

Mules.—First prize, S. Lang, Bristol (bred at Poitou); second, E. Pease, Darlington; third, J. Wood, Upper Brookstreet.

Foreign donkeys.—First and second prizes, E. Pease; third, S. Lang.

English donkeys (stallions).—First prize, R. Simpson; second, B. Gill, Strangeways, Manchester. Mares: Prize, Mrs. Ogden, Failsworth.

Three-year-old colts and fillies for hunting purposes.—First prize, T. F. Jackson, Tattonhall, Chester (Huntsman); second, J. Lett, Scampston, York (The Aristocrat); third, G. Lancaster, Morton Grauge, Northallerton. Highly commended: S. Rigg, Grauge Hotel, Carnforth. Commended: G. Lan-

caster; J. Armstrong, Stubb, Kirklington, Carlisle; T. Graham, Irthington, Carlisle.

Two-year-old colts and fillies for country purposes.—First prize, E. Griffith, Chick; second, J. Moffatt; third, Mr. Crowther, Mirfield. Commended: E. Griffiths.

Hacks or roadsters not exceeding 15 hands high.—First prize, R. Nelson, Barton Hill, York (Corisande); second, Sir Humphrey de Trafford (Latakia); third, G. Braithwaite (Rufus).

Roadsters, not exceeding 15 hands high.—First prize, W. Stephenson, Jottingham, Hull (Princess); second, Master A. Mitchell, Bowling Park, Bradford (Bell); third, W. and J. Brown, Stone House, Perry Bar, Birmingham.

Pony in saddle, not exceeding 14 hands high.—First prize, C. W. Wilson, Light Park, Kendal; second, W. Johnson, Orange Court, Liverpool; third, W. Ingham, Thornhill, Armsley, Leeds.

Horses in harness.—First prize, T. Statter, Whitefield, Manchester; second, J. Dickinson, Burlington-street, Manchester.

STOCK SALES.

MR. GEORGE GARNE'S SHORTHORNS.

AT CHURCHILL HEATH, CHIPPING NORTON, OXON, ON

TUESDAY, APRIL 28, 1874.

BY MR. THORNTON.

Of late years the name of Garne has come very prominently before the public as exhibitors, and very successful exhibitors too, of Shorthorn cattle. Moreover, last year the late Mr. Thomas Garne's herd at Broadmoor, one of the oldest stocks in the county, was scattered far and wide in two auctions, one in the spring and the other in the autumn. The cattle, brought from their bleak and out-of-the-way home in the cold valley of the Windrush, were sold at Bourton-on-the-Water, and the superiority as well as the general excellence of the stock not only surprised the scores of Gloucestershire farmers who dabbled in a "bit of blood," but astonished even those who came a distance from more northern counties. There was something better than the thick neck, upright shoulders, big bag and wedge-like shape of what is called among Yorkshiremen the "West country Shorthorn;" and those who bought them found that they had useful qualities for milking and feeding, besides symmetrical proportions and hard, robust constitutions. Mr. George Garne, when he left the paternal roof, got a few of his father's cows to stock his miserably poor common farm on Churchill Heath. In those days fashion was less dominant than now, and he, like his father, used bulls in which few folks could pick holes, going for good blood from good herds. From Fawkes' bulls, which had such good reputation in olden days, he went to Knowlmore, and there got the "combination" of Booth and Bates blood, that doubtless stamped the stock, not only with style, but gave the immense substance in the bargain. Towneley, neglected, supplied Duke of Towneley, which Sir Tatton Sykes afterwards purchased at a long price; then Royal Butterley 20th, who was shown on Tuesday fresh and vigorous in his eighth year. He had brought a few guineas to the coilers in prizes, and begot others equally as successful as himself. Carrying a great amount of lean, good flesh, he is long and low, and very muscular, though some might object to his light, mealy roan, but a good nag "was never of a bad colour." For the heifers, Mr. Garne had purchased, conjointly with his kinsman, Mr. Mace, Grand Duke of Geneva 2nd from Mr. Lency, and he was reported more in favour with one owner than the other. His pedigree is undeniable, being out of that grand white cow, always admired at Wateringbury, the Seventh Duchess of

Geneva, whose veins are contaminated, in the purists' opinion, by the Romeo cross, but whose merit condones any little strains of new blood; and, if further evidence be wanting, let the critics sojourn a day at delightful Underley, and there see Tenth Duchess of Geneva. His sire, Grand Duke 15th, is well known to most breeders. The bull certainly is a taking animal, and improves upon looking at: he has nice character, deep, good colour, and is well done, but his big hips and the peculiar movement of his fore-quarters will always detract from his appearance. The heifers were nearly all in-calf to him, and doubtless the knowledge that he had cost several hundreds brought many a one to look at him.

Another circumstance tended to swell that very large gathering which assembled round the ring. Two yearling bulls were sent to the large bull-show at Birmingham last March, when one of them took the 100 gs. prize, and the other, although H.C., was thought much of by the company, for he made 140gs. at auction. The catalogue of sale contained 38 lots, six of which only were young bulls. The heifers were mostly either forward in calf or served, and the cows came into the ring, not unduly dried and made-up for sale, but milking, with calves running beside them, and still in nice healthy condition. The fact was they had been done well as calves and yearlings, and never having lost their calf flesh, would always be in presentable condition with good keep, be the season or the "milk" whatever it might. There were no doubtful lots, perhaps bar one, and the heifers were so healthy and clean, and nice-looking, that you would hear as you moved about, "The heifers look well," "The heifers be a nice lot," and similar observations. The subjoined prices give the result of the sale, which was considerably beyond Mr. Garne's expectations. It led to great satisfaction and much congratulation, as no man, as the auctioneer remarked at the close of the business, deserved a better sale. Mr. J. Wilson Wilson having taken a new farm of three hundred acres, was a rare customer. He bought a dozen lots, perhaps the pick of the sale; he also bought the prize bull, Third Earl of Warwickshire, from Mr. Garne last season. Mr. Larkworthy's purchases were for New Zealand, and some nice heifers will soon leave the country. It gave general pleasure to the company to find Mr. Albert Brassey among the buyers, for in due time a good herd will be established at Heythrop. Mr. R. Attenboro', of Reading, also secured two or three nice animals, as well as Mr. Blandy Jenkins. The prize cow, Princess Alexandra,

looked exceedingly well, and her capital bull-calf helped her along; she is in-calf to Grand Duke of Geneva, and will be a formidable opponent at the shows this year if exhibited, as she still preserved all her sweetness of character and evenness of flesh without any patchiness, and has bred three calves. The Knightley cow (lot 4), Alice Knightley, had lost her last calf prematurely, but had been kept over for service; she is a broad, good cow, disfigured somewhat by upright horns. Magic 7th was a very grand animal and cheap, though several of the lots were certainly dear. Another cheap lot was lot 13, Gaiety, a fine red hairy heifer, with a beautiful head and massive frame on short legs; she goes to Mr. Cochrane, of Canada, for 70 gs. Coming in she caught her tail and pulled part of it off: and this somewhat detracted from her appearance although of little detriment. Lot 26 was a good specimen of the P tribe, a trifle small, but very compact; Mr. Wilson got her at 90 gs., as well as most of the others of that capital P family. The bulls were cheap. Lot 33, Lord Barrington, goes to the celebrated herd of F. Von Homeyer, in Pomerania; he is a fine roan, full of hair, and very heavy fleshed, but having been run with some heifers looked a little thin. This is the second auction that has taken place at Churchill, and the average of £66 12s. for thirty-seven head shows great improvement on £36 4s. for fifty-seven head in 1870, and that good stock, though bred from mixed strains of blood, will if good in themselves, be appreciated by the public, and command a capital average, even in these days of fancy, fashion, and cool thousands.

COWS AND HEIFERS.

Levity, by Cambridge Prince Royal (19380), out of Lovely by Progression (16770).—Mr. R. Attenborough, 40 gs.
 Jemima, by Duke of Towneley (21615), out of Jennet by Havelock (14676).—Mr. J. Wilson Wilson, 60 gs.
 Plymouth Beauty, by Plymouth Candidate (22531), out of Beatrice by Gondomar (17985).—Mr. J. Garne, 57 gs.
 Alice Knightley, by Duke of Darlington (21586), out of Alberta by Marmaduke (14897).—Mr. J. Wilson Wilson, 70 gs.
 Pansy 3rd, by Noble Duke (24661), out of Pansy 2nd by Cambridge Prince Royal (19380).—Mr. J. Houlton, 56 gs.
 Magic 7th, by Prince Consort (22583), out of Magic 3rd by Royal Oak (16870).—R. Attenborough, 60 gs.
 Princess Alexandra, by Rex (24946), out of Princess of Wales by Programme (20608).—Mr. J. Wilson Wilson, 160 gs.
 Rose Bud, by Duc D'Aumale (23713), out of Attingham Miss by May Duke (18329).—Mr. J. Cook, 36 gs.
 Susan Star, by Rollright (22750), out of Star by Dusty Miller (17765).—Mr. J. Wilson Wilson, 50 gs.
 Verity 3rd, by Paragon (24722), out of Verity 2nd by Lord Hardinge (13193).—Mr. J. Wilson Wilson, 70 gs.
 Countess, by Prince of Airdrie (27159), out of Cutteslowe Pride by Prince of Thorndale (24884).—Mr. F. Larkworthy, 51 gs.
 Juvenile, by Prince of Airdrie (27159), out of Jelly by Duke of Towneley (21615).—Mr. J. Wilson Wilson, 85 gs.
 Gaiety, by Royal Benedict (27348), out of Garland by Duke of Towneley (21615).—Mr. M. H. Cochrane, 70 gs.
 Fame, by Mr. Peabody (24603), out of Fairy Flower by the Druid (20948).—Mr. T. Mace 56 gs.
 Gezina, by Buccaneer (25693), out of Gentility by Duke of Towneley (21615).—Mr. R. Attenborough, 46 gs.
 Jemima 2nd, by Royal Butterfly 20th (25007), out of Jemima by Duke of Towneley (21615).—Mr. J. Wilson Wilson, 80 gs.
 Berrington Rose, by Knight of Brailes, out of Rose Bud by Duc D'Aumale (23713).—Mr. A. Brassej, 51 gs.
 Naomi, by Buccaneer (25693), out of Nettle by Monk (24616).—Mr. J. B. Jenkins, 75 gs.
 Primula, by Earl of Warwickshire 3rd (28524), out of Prima Donna by Royal Butterfly 20th (25007).—Mr. J. Wilson Wilson, 85 gs.
 Lady Butterfly, by Royal Butterfly 20th (25007), out of Levity lot 1 by Cambridge Prince Royal (19380).—Mr. J. Wilson Wilson, 90 gs.

Lady of Scar Hill 4th, by Duke of Fawsley (28387), out of Wallflower 11th by Secoud Earl of Walton (19672).—Mr. F. Larkworthy, 60 gs.
 Pageant, by Royal Butterfly 20th (25007), out of Passive by British Oak (19533).—Mr. J. Wilson Wilson, 80 gs.
 Hope, by Satellite (59930), out of Faith by British Hope (21324).—Mr. A. Brassej, 60 gs.
 Spring Flower, by Duke of Fawsley (28387), out of Wallflower 17th by Bleeding Heart 5th (25639).—Mr. F. Larkworthy, 89 gs.
 Rhoda Niblett, by Earl of Warwickshire 3rd (28524), out of Rebecca Niblett by Cyrie (19512).—Mr. J. Wilson Wilson, 75 gs.
 Pales 2nd, by Royal Butterfly 20th (25007), out of Pales by Plymouth Candidate (22531).—Mr. J. Wilson Wilson, 90 gs.
 Victoria 3rd, by St. Swithin (22833), out of Victoria by Duke of Towneley (21615).—Mr. T. Handy, 66 gs.
 Berrington Rose 2nd, by Soprano, out of Rose Bud by Duc D'Aumale (23713).—Mr. F. Larkworthy, 36 gs.
 Silver Star, by Walter 2nd (30253), out of Susan Star by Rollright (22750).—Mr. J. Wilson Wilson, 60 gs.
 Verity 5th, by Seclusion (22914), out of Verity 3rd by Paragon (24722).—Mr. F. Larkworthy, 62 gs.
 Magic 12th, by Buccaneer (25693), out of Magic 7th by Prince Consort (22583).—Mr. F. Larkworthy, 33 gs.

BULLS.

Lord Barrington, by Royal Prerogative (27383), out of Rosa by Jeopardy (21985).—F. Von Homeyer, 51 gs.
 Cromwell, by Pretender (29577), out of Cream by President Lincoln.—Rev. G. Warrener, 38 gs.
 Silvertop, by Pretender (29577), out of Silver 5th by Archer (17317).—Mr. A. W. Hall, M.P., 33 gs.
 Exciseman, by Ranger, out of Epitaph 23rd by Executor (26117).—Mr. J. Speed, 52 gs.
 Paul Pry, by Peblian (29556), out of Pansy 4th by Lord Farnham (26644).—Capt. J. T. Arkwright, 42 gs.
 Cambridge Royal Prince, by Royal Cambridge 2nd (25010), out of Princess Alexandra by Rex (24946).—Mr. T. Mace, 81 gs.

SUMMARY.

31 cows averaged	£60 8 8	.....	£2,152 10 0
6 bulls	51 19 6	.....	311 17 0
37 head	66 12 1	.....	£2,464 7 0

MR. GEORGE BLAND'S SHORTHORNS.

AT COLEBY HALL, LINCOLN, ON THURSDAY, APRIL 30.

BY MR. THORNTON.

Like the phoenix this herd arose from the ashes of that dispersed—save a few old cows—in 1867; but we failed to see those massive cows which were so noticeable at the last auction, neither was the herd so large as that offered before; indeed, it seemed that the new stock had hardly received quite so much attention as the last. Perhaps it was that the line of bulls being changed resulted in that difference, which was remarked by several old breeders present. The original herd has been obtained from Mr. W. Smith, of West Rasen, Mr. Dudding, Mr. Fawkes, Mr. Adkins, and other eminent breeders, a few of late being purchased from Mr. J. G. Dixon and Mr. Packe. To these cows Mr. Smith's Lord Raglan (14849) and Victor (21025) were put, and then Knight Errant, Lord of the Hills, and Lord Red Rose were hired from the late Mr. Richard Booth. After them a change took place: Grand Duke 6th was bought at the Willis' Rooms sale; he was sold with the herd in 1867, and his son Macheth reigned in his stead. At the Gaddesby sale a neighbour joined Mr. Bland in the purchase of Waterloo Prince—a good roan bull, by General Napier out of Mr. Singleton's fine red cow Lady Waterloo 12th. He left some fair stock, rather dark in their reds. One of the heifers, Priscilla 4th, was very handsome, and commanded 60 gs. from Colonel Reeve.

Her dam by Grand Duke 6th was a large-framed, fine animal, from a Knight Errant cow, and she went to Mr. P. Brown for 51 gs. Mr. Patterson took Waterloo Prince for a time, and in his absence Mr. Bland bought Duke of Liverpool at Mr. Barnard's sale, where his good stock were as admirable as the bull's temper was wicked. He got safely to Coleby, and his calves came out beautifully, two or three of them fit to go into a show-ring. This bull was wisely reserved at 120 gs., and may still leave fine calves. Ill luck, however, befell the herd just prior to the sale; the handsomest heifer-calf died in a few hours, and another good one was in the last dying stage on the day of sale. The second cow had slipped calf, and was not fit to offer, whilst several of those newly calved had not again gone to bull, and some of the three-year-old heifers had no living calves. The day was all that could be desired, and the delightful situation of Coleby Hall, overlooking the lovely vale of Grantham, rich with noble elms, and opening lilac and chestnuts, and loud with the cawing of rooks and sweet song of the nightingale, was as pretty an English landscape as could be sketched. The line from Grantham to Lincoln runs along the foot of the hill, and the Great Northern Railway, with the urbanity for which the company stands so far above its fellows, permitted the trains to stop at Coleby Bridge, and ran a special after the sale into Lincoln. Mr. Bland, like a sensible man, took his own chair at the lunch, and bid his friends and strangers a hearty welcome. The sale began about two, and was rather slow for the cows, though the heifers and calves sold better. Princess, lot 1, descended from Phillis, by Dan O'Connell, of which there was a numerous tribe, a fair, good cow, went at 35 gs. to Mr. Marshall, who has recently sold his sheep for double the money. Lot 6, Lady Pawsley, a nice cow with plain quarters of the Knightley Walnut tribe, ran up to 54 gs. (Mr. Casswell). Lot 9, Summer Flower from Pantou, full consequently of Booth blood, was unquestionably the best cow in the herd, but being doubtful went cheap at 45 gs. to Mr. Paddison; her heifer, Sunshine, by Manfred, wild and unmanageable as were many of the heifers, made the top price of the sale—100 gs.—and goes to Mr. How, of Broughton. Mr. Hales got three cows all in-calf at a trifle over the market rates. The prices then rallied a little. Mr. Garfit bought Azalea at 53 gs., and Mr. R. Catchpole, of Ipswich, a very grand heifer, lot 15, Strawberry at 59 gs.; having slipped calf last spring made her a doubtful purchase, otherwise she was well worth double the money. She was bred by the Lincolnshire patriarch, Mr. J. G. Dixon, of Caistor, who was present, and who, responding to the toast of Shorthorn breeders, delivered some amusing remarks on quality, now so little known by young breeders. Mr. Stafford gave 52 gs. for Tyrol, and Colonel Reeve bought Jewel, a fine red heifer at 56 gs. Lot 21, Royal Princess, also from Pantou, with three Booth crosses, was bought at 72 gs. for Mr. Gibb, of Canada, and made the second best price of the day. Mr. Norwood took a very handsome calf, lot 33, at 47 gs., also lot 32 at 30 gs.

The bulls made fair, good prices, though there was slow competition, doubtless arising after the sale of bulls at Lincoln Fair. Waterloo Prince went to Mr. Trotter at 56 gs., dropping nearly 100 gs. on cost price. The others ranged from 12 gs. for a white calf to 40 gs. for Wellington, giving an average of £33 and half-a-crown. The cows ran up to nearly £45, and the sale averaged within a few shillings of 40 gs. for the 43 head sold.

SALE OF SHORTHORNS AT BASINGSTOKE.—Messrs. Raynbird and Sons have held their Spring Sale of Pure-bred Shorthorn Cattle, when several lots of useful animals were disposed of at, however, very low figures.

MR. THOMAS PURKIS' SHORTHORNS.

AT WEST WRATTING GRANGE, LINTON, CAMBRIDGE,
ON FRIDAY, MAY 1.

BY MR. THORNTON.

Lying between Newmarket and Cambridge, this parish and the adjoining one have not at present been affected by the lock-out. The delegates have hitherto continued in darkness thereabouts, and even were they to come, and with half-truths disturb the good feeling between master and man, it is questionable whether many aliens would be found. A good master makes a good servant, and few sensible men will leave comfortable places and good living to run to evils they know not of. Mr. Purkis has a large holding under the trustees of the Corporation of the Sons of the Clergy. Mr. William Copeland, son of the late alderman, one of the treasurers, very happily undertook the duties of chairman on the occasion, when the company gathered together under a capacious marquee. Mr. Purkis has been known among Shorthorn men for some years; and his herd, started ten years ago with some of Mr. Barnett's, Mr. Robinson's, Messrs. Webb's, and Messrs. Leney's stock, contained some capital animals of the Blanche Foggathorpe, and Celia tribes. He bred some of his first bulls; with one, Liston, he won the first prize at the Cambridgeshire show, and then he bought Sir Rainald, of the Charmer blood, at Wateringbury. This bull and Lord Lind, bred in the herd, did good service, and were the sires of all, bar one, the young animals, which were brought out in excellent condition; indeed a very choice lot they were. Wharfedale Oxford (27786), bred by Lord Penrhyn, was bought at Drayton and reserved at 100 gs., though no calves had as yet dropped to him. The Foggathorpes were the cattle of the sale: there was a Shorthorn look, and great dairy properties among them different to the rest, and consequently they commanded the best prices of the day, the seven females of which averaged £65 11s. Lot 1, Zenobia 6th (30 gs.), a good milker and breeder, was a cheap purchase to Mr. Preston; and Gross Lind, the first of the Foggathorpes, went to Mr. Jonas Webb at 50 gs.: he also got her daughter Fraulein Faggathorpe at 56 gs. Lot 6, Thorndale Blanche, from Wateringbury, was bought by Mr. George Garne at 55 gs.; her daughter, lot 12, made 37 gs. (G. Garne); and lot 30, 36 gs. (W. Gardener); whilst her granddaughter goes to Norwich at 42 gs. Mr. Puckridge, of Chigwell, bought all the Merry Lassies, which were of the Celia tribe, at about an average of 41 gs. Lot 9, a very fine cow of the Starville tribe, was bought by Mr. Turpin at 42 gs., and her heifer-calf Mr. Garne got at 37 gs. The pick of the Foggathorpes were, however, all purchased for Mr. Bland. Mrs. Fagan, a fine, cylindrical cow of parallelogram form, a soft, nice roan, and a great milker, being due to calve, was cheap at 84 gs.; her heifer by Mr. Crabb's Eleventh Duke of Oxford went to Mr. Kimber at 60 gs. Lot 16, Rosalind, one of the purest of the tribe, had a bad time at calving, and so made but 60 gs.; another cheap purchase, lot 20, Fraulein 2nd, a sweet heifer, with a nice head and pretty curled horn, broad loin and square good frame, was the plum of the sale, and joined Rosalind and Mrs. Fagan at 85 gs., the highest price of the day. Mr. Garne took Lavender, a white heifer, unbullied, at 42 gs., a very pretty animal, and, except in loin and colour, equalling Fraulein 2nd. The heifers and calves sold very well, Mr. Gardener buying several of the youngest, it was said, to take abroad. Mr. Gerard Barton also disposed of his few Shorthorns, having given up his farm at Fundenhall: they were all of the Silence tribe, but were in condition not quite up to the rest of the stock. Mr. Ladds gave 25 gs. for Silence 5th, having just calved, and Silence 4th, nearly due, goes into Kent at 47 gs.

Mr. Longman, of Standish, Herts, took all the rest—lot 13 at 61 gs., lot 26 at 20 gs., and lot 28 at 30 gs.

Wharfedale Oxford was without a claimant at 100 gs. Mr. Perry bought Lord Lind, an excellent sire, cheap at 60 gs., and one of the other Foggathorpe bulls ran up to 50 gs.; he was a nice roan calf, rather flat-sided. There were fourteen young bulls and calves which made nearly £32 a-piece, the cows £42, so that the 48 head yielded just £40 average. This sale was considered very satisfactory, and, taking the outlay into consideration, was a most profitable investment. The Grange seems well adapted for breeding; there is some good grazing land hard by, and the abundance of straw, capital roots, and good-looking blackfaced sheep testified to the arable; indeed, the "happy content" of the whole place was striking. The cattle were thoroughly at peace in the capacious and well-divided strawyards; game, especially partridges, was said to abound, and yet not be troublesome; whilst even during the sale the nightingale in a copse not a dozen yards from the ring warbled out notes of song and gladness.

SALE OF MR. J. A. PIGGOT'S SHORTHORNS.

AT BECKINGHAM HALL, WITHAM, ON TUESDAY,
MAY 5, 1874.

BY MR. JOHN THORNTON.

Without going into the vexed question of milk or no milk, Mr. Piggot solved the difficulty by taking up a London milk contract with a herd of about twenty pure and ten common Shorthorn cows. This was continued for many years, and when the contract ceased at Lady-day he decided to sell off the whole stock of his breeding cattle, and try sheep and bullocks with a little different system of farm management. Beckingham is a place of "ancient renown." The embattled gateway still tells of a fine old mansion erected fully three hundred years ago, when the Beckingham family lived here; while part of the moat yet remains, and the land stretching away to the Maldon river over a pretty bit of country is of good quality, with some nice pasture. The cattle were first brought on to the place in 1858 by the advice of Mr. Turvill, the good old steward of Skreens, and a couple of cows bought of Lord De Grey had several capital descendants in the sale—especially lot 3 (Dagmar), of the old Beetham blood. Indeed, Dagmar was one of the best cows: large framed and round ribbed, but unfortunately not holding, so that 43gs. (Mr. Stone) was all that could be got for her. The neighbouring herds of Mr. Bramston, Mr. Christy, Mr. Gosling, and Mr. Upson supplied several others, and a Charmer calf was bought at Sarsden in 1864. Ill-luck, however, prevailed, and what with slips and non-breeders, the herd but slowly increased. Some of the bulls were bred from the Genevieve strain, by Master Gerald (16538), which came from Skreens, and Master Carolus from Mr. Tracy was of the "Bates and Knightley" blood. This strain was followed on with Fawsley Oxford (26144), the sire of many of the lots, which were full of hair and nice quality, and, considering the way they were reared, in good condition. The cows looked well in the field, and the heifers showed to advantage in the foldyards; but the calves told the milk tale, for they were weaned at a day's notice; and though healthy and thriving, and well reared in their way, the "calf flesh" was lost, doubtless, causing that want of development and size which was slightly noticeable throughout the herd. A larger company attended than many anticipated, and the way in which Mr. Piggot's health was received indicated the respect in which he is held in the county. Of the show he has been a good supporter, though he never went into

high feeding, and merely sent some of his best from the grass when the annual meeting came into his district. Mr. Matosh did the honours of the lunch, and Alderman Mechi was quite at home. The prices did not range high. Mr. Stone, who had a farm to stock, was a large purchaser, and bought many useful good animals at a little over market price. Mr. Mashiter and Mr. Collinson Hall were also present, frequent bidders and occasional buyers. Lot 2, Empress 5th, of the Dido tribe, a rare milker and feeder, was very cheap at 32 gs. to Mr. Tippler. Mr. Christy gave 62 gs. for Blissful, a fine forequarter cow of the Blanche tribe; but her twin calves (heifer and bull) pulled down the average. Some of the Dorcas family went to Mr. C. Daintree, of Huntingdon, who bought the old bull, Sunshine, too at about beef price. This bull came of the Seraphina tribe; a large fine animal, a little bare on his loin, but a good stock getter. Esther, Lot 8, was one of the best cows in the sale, and Mr. Upson took her at 50 gs., heavy in calf. Several inquiries were made about Lot 18, Unity, by Fawsley Oxford, from Ultima, of the Charmer tribe; a neat, nice cow she was, but there was a slightly tucked up look about her, which coupled with a broken bulling affected her price: she only ran up to 42 gs. Mr. Clear bought her; and as Mr. Christy took her roan heifer-calf, by Sunshine, at 23 gs., she was transferred afterwards to him. The best heifers went to Mr. Chaplin, of Ridgewell, who bought Diana, Lot 25, at 40 gs., and Dora Fawsley, Lot 21, at 51 gs. The calves made fair prices, and the bulls were also in tolerable demand, though it is said to be one of the slowest districts for them. Demonstrator, a very large two-year-old bull of his age, of capital quality, was cheap at 43 gs., and goes to Mr. Saunders, of Huntingdon. Mr. Sewell bought Little John, another nice calf, at 30 gs., and the nine sold averaged £23 15s. The cows and heifers did better, and ran up to £32 each. About twenty head of dairy stock sold uncommonly well among dealers and local buyers, at top market prices, and a little over. To the fancy a thirty-pound-ten average for forty-six seems a mite now-a-days: but if the four to five hundred pounds' worth of milk, sold from Michaelmas to Lady Day, be spread over each animal's price, the average is raised ten pounds higher, and shows that even for the dairy Shorthorns can be made to pay.—[Mr. Thornton also sold Mr. Killick's Shorthorn herd at Walton, near Eccleshall, on Thursday, when 46 head averaged about £33.]

SALE OF MR. KILLICK'S SHORTHORNS,

ON MAY 7TH, AT WALTON HALL, ECCLESHALL.

BY MR. J. THORNTON.

To most Shorthorn breeders this herd was comparatively unknown, and though bred closely for nearly thirty years in direct descent from a pair of twin heifers of the old Cowling blood, bought at Mr. H. Watson's sale, 1845, it excited but little interest, few breeders coming from a distance to the sale. In the neighbourhood, however, it was well known, and very favourably too, for bulls had been used for years among the common stock, and greatly improved them. But now-a-days, Shorthorn breeding has run into two great channels, and few things go down with the public unless of Bates or Booth blood. True, the public have had experience of the value of these strains, in the show-yard and sale-ring too, and if other breeders have choice things, they must bring them out and try their hands against those who have so deservedly won the public favour. A little Bates blood had been engrafted on Mr. Killick's stock when first started, for he was an admirer of that great enthusiast,

and went to Mr. Bates some years before his death for the purpose of getting a few of his cattle, and he was to have the pick of the heifers at a hundred guineas a-piece. Two good judges accompanied Mr. Killick, and he put three one-hundred-pound notes in his pocket. The heifers were selected, and the notes passed across to Mr. Bates at the table; but he passed them back, as his price was guineas; but guineas were declared obsolete, and as the currency of the realm were the notes tendered. These were as persistently declined, and the bargain abandoned; while, oddly enough, Lord Ducie became the possessor of some of these animals in later years. At Mr. Thomas Bell's sale a white bull-calf was bought, a son of the Eighth Duke of York, sold at the same sale for 1,065 gs. This calf, called Prince Bismarck, from only a four-cross dam, was hardly the animal in appearance or breeding to put upon such well-descended cattle. They could boast a closely descended pedigree for nearly a century—aye, and full of that Waterloo and Belvedere blood to which Kirklevington laid such claim. No pretensions had been made to rear them, either as show-yard animals or as a bull-breeding herd. They were evidently kept to stock the farm and produce milk for the house. The bull-calves went off as year-olds at about £25 to £40, and the butchers spoke well of the Walton fat cows. The cattle were shown in the houses, but there was but little difference in them when they came into the ring. So much alike were they, especially in character and colour, principally white, or else white bodies with a little roan about the head and neck and legs, that it was difficult to tell them apart. Some were, by their condition and nice udders, good milkers, and the thin necks and light thighs also indicated this propensity. Form was not always good, the backs and loins were often weak and the hind-quarters rough. They were, however, brought out nicely, freshened a little in condition, washed, and shown to the best advantage, which helped the competition for the best looking lots. It was no easy matter to say which were the best, for, as Mr. Killick remarked at the lunch, they were so much alike that no man could say which would turn out the best or bring the best stock. The descendants of Cherry made rather better prices than those of her twin-sister Cente, which were the more numerous. Lot 6, Young Nina 6th, was bought by Mr. W. Bradburn for 61 gs.; and her heifers made respectively, lot 12, 60 gs. (Addison); lot 17, 60 gs. (J. Humphreys); lot 25, 24 gs. (W. Bradburn); lot 33, 20 gs. (W. Bradburn). Lot 2, Nemesis 6th, of the Cente branch, was a good cow; and Mr. Lightfoot, who bought several, took Nemesis 11th, a good heifer from her, at 37 gs. Lot 20, Laura 5th of this branch, was also a good-looking in-calver, and made 41 gs. Mr. E. Bostock, of Stafford, was the largest buyer. Several go into Shropshire, and Mr Sutton took two or three into North Wales. Mr. Braikenridge bought the only red animal (lot 14) and her calf; also a Nemesis, at 52 gs., to go into Somersetshire. The bull, not generally admired, although he has some good-looking calves about, was retained in the neighbourhood at 41 gs. The bull-calves were fairly in demand; but several were thin, being twins and whites, and wanting in their hind-quarters. Taken all through, the sale was considered by those present to be good; indeed, it went beyond the anticipations of many who were bidders and not buyers, among whom were the agents of the Duke of Sutherland, Lord Lichfield, and Lord Crewe. The forty-six head, including several white calves recently dropped, averaged within a trifle of £33.

SALE OF MR. GILBEY'S JERSEY CATTLE,

AT HARGRAVE, ESSEX, ON THURSDAY, MAY 14, 1874.

BY MR. THORNTON.

It is an acknowledged fact that as wealth returns to the soil, so men of business relax their minds and invigorate their bodies with country air and rural pursuits. Possessed of ample means, a large young family, and renting a beautiful place in Essex, with about one hundred acres of lightish land, Mr. Walter Gilbey, of that well-known firm, has devoted his time at home to obtaining the best Jersey cattle, and breeding from them, solely for their dairy qualities. His start was at the Danney sale seven years ago, where he bought several, including The Bau, a young cow, at 81 gs. She bred the bull Banboy, a wonderful animal winner of first prizes at the Royal and elsewhere, and such a stock-getter! the best proof of which is that the eleven animals by him sold on Thursday for 55 gs. each. When Mr. Gilbey has seen or heard of a good cow, he has endeavoured to buy her, providing the dairy properties were abundant, and the animal was as perfect as could be reasonably expected. The cows exhibited at Hargrave on Thursday were such as doubtless few can show, perfect in their vessels, of a whole colour, mostly the sober Quakerish drab, or silvery-looking grey, considered the most fashionable of all tints. The sale comprised the heifers from several of these cows, and a prettier sight few could desire. All of a size, all of a colour, with fine bone, gazelle-like heads, they might well be compared to the beauty and elegance of the deer, but a deal more useful. Something, too, might be said for beef, beside milk, for there were several breeders present who had made, with ordinary good feeding, a pound a month for their steers. Most of these heifers had been put to the bull, so as to calve at about two years old. A few cows were also added to the sale, as well as four from Lord Rosslyn's herd. It being Stortford market day the sale was held over till three o'clock, and at two Lord Chesham being present was invited to the chair, when he spoke in high terms of the stock. The sale was very brisk, the competition being general and lively. Lot 5, a particularly handsome dark silver grey heifer, was in great demand, and Mr. Simpson finally gave 60gs. for her. Lot 8, another handsome heifer, though of a browner tint, was bought by Mr. Byass at 65gs. The choice heifer, lot 9, very full of quality and most elegant in appearance, of a bright silvery fawn, created keen bidding from Mr. Miller, on the part of Mr. Watney, and Mr. Byass, who finally got her at 100gs. The cream of the sale goes to Daylesford Park, Mr. Byass' new residence, while lot 7, a favourite in-calf heifer, goes to Mr. A. Sartoris, in the same neighbourhood. The cows made lower prices, being sold for some blemish, which was very properly announced. Ducal, the bull to whom most of the heifers were in calf, was reserved at 100 gs. He is a good-looking animal, neater in the fore-quarters than some of the Banboy stock, and out of Duchess, a magnificent cow giving 48 pints daily. Lord Rosslyn's four made within a guinea of 100 gs. the lot. The seventeen heifers of Mr. Gilbey's averaged within a trifle of 50 gs. each, a price seemingly absurd to the outside public, but which those knowing the full value and excellence of the stock gladly gave. This is the fifth annual sale Mr. Gilbey has held, but the first at home, and is no small encouragement to that quiet but firm decision to breed from only the best stock in this country, or the island, which has already stamped his herd as the best about.

HEIFERS.

(The figures refer to the Jersey Herd Book.)

Start, sire Banboy, dam Star.—Mr. W. Beadel, 27 gs.

OPENING OF A CHEESE MARKET AT THORN-BURY.—This market was formally opened, but without any ceremony. There was a numerous and influential attendance of agriculturists, dealers, and others.

Willing, sire Banboy, dam Willsome (imported).—Mr. Clarke, Brackbridge, 38 gs.
 Budlet, sire Albert (150), dam Bud.—Mr. Shaklady, Norfolk, 41 gs.
 Tabrit, sire Albert (150), dam Tab.—Mr. J. Porter, 36 gs.
 Mab Queen, sire Banboy, dam Mab.—Mr. G. Simpson, Reigate, 60 gs.
 Willsome, sire Fairman's (imported) bull, dam Willing.—Mr. Hlepburn, Clapham, 38 gs.
 Maiden, sire Banboy, dam Maid.—Mr. A. Sartoris, Worcester-shire, 41 gs.
 Startle, sire Banboy, dam Startful.—Mr. R. N. Byass, Worcester-shire, 63 gs.
 Viegirl, sire Banboy, dam Victoria (imported bull).—Mr. R. N. Byass, 100 gs.
 Tagmaid, sire Banboy, dam Tag.—Mr. Miller, Bishop Stortford, 52 gs.
 Odalisque, sire Banboy, dam Foxdell.—Mr. W. C. Mole, 26 gs.
 Banrose, sire Don, dam Banshee.—Mr. Miller, 57 gs.
 Banmaid, sire Don, dam The Ban.—Mr. R. N. Byass, 50 gs.
 Beloved, sire Banboy, dam Bel (imported).—Mr. R. N. Byass, 67 gs.
 Beloved, sire Banboy, dam Princess.—Mr. Simpson, 52 gs.
 Totty, sire Mr. Fairman's (imported) bull, dam Tots.—Mr. R. N. Byass, 36 gs.
 Beautiful, sire Don, dam Beauty.—Mr. Shacklady, 45 gs.
 COWS.
 Tax, and calf.—Mr. Osborne, Writtle, 37 gs.
 Banshee, sire Rioter, dam The Ban.—Mr. J. D. Fairman, Bishop Stortford, 35 gs.
 Nib.—Mr. E. B. Gibson, Saffron Walden, 37 gs.
 Colly, sire Banboy, dam Daisy, Mr. D. Clapham, Broxbourne, 31 gs.
 Fox, sire Banboy, nam Foxdell.—Mr. R. N. Byass, 32 gs.
 BULLS.
 Ducal, sire Banboy, dam Duchess.—Reserved (100 gs.)
 Bauco, sire Don, dam Bangiri.—Mr. J. F. Burt, 11 gs.
 Average. Total.
 22 cows and heifers..... £47 17s. 5d. ... £1,053 3s. 0d.

SALE OF MESSRS. FOWLER AND ROBINSON'S SHORTHORNS.

AT PREBENDAL FARMS, AYLESBURY, ON FRIDAY, MAY 15, 1874.

BY MR. STRAFFORD.

Mr. Fowler's predilections for the "Bates on Knightley" blood among Shorthorns is as well known as are his poultry and Aylesbury ducks; as indeed, several of the purchasers and visitors present on Friday were seen going off with those little packages, which indicated settings of eggs. It is some few years since Mr. Fowler had a sale, and now having only some fifteen to sell, his neighbour, Mr. Joseph Robinson, of Great Berkhamstead, added 21 to the number, and so made up a good catalogue for sale. The animals were of various pedigrees, several being descended from the late Mr. Adkins' herd at Milcote, Mr. McIntosh's, and Captain Oliver's, of Sholebrooke. The prices were, however, so various that it is difficult to give preference either to the Walnut, Sweetheart, Nonsuch, or Surnise tribes. Two or three of the Walnut family were very promising, the heifers, lot 23, Charming Knightley, and lot 25, Charming Geneva, being handsome roans, in nice condition. The former a soft roan, and weak in the middle, was bought by Mr. Sartoris for the Duke of Manchester at 185 gs.; the latter, deficient in girth, and originally from the Penrhyn herd, having the Marmaduke and Vanguard crosses went, for 125 gs. to Mr. Doig for Lord Penrhyn. The dam of lot 25, a long red and white cow, very thin, and bare of hair and flesh, went doubtless upon her merits, but apparently below her value, at 45 gs. The dam of Charming Knightley was by Mr. McIntosh's Third Duke of Geneva, and

taking after her sire, was a large-framed, even, good cow, apparently a milker, but of no great substance; her horns, nicely shaped, were well scraped to the best advantage, and Mr. Blundell became her purchaser at 115 gs. The first lot brought into the ring was old Surnise, a cow rising fifteen years old, fresh-looking for her age, and heavy in calf to Mr. Pavin Davies' Second Duke of Glo'ster. She was sold when a calf at the Milcote in 1860 for 50 gs., and had passed through many hands since then; while she soon doubled her starting price at 30 gs., and went to the chairman, Lord Chesham, at 60 gs. Lot 9, Spicy Lightburne, bought at Biddenham, though of the same tribe as lot 1, was not her equal in appearance, and yet just ten years younger; she nevertheless doubled the price of lot 1, and goes to Mr. Casswell in Lincolnshire, for 120 gs. Lot 16, of the same line, bred by Mr. Slye, had no produce in the sale, and her light appearance caused her to make only the 45 gs. which Mr. Matthews gave for her. Mr. Casswell also bought a good calf out of Spicy Lightburne for 70 gs.

The Dido tribe did not attract any particular notice, consequently the prices were low. The first cow of the family, Daffodil, a deep plainish red and white, but heavy in calf, went to Mr. Stavely Hill, M.P., at 48 gs., and the six averaged 35 gs. Lot 3, Surnise 3rd, also red and white, but a long good cow, fresh calved, was much faucied, Mr. Casswell finally getting her at 105 gs., and her bull-calf Mr. Chas. Barnes bought at 20 gs. The other heifer of this tribe, notwithstanding her somewhat dirty nose and doubtful appearance, made 100 gs. Lot 4, Princely, by a pure Booth bull from Princess of Cambridge, of the Furbelow tribe, a massive cow, with short quarters, was purchased by Mr. Sartoris for 125 gs., heavy in calf, to Mr. Fawcett's Duke bull, the Eighth Duke of York. Another heifer of the tribe, by Grand Duke of Lightburne 2nd, went to Mr. Wilson Wilson for 55 gs., her calf making 20 gs. He also bought what many considered the best heifer in the sale, lot 20, Kentish Nonsuch, a rich red thick heifer with great barrel and loins, with Mr. Casswell, Mr. Doig, and Mr. Garue bidding for her, and although a good and well-descended animal she seemed rather dear at 175 gs. Her dam, a good cow by Charleston, was well worth the 77 gs. Mr. Loder gave for her, but not equal in looks to the round-ribbed, broad fine white cow, lot 6, from Mr. Wiley's stock, which he also got at 48 gs. Two heifers of the Bracelet tribe made respectively 78 gs. and 50 gs., the latter going to Mr. Walter, M.P. Lot 18, Peach Blossom 9th, was withdrawn on account of ill health; but for her calf, a little red heifer, seven weeks old, Mr. Longuan paid 70 gs.

The bulls were not equal to the heifers, and reduced the average; it should, however, be stated only one calf was Mr. Fowler's property, and he made 13 gs. Lot 2, Tacitus 2nd, a lightish yearling, by Third Duke of Claro, brought 80 gs. the top price for bulls, and goes to Whittlebury. Two bulls of Mr. H. J. Sheldon's were also sold—Duke of Brailes 6th by Duke of Hillhurst (Col. Kingscote's bull), out of Australia, of the Acomb family, for 40 gs. (Sturgeon), and a promising red calf of the Bates and Knightley blood ran up to 66 gs. (James). Three lots from Aberdeenshire were not forward, and the total of the sale showed nearly £2,500, averaging £68 8s. Of these, Mr. Fowler's 15 made £98 a-piece and Mr. Robinson's 21, £47 6s. A large company was present, including several breeders from a distance as well as a numerous local company, who partook of the elegant champagne luncheon, over which Lord Chesham presided, and whose speech was brief and to the purpose. Some of the cattle were shown in the rich pastures for which the Vale is so famous, but others were in the boxes around the large straw-yards.

COWS AND HEIFERS.

(Those marked with an asterisk are the property of Mr. Joseph Robinson.)

- Sumrise, calved November 21, 1859, by Mameluke (13289), out of Sweetheart 3rd by Daybreak (11338).—Lord Chesham, 60 gs.
- *Daffodil, calved in April, 1860, by Londonderry (13169), out of Darling by Meteor (10526).—Mr. A. S. Hill, M.P., 48 gs.
- *Sumrise 3rd, calved January 31, 1861, by May Duke (13320), out of Sumrise by Duke of Gloster (11382).—Mr. J. H. Casswell, 105 gs.
- Princely, calved May 30, 1864, by Warrior (23178), out of Princess of Cambridge by Duke of Cambridge (12742).—Mr. F. Sartoris, 125 gs.
- *Dinah, calved in March, 1865, by Oberon (15061), out of Dahlia by Londonderry (13169).—Mrs. Strickland, 30 gs.
- *Sultana 2nd, calved August 15, 1866, by Alfred (19213), out of Sultana by Sultan (15358).—Mr. R. Loder, 48 gs.
- Nonsuch 5th, calved May 16, 1867, by Charleston (21400) out of Nonsuch 4th by Lord Oxford (20214).—Mr. R. Loder, 77 gs.
- Lady Geneva 2nd, calved March 23, 1869, by Duke of Cumberland (21584), out of Lady Geneva by Duke of Geneva (19614).—Mr. Perry, 45 gs.
- Spicy Lightburne, calved August 16, 1869, by Grand Duke of Lightburne (26290), out of The Sort by 5th Grand Duke (19875).—Mr. J. H. Casswell, 120 gs.
- *Nonsuch 6th, calved September 9, 1869, by Monitor (24615), out of Nonsuch 4th by Lord Oxford (20214).—Mr. S. Canning, 48 gs.
- *Cherry Bracelet, calved May 25, 1870, by Cherry Grand Duke 2nd (25758), out of Bracelet 4th by Knightley (22051).—Mr. H. J. Sheldon, 80 gs.
- *Duplicity, calved July 8, 1870, by Bull's Bay (23490), out of Dagmar by Baron Fleda (21221).—Mr. Ashley, 34 gs.
- *Sultana 3rd, calved October 26, 1870, by Prince of Geneva (24829), out of Sultana 2nd by Alfred (19213).—Mr. G. Underwood, 31 gs.
- Knightley 5th, calved December 14, 1870, by 3rd Duke of Geneva (23753), out of Lady Knightley by Protector (22660).—Mr. J. H. Blundell, 115 gs.
- Secresy, calved March 1, 1871, by Monitor (24615), out of Nancy by Rowfant 1st (22676).—Lord Chesham, 100 gs.
- Royal Charmer 5th, calved March 23, 1871, by Grand Duke of Lancaster (19883), out of Royal Charmer by 2nd Duke of Cambridge (12743).—Mr. A. S. Matthews, 45 gs.
- Princess Royal, calved August 25, 1871, by Grand Duke of Lightburne 2nd (26291), out of Princess Beatrice by Kildoman (20051).—Mr. J. Wilson Wilson, 55 gs.
- *Charming Bracelet, calved July 17, 1872, by King Charming (28952), out of Cherry Bracelet by Cherry Grand Duke 2nd (25758).—Mr. Greenway, 78 gs.
- Kentish Nonsuch, calved October 5, 1872, by Grand Duke of Kent (26289), out of Nonsuch 5th by Charleston (21400).—Mr. J. Wilson Wilson, 175 gs.
- *Lily Nonsuch, calved November 18, 1872, by King Charming (28962), out of Nonsuch 4th by Lord Oxford (20214).—Lord Fitzhardinge, 48 gs.
- *Daphne, calved January 31, 1873, by Vespasian (32761), out of Dorothy by Oberon (15016).—Mr. R. Loder, 45 gs.
- Charming Knightley, calved July 3, 1873, by King Charming (28962), out of Knightly 5th by 3rd Duke of Geneva (23753).—Duke of Manchester, 185 gs.
- *Pearl Bracelet, calved August 20, 1873, by Charming King (30698), out of Cherry Bracelet by Cherry Grand Duke 2nd (25758).—Mr. J. Walter, M.P., 50 gs.
- Charming Geneva, calved October 9, 1873, by King Charming (28962), out of Lady Geneva 2nd by Duke of Cumberland (21584).—Lord Penrhyn, 125 gs.
- *Charming Sultana, calved December 29, 1873, by Charming King (30698), out of Sultana 2nd by Alfred (19213).—Mr. Devon, 22 gs.
- Saccharina, calved February 4, 1874, by 2nd Duke of Darlington (30944), out of Spicy Lightburne by Grand Duke of Lightburne (26290).—Mr. J. H. Casswell, 70 gs.
- *Charming Dinah, calved March 4, 1874, by Charming King (30698), out of Dinah by Oberon (15016).—Mr. James, 30 gs.

Peach Blossom 10th, calved March 18, 1874, by 2nd Duke of Darlington (30944), out of Peach Blossom 9th by 8th Duke of York (28180).—Mr. A. H. Longman, 70 gs.

*Charming Nonsuch, calved March 19, 1871, by Charming King (30690), out of Nonsuch 6th by Monitor (24615).—Mr. R. Attenboro, 30 gs.

BULLS.

*Charming King (30698), calved October 2, 1871, by King Charming (28962), out of Spicy Lightburne by Grand Duke of Lightburne (26290).—Mr. Ogg, 60 gs.

*Tacitus 2nd, calved September 6, 1872, by 3rd Duke of Claro (23729), out of Sumrise 3rd by May Duke (13320).—Mr. R. Loder, 80 gs.

*Diogenes, calved October 9, 1872, by King Charming (28962) out of Dahlia by Londonderry (13169).—Mr. Rayban, 22 gs.

*Prince of Denmark, calved November 21, 1873, by Charming King (30698), out of Dagmar by Baron Fleda (21221).—Mr. J. Robinson, 22 gs.

Duke of Vienna 2nd, calved in March, 1874, by Royal Geneva, out of Sylphide by Sarawak (15238).—Mr. Denchfield, 13 gs.

*Prince of the East, calved March 22, 1874, by Northchurch (3195), out of Sultana 3rd by Prince of Geneva (24829).—Mr. Elwin, 15 gs.

*Silent King, calved April 3, 1874, by Northchurch (31981), out of Sumrise 3rd by May Duke (13320).—Mr. C. A. Barnes, 20 gs.

SUMMARY.

29 cows averaged	£76 11 0	£2,219 14 0
7 bulls "	34 16 0	243 12 0
36 head "	£68 8 6	£2,463 6 0
Mr. J. K. Fowler's 15 averaged	£98 0 0	£1,470 0 0
Mr. J. Robinson's 21 "	47 6 0	993 6 0
		£2,463 6 0

THE PRICE OF SCOTCH POLLED STOCK.—The pure-bred polled cattle upon the farm of Balquharn, tenanted by the late Mr. Robert Walker, Portlethen, were disposed of, consequent upon the displacing of that holding. The stock formed a portion of the old and highly-bred polled herd in connection with which the name of Mr. Walker was so well known. Although the section of the herd upon Balquharn farm has been sold off, the principal portion of the old herd of Portlethen is still to be maintained by the successors of Mr. Walker. The stock drafted off for sale at Balquharn had all the characteristics of careful breeding and purity which distinguishes the Portlethen breed. They were in fair condition, not having been subjected to the least speciality in feeding or management preparatory to the sale. Every animal entered in the catalogue has been registered in the *Herd Book*, so that the descent is undoubted. Polled cows and heifers of known purity have of late commanded such high prices that the sale of Saturday was expected to attract the attendance of those interested in the breed. The result, however, was not equal to the expectation. The principal breeders north of Aberdeen did not put in an appearance; and although the attendance was large, the buyers were principally from the surrounding districts. The demand throughout was slack, and the prices realised were below the value of stock for breeding purposes. Mr. George Murray ably discharged the duties of auctioneer, and Mr. Glennie, Fernflat, was judge of the sale. Sixteen cows, mostly with calves at foot, were sold. The cows and their calves went together, and for the lot there was realised £584, or an average of £34 5s. Three two-year-old heifers were sold, and they realised £66, or an average of £22. Five yearling heifers were sold, realising £86, or an average of £17 4s. Three bulls, which had been in service, were also offered, and realised £91 7s., or an average of £31 9s. The total sum realised at the sale was £791 10s.

SALE OF THE LATE MR. BARCLAY'S SHORTHORNS AND SOUTHDOWNS,

AT EASTWICK PARK, SUREY, ON MAY 19TH.

BY MR. THORNTON.

There are few pleasanter spots around the metropolis than the neighbourhood of Leatherhead, Dorking, and Boxhill, and a drive through the sleepy, pastoral villages of Fetcham and Bookham to Eastwick Park is refreshing on a bright spring morning. It was, however, a sad journey; for there is something after all painful about the sharp, clear tap of the auctioneer's hammer as the effects of the late proprietor are appraised to an assembled crowd. Eastwick has long been in the possession of the Barclay family, as the Middlesex estates have been in that of the Perkins, which names combined are as well known in Southwark, as Bass and Allsopp are at Burton. But the tastes of the Barclay family ran in the paths of nature and those of the Perkins more on art. It seems but the other day that the great Perkins' Library was dispersed, when that celebrated ancient copy of the Scriptures fetched over 3,000 guineas. Now we have to record the dispersion of the herds and flock gathered together by the late Mr. Hedworth D. Barclay. The head of the family, the late Captain Barclay, of Ury, doubtless gave the taste for pure-bred stock, for his herd of Shorthorns in the far north by Aberdeen had almost a world-wide reputation in their day, and were the means of encouraging the breed in that county, where crossing has produced much of the finest beef of the kingdom. Southdowns, on a large estate where they kill their own mutton, are as essential as the Alderney, and both have for years flourished at Eastwick, for as far back as 1848 the old flock of Downs was sold on the home farm, after winning at the Royals of Southampton, Shrewsbury, and Northampton. But Downs were more in fashion then than now, and being sold on the last day of August brought a large company and good prices, some of the ewes fetching £12 15s. each and rams 50 guineas. Blossom, a pure Shorthorn cow made but £17, and Colley, an Alderney, £16. In 26 years what a change! A Shorthorn cow made a 100 guineas, an Alderney heifer 73 guineas, whilst the sheep could only reach £7 for a pen of ewes and lambs, and a ram only got up to £11, but then it should not be forgotten that the flock was sold out of season. The ewes, pulled down by the lambs, were thin, whilst the rams were too early in the market to fetch any great prices. The farm estate, moreover, had been let, and the cattle were only retained on sufferance until the 25th of May. The farm, situated close to the mansion, and adjoining the beautifully-wooded park, is not of the finest soil, though the light land has been much improved during the last few years. The place is nevertheless well adapted for good stock, the houses and boxes being commodious and well made, whilst the yards, partly covered and very spacious, are admirably contrived for separating cattle. In them on Tuesday last were shown a lot of fine large-framed cows of great substance on short legs, mostly light roans, but one a dappled red and white of immense depth with a large udder, is of a stamp rarely seen now-a-days: she was numbered 4, and called Fair-spots in the catalogue. Lot 1, too, was a grand cow with nicely-curved horns, a sweet young-looking head, and fine quality of flesh. As we walked through the building this cow turned out to be a good mother, for several of her daughters were in the sale, one of them, Lot 9, about the best there. What a type it was! such an enormous barrel of flesh on short legs, with very fine bone and a thin light neck, making quite a parallelogram! A red cow with a broad back, round ribs, and large out-spreading horns, was numbered Lot 3; and there was also a fine-looking white cow, Lot 8. In another yard, among the heifers, Lot 12 showed great breeding and 1

length, but a little deficiency through the heart. Lot 13 was a favourite animal, a little better forequartered, but shorter than No. 12, and a paler roan: she ran up to 100 gs. In one of the covered yards No. 15 was observable for her plain colour and great size, as she was by Duke of Brailes, the sire of several good animals. And here was carried out a practice rarely seen, but worthy of imitation: there were a number of good-looking capital steers out of the pure-bred cows running peacefully with the heifers, and saving a deal of botheration as to the disposal for bulls. The calves were handsome, full of hair, and a little short in their bodies. Kept in a corner of the buildings altogether with large leathern collars, and led out occasionally to suck, they appeared the worst managed of anything on the farm, which otherwise was wonderfully well done. Lots 19, 20, and 21 were all fit to go into a show yard, as beautiful little heifers they were, and how well they sold! Across the yard and road was a snug cool dairy, and beyond a clean bricked stable in which the Alderneys, or rather Jerseys, were tied. Like many acclimatised animals, they were large framed, of a whole light dmn, or rather "self coloured," with black points and good udders. Some of the heifers were particularly fawn-like and handsome, though a little coarse in their horns. They were descended from Mr. Arthur Fuller's herd near Dorking, and crossed with an imported prize bull from the island, which was sold at apparently a cheap price, 23 guineas. But these Jerseys were in great demand. The first cow brought in the ring ran up to 51 guineas; others ranged from 23 guineas to 44 guineas each, Lord Frederick Fitzroy, Mr. Anderson, and Mr. Wells being the purchasers; while the heifers created even more competition, until a very handsome silvery grey calf of August last actually ran up to 73 guineas, and was bought for Captain Cooper; with Mr. McMaster and Mr. F. A. Phillips also buyers. The sale was preceded by a lunch served in a marquee in the park, and Mr. Alexander C. Barclay, M.P. thanked the company on the part of the family for their attendance. The stock has been a source of great pleasure and pride to his late brother, and were the best of their kind, and he hoped they might find their way into the hands of good breeders and farmers, and that they might so turn out that the name of Eastwick Park would remain a pleasant memory. When the company assembled round the ring, Mr. Thornton gave a brief account of the herd, regretting much its dispersion, for it was only what might be called the germ of a herd that would, had its late owner been spared, have probably become one of the best herds in the South of England. Mr. Barclay had tried the effect of both Bates and Booth bulls on the same cows, which were purchased from Mr. Gamble, Mr. Cheney, and Sir G. R. Phillips's stocks. Lady Pigot's Victorious, of Booth blood, had been hired, and Mr. Sheldon's Duke of Brailes, of Bates blood, was purchased; and at the present time a son of Victorious was in service. This bull, Albert Victor, was a very fine animal; although a white, he carried enormous flesh, and yet was light and active, and of a quiet gentle temper. Mr. Jones Loyd got him a bargain at 90 gs. and his calves fetched in some cases as much as their dams. There were ready biddings for the Shorthorns, the Prince of Wales, Sir Fred. Smyth, Mr. Pugh, of Wales, Mr. Attenborough, Mr. Meade Waldo, and Mr. Walter, M.P., being among the buyers. We may justly add here, in confirmation of the auctioneer's remarks, that a better lot or more even cattle have not for some time passed through the ring. There was not a bad, not even an indifferent animal, and every one of them was healthy, and breeding well. After the Shorthorns and Jerseys were sold, a little pause was given, and then the flock was brought forward. It had been about ten years in formation, fifty

ewes having been bought as a start from the Duke of Richmond, and crossed with rams from Messrs. Rigden, Hart, and Pinix. Prizes had been won at Smithfield and at the local shows, indeed, all the stock, both of cattle and sheep, had been successfully exhibited. The ewe wags in nice order, ranged from 55s. to 96s., Mr. Rigden taking the first pen at 80s. The ewes and lambs looked thin, and made lower prices, and there was no great demand for the rams. Most of them remain about the county, and it was gratifying to hear Mr. Lucas' name, who has taken the house and farm for a period, as a purchaser both of cattle and sheep. The cattle realised much beyond what was expected, and the sheep somewhat below, the entire sale amounting to a little short of £4,000.

COWS AND HEIFERS.

Charmful, by Felix (19734).—Mr. R. Attenborough, 60 gs.
 Winsome, by Barleycorn the Younger (21209).—Mr. A. T. Matthews, 42 gs.
 Oxford Pageant, by Beau of Oxford (21254).—Mr. H. P. Baxter, 56 gs.
 Fairspots, by Newland (22411).—Mr. E. C. Tisdall, 40 gs.
 Pearlfeather, by Zealot (25480).—Sir C. F. Smythe, 60 gs.
 Charafol 2nd, by Zealot (25480).—Mr. T. C. Lucas, 53 gs.
 Paragon 4th, by Zealot (25480).—Mr. T. C. Lucas, 65 gs.
 Pearlfeather 2nd, by Zealot (25480).—Sir C. F. Smythe, 50 gs.
 Charmful 3rd, by Victorious (25378).—Mr. D. Pugh, 90 gs.
 Faustetas *alvis* Faustula, by Victorious (25378).—Mr. E. Beck, for the Prince of Wales, 55 gs.
 Paneanke, by Victorious (25378).—Mr. E. Beck, for the Prince of Wales, 52 gs.
 Pungeney, by Victorious (25378).—Mr. E. W. M. Waldo, 91 gs.
 Westeria, by Duke of Brailes (23724).—Mr. W. Jones Loyd, 100 gs.
 Whiskey, by Duke of Brailes (23724).—Mr. W. Jones Loyd, 43 gs.
 Charmful 4th, by Duke of Brailes (23724).—Mr. T. C. Lucas, 57 gs.
 Paragon 5th, by Duke of Brailes (23724).—Mr. E. Beck, for the Prince of Wales, 42 gs.
 Pennon, by Duke of Brailes (23724).—Mr. J. Walter, M.P., 62 gs.
 Oxford Mixture, by Duke of Brailes (23724).—Mr. J. A. M. Cope, 45 gs.
 Charmian, by Albert Victor (30371).—Mr. T. C. Lucas, 50 gs.
 Charm, by Albert Victor (30371).—Mr. T. C. Lucas, 63 gs.
 Patchouli, by Albert Victor (30371).—Mr. E. W. M. Waldo, 42 gs.
 Peony, by Albert Victor (30371).—Mr. J. Gamble, 28 gs.
 Pearlpowder, by Albert Victor (30371).—Mr. T. C. Lucas, 30 gs.

BULLS.

Albert Victor (30371), by Victorious (25378).—Mr. W. J. Loyd, 90 gs.
 Reverberation, by Albert Victor (30371).—Mr. W. W. Russell, 31 gs.
 Walnut, by Albert Victor (30371).—Mr. J. Moore, 20 gs.
 Aldrich, by Albert Victor (30371).—Mr. J. Walter, M.P., 30 gs.

SUMMARY.

23 Cows averaged	£58 5 0	.....	£1,339 16 0
4 Bulls „	£44 17 9	.....	£179 11 0
—	—	—	—
27 head averaged	£56 5 5	.....	£1,519 7 0

selection of them, their better keep, and so to richer manuring, higher cultivation, and the development of the resources of the soil. The Sussex breed still holds its own and competes with pure stock, but the crosses of the pure Shorthorn on the ordinary cattle of the country are now beginning to have that effect on the south country farmers that it has had on the Scotch race for the past generation. First-class herds have succeeded well, but second-class stocks, owing to the want of local support, have hitherto come badly off. Wherever highly bred animals of fashionable blood are taken, judiciously bred and generously reared, there will the distant breeder go in search as well as the foreign buyer. A turning point seems now to have arisen. Mr. Collard, living near Canterbury, has been a great encourager and supporter of the Christmas shows in his own city, at Tunbridge Wells, Ashford, and elsewhere. Five years since he went to two or three sales in the home counties, and bought a few cows and heifers at moderate prices from Mr. Roberts, Mr. Christy, and Mr. Watson Smyth. To that "Kentish son of Thunder," at Watringbury, he went for his bulls, and appropriately enough got Comet to begin with, and Hotsputr to follow on. Both these bulls were of the Charm blood, and they left some good stock. Last year the best bull-calf was bought at Mr. Brassey's sale, and this bull, Bloomfield, a handsome yearling, had done good service. He was of the Bolden-Bracelet line, and consequently full of Bates blood. Upon him a hundred guineas was placed; the catalogue otherwise contained the whole of the herd, excepting two or three animals "retained as the nucleus of a future herd." The pedigrees were not fashionable, neve theless the Patchouli tribe, from Mr. Christy's, is rising in repute, and certainly the specimens shown on Thursday were fine animals of the breed, well deserving better support. The cows looked well on the grass; they were not over large, mostly very young hard workers, and not very fat, although in good breeding condition. The heifers were even better, particularly those in calf; but the yearlings (a pretty lot) were not quite so nice; nor were the calves as fresh or blooming as they might have been. The reputation of the herd, coupled with the popularity of its breeder, attracted a very large and influential local company, with a good fair competition up to 40 gs. for the first half-dozen lots. No. 7, a fine cow of Mr. Bramston's old blood from Essex, created even more bidding, and finally Hugh Gorrige got her for his farm at Kingston-by-the-Sea for 45 gs. Lot 9, Patchouli, a level, fine red cow, full of hair, and nice form, and a breeder, having produced three calves before five years old, and nearly due again, went cheap enough at 58 gs. to Mr. Mountfort, in the North of England. A good in-calf heifer (lot 23) also accompanied her. Mr. Christy took one of his old sort back again, Patchouli 6th, at 52 gs.; and Chaplet, lot 13, a red four-year-old of the old Ducie blood, goes to Canada at 49 gs. The Chairman got a nice white heifer in lot 14, cheap at 35 gs. Lot 15, Royalty, in very good condition, said to be a capital breeder, was bought by Mr. Green, Colchester, for 50 gs. It was gratifying, however, to see such good competition among local breeders. Mr. Kingsnorth, Mr. Abbot Messiss. Butcher, and Mr. Fitch Spicer bid well, Mr. Kingsnorth taking the best heifer, lot 22, Margery, at 65 gs., the top female price. Mr. Bicknidge bought a few lots to go into Somersetshire, and Captain Milton and Captain Smith were both among the local buyers. The calves sold right well, Mr. Tulloch, of Crawley, giving 30 gs. for lot 34, Maid of Kent. He also bought several others. The bull Bloomfield, a dark good roan, with a fine head and hindquarters, and capital middle, was greatly admired; moreover, he appeared of a good temper.

SALE OF MR. CHARLES COLLARD'S HERD,

AT LITTLE BARTON, CANTERBURY, ON THURSDAY, MAY 21, 1874.

BY MR. THORNTON.

The fat Christmas shows which are yearly spreading in Kent and the Southern Counties, indirectly give an impulse not only to the breeding of better stock, but to the

Put in at the 100 gs. reserve, ten was quickly given for Essex, and another five secured him for Mr. Staveley Hill, M.P. The competition for the heifer calves was exceeded by the demand for the young bulls, all of which were mere calves. 40 guineas was the highest, and 20 guineas the lowest price, and they showed with Bloomfield an average of 40 guineas for the eight. The cows made just over

£40 a piece, giving a general average of £40 13s. 9d. for the 18 head.

THE BLISWORTH SALE.—The average was close upon £60, but that several of the lots being doubtful reduced the prices. In the words of a Yorkshireman present, it was "nowt to grumble at and little to swagger on." We shall give a report in our next number.

THE BODY AND ITS MEMBERS.

The Report from the Council to the May Meeting of the Royal Agricultural Society runs to a great length; as it is, indeed, something of a question whether much of the matter embodied here does not detract from the dignity of such a document. The education section of the Society's proceedings has always been a difficult feature to develop, and the small facts and petty details now put together do not say much for the result of the experiment. We give to this elaborate story all the benefit of an advertisement, although we feel very sure that the Report would have read far better had this branch of the business been cut down to a paragraph or two.

It is curious, in fact, to see how much quasi-importance is attached to the examination of a dozen or so moderate bids, especially when a movement made by the Council of late to gather information as to the cultivation of the soil is passed over without a word. There is, it appears, just at present a series of questions being put into circulation, mainly through the local societies, bearing more directly on the policy of laying down land into pasture as an alteration consequent on "the high price of farm stock and the increased cost of agricultural labour." These points are further impressed by such pertinent inquiries as "Have you a Tenant-Right?" and, again: "What aid, if any, have you received from your landlord in laying down permanent pasture, and what conditions, if any, accompanied by that aid?" It will be noticed that the Council thus fairly broach in their address to the country really weighty topics like Tenant-Right and the Labour Dilemma; as it is not easy to understand why the general body of members should not have received some official advice through the Report as to all that is going on. Dr. Crisp, in truth, was only following the direction's own lead when he ventured to talk of Strikes and Lock-outs.

It is, on the other hand, very satisfactory to find how strongly the Council can afford to speak as to the uses of the prize-system when applied to a comparison of the farming of a district, and that an amended scheme of conditions is year by year to be adapted to the locality visited. At the same time one regrets to see that the attempt to keep the award a secret will be repeated at Bedford: "the judges have already made two inspections of the competing farms, and they are instructed to pay their final visit in time to report their award at the general meeting in the show-yard." And in answer to this we say, as we did at Hull, that we have gone beyond the age of secrets; as, moreover, that before now the secret has not been kept, but divulged as a matter of favour to some particular member of the Society: and the thing thus becomes partial, rotten, and indefensible. The rather, let the judges be instructed to make their final visit—if a third tour be really required—as soon as possible, so that all the representatives of the press, and others who desire to do so, may have something to say about the competition previous to the busy show week. This, of course, would in no way interfere with "the more complete description" to be published "in the *Journal* of the Society" in a year or so's time. But it would almost seem from the

stealthy way in which the examination papers on grass lands have been issued that this also is a matter which must, so far as is possible, be reserved for the Society's *Journal*; although if everything is to be bottled up after this fashion, it becomes a nice question whether the *Journal* will not ripen into an instrument rather for retarding than spreading intelligence. As everybody knows, there have been occasionally of late years some capital papers published under the auspices of the Society; but we have still to deal with the awkward question, whether at six or twelve months after date everybody reads them? At the meeting on Friday there were people actually weak enough to talk again about that dreadful charter and its "how-not-to-do-it" enactments.

The effort to deal with the potato disease is a commendable one, as well put in the report; while the coming Bedford Meeting promises to be a remarkable success, the entry of implements being very large, and the racecourse plans already well covered. Nevertheless, the Report opens unfavourably for "the balance on the half-year is a reduction of the list by 2 governors and 143 members." This loss, it will be found, was accounted for in different ways by the several speakers at the meeting; but we are inclined to question whether the members' "privileges" are as much studied as they might be. The *Journal* may or may not be worth all the money; but as bearing on the actual strength of the subscribers' list we give again here a letter which appeared in our columns somewhere about a year since: "Sir,—At the Manchester Show of the Royal Agricultural Society members of the Society had to pay an extra charge to see the horse-show, and the consequence was that the Society was very nearly losing some hundreds of subscribers; but a promise was given that this should not occur again. Now, I wish to know whether members of the Society will at Hull be charged extra for admission to the stand adjoining the horse-ring? I imagine that a very small percentage of the members of the Society will be present, and I contend that these should have an equal right to go in and out of the stand on showing their member's tickets, as the members of the Council enjoy by displaying their badges. Instead of being always so anxious to save up money which they do not want, the Council could afford to lose a few pounds in ministering more to the comfort and convenience of the members not in office. It would answer in the end to do so, and be fully appreciated by others, as well as, yours obediently—A Member of the Royal Agricultural Society of England."

The only visible sign of this protest at Hull was the reduplication of a very conspicuous placard, which went to say that "Members' tickets do not admit to these stands." There was, as we well remember, a time when any suggestion from outside was regarded as an impertinence, and resisted accordingly; but we had hoped that era in the history of the national Society had passed away. The mere members suffer enough at these July meetings, without being called on to "stand and deliver" by their own guardians.

THE SUPPLIES OF GUANO.

Another report has been received from Commander Cookson, which confirms or corrects the amounts of the estimates made by the Peruvian Committee appointed by the native Government to test by boring the said estimates. Commander Cookson confirms the estimates previously given by the Committee, which were considered approximately correct so far as those of Iluanillas 900,000 tons and Punta de Lobos 2,000,000 tons were concerned; whilst that of Pabillon de Pica is reduced by Commander Cookson's estimate from 6,000,000 to 4,500,000 tons, making an aggregate of 7,400,000 tons. It appears, however, by his report, that after all this estimate is not to be depended upon, on account of the great inequality of the surface of the rock forming the base of the deposits. Moreover, the time occupied by the Petrel in the investigation was only four days, a large portion of which was taken up in moving from island to island. Commander Cookson suggests that in order to obtain the most correct estimate possible, it would be necessary to divide the large deposits into minute squares, and taking a boring of each square, which would be a work of great labour and occupying much time, the ravines being in some places 200 and 300 feet deep, and widening or narrowing to a great extent in a length of only 300 or 400 yards. Even this minute plan

would be liable to great error, which is illustrated in the report by a figure or plan of one of the workings, showing a mass of rock found detached and embedded in the midst of the guano deposit. This mass is very properly ascribed to an earthquake, as it leads to the conclusion that many such masses will be found in the deposits of embedded guano.

From the observations Commander Cookson has been enabled to make, he has come to the conclusion (which, however, remains subject to further and more minute investigation) that the formation of the deposits of guano has not necessarily required the length of time generally allowed to them; that sea-lions and seals have largely contributed to them, as is proved by the immense quantity of their bones mingled with the guano proper; that other birds than what are called by the natives the *Guano* have contributed to the masses, as the pelican, and gannet; that twenty-six years ago a plague visited them, destroying millions of the birds of every description, and that since the live ones have almost deserted the islands; and that from the appearance of parts of the islands it is probable that further discoveries of guano will be made in the rainless regions of the coasts of Peru.

THE LOCK-OUT.

"We hear there is a promise of the difficulty between the farmers and the labourers being adjusted. The objectionable rules of the Lincolnshire League are to be struck out and the lock-out to be abandoned." It was thus that we wrote three weeks since, the announcement being some days in advance of any similar statement from our contemporaries, by some of which it was discredited. During the last week, however, the objectionable rules *have* been struck out, the difficulty *has* been adjusted, and the men *have* returned to work. This arrangement, however, only applies to Lincolnshire, as in Suffolk, Norfolk, and Cambridgeshire there are no signs at present of master and man coming together, as the farmers rather resent the action taken by their brethren in Lincolnshire.—*Mark Lane Express*:

On the 12th of May, the central committee of the Lincolnshire Farmers' Association passed the following resolutions:

1. That whilst the committee are anxious to settle the dispute between the employers and employed, they cannot see the necessity or the justice of submitting the question to arbitration, especially as it is fully acknowledged by all parties that the wages paid in Lincolnshire are the maximum wages paid for any agricultural labour, and equal to those paid for any other unskilled labour, and the strike has been deprecated by the public and attempted to be disowned by the executive of the Federal and National Unions.

2. That the committee believe that there are cases of dispute in which arbitration would be advantageous, but in the present case that they are so satisfied of the justice of their position that arbitration is altogether out of the question.

3. That the committee are willing, and most desirable, if possible, to find a solution of the present difficulty; and to this end, seeing that the strike is generally considered to be a mistake, they offer immediately to withdraw the lock-out upon a cessation of the strike.

4. That the committee express their readiness to come to

any equitable arrangement by which the two can be withdrawn simultaneously.

These resolutions were forwarded to Mr. Morley, an invitation was sent to him, Mr. Hughes, Mr. Macdonald, and Mr. George Dixon to attend the next meeting of the association in Lincoln, with the view to a final arrangement.

The following resolutions were then passed by the Executive Council of the Labourers' Union:

That the men connected with the National Agricultural Labourers' Union in Lincolnshire district be advised by the executive committee to return to work, provided that the present lock-out be unconditionally withdrawn by the farmers, thereby recognising the right of the labourers to combine.

With respect to the suggestions for alterations of the rules resolved that a copy of the rules of the National Agricultural Labourers' Union be sent to Messrs. Dixon, Morley, and Macdonald, pointing out that the objectionable features named do not exist in the rules of the National Agricultural Labourers' Union.

With respect to the notice to be given, the men have been hitherto guided by the custom obtaining in the several districts; but in such districts where the custom is not held to be satisfactory, the executive recommended that if any alterations shall be made by the conference of masters and men they shall be binding on both parties, as set forth in rule 16.

On Wednesday Mr. Samuel Morley, M.P., and Mr. Dixon, M.P., had an interview, by arrangement, with the Committee of the Lincolnshire Farmers' Association at Lincoln, 30 farmers being present, when the following resolution was passed with entire unanimity:

That the agricultural labourers' strike and farmers' lock-out for the county of Lincoln be withdrawn simultaneously on Saturday, the 23rd day of May inst., so that arrangements may be made for the resumption of work on the following Monday morning.—Signed on behalf of the Lincolnshire Farmers' Association, C. M. NAINBY, chairman. Signed on behalf of the National Agricultural Labourers' Union and the Lincoln and Neighbouring Counties Labour League, S. MORLEY, M.P., G. DIXON, M.P.

It was also resolved that a bill containing the above resolution be posted through the country on the following morning. The advantage of local committees of conciliation was then fully

discussed. It was considered to be too important a subject, involving too many details, to be then decided, but the following resolution was unanimously passed:

Without pledging this committee to the principle of a

Board of Conciliation, and especially without expressing an opinion for members who are not present, this meeting is of opinion that the subject is one well worthy of future consideration.

HOUSEHOLD SUFFRAGE IN THE COUNTIES.

BY AN EAST ESSEX FARMER.

Whatever may be the wishes of the country, it is only too obvious that our present Parliament is desirous above all things of a "season of repose." This is shown in every important debate, and still more plainly in every important division. Nothing that will effect any considerable disturbance in our political or social institutions has the slightest chance of gaining favour in the House this session. The Government from the first showed that they meant to make the most of the excuse for doing little afforded by the waste of a portion of the session in electing a new Parliament, and effecting a change of offices. And if they will originate nothing of importance themselves, they are equally determined to do their best to stop all important measures introduced by private members. In no instance has this disposition more plainly been shown than in the rejection of Mr. Trevelyan's Household Franchise (Counties) Bill. That the Bill should have been defeated by a majority of 114 in a House of 460 was no more than was expected; but the very pronounced attitude which the Conservative party took in opposition to it could scarcely have been counted on by those not initiated into the secrets of party tactics.

It was, indeed, at one time thought that Mr. Disraeli would be anxious to dish the Radicals once more by a further extension of the franchise; and, although it has for some time been obvious that he had no immediate intention of adopting so bold a policy, it was at least supposed that he would show some hesitation in setting his foot down so firmly against it as he has done. But, as he significantly observed, many things have taken place since he manifested an inclination to steal another march upon the Parliamentary reformers, not the least of which is the formation of Unions amongst the agricultural labourers, which has withdrawn them to a very great extent from the control of the country party. Besides, he has obtained power and a good working majority by means of a snatch election, and he has a natural disinclination to incur the risks of a new election by an enlarged constituency. A surprise altogether in his favour has resulted from the last enlargement of the constituency, and it is by no means improbable that another surprise in the opposite direction would ensue upon a further extension of the franchise.

It was only to be expected that the most should be made of the alleged necessity of a re-distribution of seats to adjust the balance of political power that would be disturbed by giving the suffrage to the county householders; but I do not for a moment believe that this would have been any real obstacle in the eyes of the Conservatives, if they had supposed that they would reap an advantage from the change. The swamping of the influence of the small boroughs by the enlargement of the county constituencies would at one time have been regarded by them with real, if not with open satisfaction; but the influence of the proposed new county voters is an unknown quantity, and it is by no means certain that the existing bias of the county constituencies would not be to a great extent changed by the introduction of many thousands of artisans who live beyond the borough boundaries. The 1,740,000 voters who, under Mr. Trevelyan's bill, would form the sum of the county

constituencies would bring a reinforcement of 1,020,000 to the 720,000 present possessors of the county franchise, and no one can tell what effect so large an influx would have upon the balance of parties.

I have not the smallest desire to attempt to lessen the force of the plea that a redistribution of seats would be a necessary accompaniment of or a supplement to the equalisation of the county and borough franchise. It is no argument against the admission of thousands of competent voters to the suffrage, to say that by their admission many who now possess an unfair share of political power would thenceforward lose their especial privileges. If, as has been conclusively shown, a large proportion of the new voters would be of the same class as those who now vote as householders within the boundaries of boroughs, there is no reason to suppose that the absorption of some of the smaller boroughs into county districts would involve any loss of that free and enlightened influence which Mr. Disraeli rightly says our system of borough representation has exercised. Mr. Butt showed that there were in the counties of Durham and Northumberland about 50,000 adult miners, only 5,000 of whom were voters, and that the 45,000 who were excluded were "men of the same condition, living in the same kind of houses, following the same employment, and exactly the same social status and educational position" as those who have votes because they happen to reside within the boroughs. That these men keenly feel and bitterly resent their exclusion from political power, he conclusively proved, by stating that an association composed of 18,000 of them had passed resolutions declaring that they would not join the militia as long as they were denied the full rights of citizenship. It is true that these men would not all be made voters by the extension of household suffrage to the counties, as many of them are lodgers, but the inequality of which they complain would at least be removed. The case of the agricultural labourers is even stronger than that of the miners, as they are at present almost entirely without political representation. They complain, and not without reason, that their exclusion from political power has in many ways operated against their interests in the past, and they cannot be expected to be contented as long as they have no voice in making the laws by which they are governed.

It is neither right nor expedient that large classes of our countrymen should continue to live under a strong sense of the tyranny exercised by those who, possessing political power themselves, refuse to allow others equally deserving to participate in it.

It is of course natural that the Conservatives should be well satisfied with the existing state of affairs, and unwilling to disturb it; but this can scarcely be the case with the Liberals, however strongly their representatives in the House may object to the trouble, expense, and risk of a new election. If the Liberal party has recovered from the state of general debility into which from various causes it had fallen, it should make a firm stand in favour of the equalization of the suffrage. All thorough Liberals will have observed with regret that some of the leaders of their party in the House were absent from the debate on Mr. Trevelyan's bill, and that

others voted with the majority against it. This shows only too plainly that if Liberalism is convalescent, as there is some reason to believe, it has not yet been restored to robust health. The tonic influence of the Opposition climate has not yet had time to show a very marked effect.

THE DISEASES OF STOCK.

On Friday, May 22nd, a deputation from the Central Chamber of Agriculture had an interview with the Duke of Richmond at the Privy Council Office, Downing-street, on the subject of cattle disease. The deputation was introduced by Lord Hampton, and, as will be seen, included Mr. C. S. Read, M.P., Under Secretary of the Local Government Board.

Lord HAMPTON said: My Lord Duke, as Vice-President of the Central Chamber of Agriculture I have the honour to introduce to you this deputation, and to request your serious attention to the subject which the members of it wish to bring before you, namely, the present state of the law for the prevention of the spread of infectious and contagious diseases among cattle. The deputation will tell you that the Central Chamber feels very great dissatisfaction with the conclusions at which the Committee of the House of Commons arrived in regard to that matter. They will also tell you that they think that unless a decided change is made in the law the agriculturists of the country will find it absolutely necessary to abandon the trade in live stock, and to substitute for it a dead meat trade. I will not occupy any more of your Grace's time, but at once call upon the members of the deputation to address you.

Mr. G. F. MUNTZ, Chairman of the Chamber, said the deputation desired that her Majesty's Government would reconsider the whole system of regulations with regard to the importation of cattle into this country. In 1872 the Central Chamber, which represented 58 chambers, including about 17,000 members, passed a resolution appointing a committee of gentlemen who were thoroughly conversant with the subject. That committee, after having sat for a considerable period, made in February, 1873, a report containing very valuable suggestions, and he would take the liberty of handing his grace a copy of that report. The importance of the question of cattle disease was enhanced by the present state of the labour question. If farmers were to pay remunerative wages to labourers they must have remunerative profits, which the present state of the law on that subject tended to prevent them from obtaining (Hear, hear). Having conversed with a great many farmers on that subject, he could state that there was a general feeling among them that there was at present great danger of their herds and flocks being infected by imported diseases, and as long as that feeling prevailed it could not be expected that there would be any increase in home cattle production. It was generally admitted that home-grown stock was much more valuable as food for the people than imported stock, but it was necessary that the producers of it should be protected against the introduction of disease from other countries among their own herds and flocks.

Mr. C. S. READ, M.P., said he believed it was rather unusual for a subordinate member of the Government to take an active part in a deputation to another department of the Government; but the county which he represented was so deeply interested in the cattle question, that he deemed it his duty to his constituents to appear before his Grace that afternoon, especially after the answer which was given by Lord Sandon to a question of his colleague Sir R. Buxton, in the House of Commons on the previous evening (Hear, hear); that answer being to the effect that the present Order in Council, relating to the slaughter of diseased cattle in Great Britain, was contained in the report of the Contagious Diseases Animals' Committee of last year, and that it had been in operation for such a short period that his Grace did not think the Government could at present form a judgment with regard to it. That order had been in operation, he believed, for six months, and he (Mr. Read) was quite sure that if it were in operation for six years, as it was now carried out, it would have no appreciable effect in stamping out pleuro-pneumonia in the East of England. The recommendation of the Committee was that all cattle affected with pleuro-pneumonia should be killed; in other words, that the operation of the Act should be uniform throughout the United Kingdom, and not confined to Great Britain. Another thing which the

Committee recommended was that the period of isolation should be extended from one month to two months in the case of cattle which had been herded with diseased animals, and that in cases of slaughter the compensation should be three-fourths instead of one-half. A Voice: "Up to £20." Well, what did the Government do? Why, as if there had been a sudden outbreak of cattle plague immediately after the report of the Committee was issued, an order came from the Privy Council for putting the slaughtering recommended in force in Great Britain without extending it into Ireland, without increasing the period of isolation, and without increasing the amount of compensation. It was subsequently stated that the reason why that order was not carried out Ireland was that there was a legal difficulty connected with the levying of rates in that country for the purpose of giving compensation; but he believed that that difficulty had been overcome by means of a bill introduced in the House of Lords. He could not understand why that order should not be extended to Ireland. He had no wish to say anything disrespectful of Irish cattle, and did not believe they were much more unhealthy than English stock; but if there happened to be a single case of pleuro-pneumonia in Ireland, the animal which was affected being shipped to England might be the means of diffusing disease in this country far and wide (Hear, hear). From 30,000 to 40,000 head of Irish stock was introduced into Norfolk every year, and it was most essential that the animals should come there in a healthy condition. He found from the report of the Veterinary Department of the Privy Council that in the last year 450 farms in Norfolk were afflicted with pleuro-pneumonia; while it appeared that in Cornwall, Devon, and Dorset, where no cattle were received from Ireland, there were no cases of disease. In his own county cases of pleuro-pneumonia among home stock had been directly traced to animals imported from Ireland. He thought that if the order for slaughtering were not extended to Ireland it ought to be withdrawn, as regarded England. No timid or half-hearted policy would enable the Government to grapple with disease in cattle, and he would rather see perfect indifference on the part of the Government than the kind of policy now carried out in accordance with the advice of the Veterinary Department.

Mr. W. STRATTON said the Report of the Parliamentary Committee caused great disappointment among agriculturists. With regard to foot-and-mouth disease, that Report said that nothing but strong and stringent measures would be sufficient in dealing with that disease. In that the Central Chamber entirely agreed; but they entirely dissented from the opinion of the Committee that such measures would not be tolerated by the agricultural community. He believed there was only a majority of one in the Committee against the slaughtering of foreign animals at the port of debarkation, and in the Report of the Central Chamber the recommendation of stringent measures in dealing with home cattle was made dependent upon the adoption of proper precautionary measures with reference to foreign cattle after they had been landed in this country. English farmers naturally felt that the imposition of stringent regulations in their own case would be intolerable, unless the owners of foreign cattle were subjected to corresponding regulations. The Veterinary Department admitted that the period of incubation in the case of pleuro-pneumonia lasted in some cases not less than three months; and that being the case, it was useless to carry out the order for the slaughtering of home cattle, which were affected so long as foreign cattle were left perfectly free. Again, he submitted to his grace with confidence that the slaughter of foreign animals at the port of debarkation would not lessen the supply of meat for the consumer. It had been said that the effluvia would in that case be lost to the public; but in opposition to what was urged on that subject by the Hon. Evelyn Ashley, he maintained that there was a mass of evidence showing that even in the hottest weather effluvia might be conveyed a considerable distance without receiving any

injury during transit. In the case of his own county (Wiltshire) it was the practice to send the offal of cattle, calves, and pigs, without any previous process of cleansing, a distance of 100 miles, and so little injury did it receive, that even in the hottest months butchers refused to sell the offal to the labourers of the locality, preferring to send it to their regular customers in London.

Mr. T. DUCKHAM (Herefordshire) said he believed the farmers of England had been very grossly misrepresented on that subject. It had been said by the press they wished for the restoration of protection, but all they really desired was their flocks and herds might be protected against the infection of foreign diseases, and that was an object in which the community at large was interested as well as themselves. For several years they had suffered from imported disease, and they must continue to do unless Ireland was treated in the same manner as England. After describing the manner in which foot-and-mouth disease had been recently spread in his own county by some store pigs, which were sent to Hereford market and sold to farmers and cottagers, these animals having been consigned to Hereford from Peterborough Mr. Duckham went on to speak of the pecuniary loss sustained by this through foot-and-mouth disease. Some years ago he sent some cattle to Australia. The greatest care was taken to avoid infection, but unfortunately there were on board the vessel some sheep which came from the Metropolitan market, and which infected his animals with foot-and-mouth disease. Three out of four of his cattle died during the voyage, the fourth was slaughtered on its arrival at Sydney, and what had happened caused such a panic in the colony, that the importation of live stock from England was prohibited for two years.

Mr. T. WILLSON (Leicestershire) said the agriculturists of his county were quite willing to submit to any restrictions as regarded home cattle, provided corresponding restrictions were imposed in regard to imported cattle. In 1872 the loss arising from foot-and-mouth disease in Leicestershire was upwards of £200,000. His own loss in that year was £700. That loss was traceable in a great degree to Irish cattle, and he was quite satisfied that unless further restrictions were imposed in relation to Ireland it would be useless to continue the restrictions imposed in the case of England.

Mr. JOHN YALLAND (West Gloucestershire) said that Gloucestershire and Somersetshire were very much dependent on Irish stock for the supply of grazing farms. They were anxious to get Irish stock without disease, the importation of which would injure the consumer as well as the farmer. He then alluded to the over-crowding of the ships in which stock is imported from Ireland, and insisted that remedial measures were imperatively demanded.

Mr. JAMES ODAMS said, having had considerable experience with regard to the importation of foreign animals, he had asked himself what difference there could be between the blood of live stock and that of human beings, and he had arrived at the conclusion that so far as the spread of disease was concerned there was no difference. The object of all the sanitary arrangements of society was to prevent noxious gases from getting into the human system; and so long as foreign animals were crowded together as they were now in the holds of vessels, and proper provision was not made for keeping them in a healthy condition, so long it would be impossible to prevent them from spreading disease among our home cattle if they were allowed to be moved about the country. As regarded store stock, he should be sorry to see a hoof prevented from coming into this country if proper regulations were made and enforced for preventing the introduction of disease, and even on the grounds of common sense and humanity such regulations were manifestly desirable.

Mr. STORER, M.P., said the agriculturists of his county (Notts.) were willing to submit to any restrictions which the Privy Council might think fit to impose, but they asked that those restrictions should be made uniform throughout the country.

The Duke of RICHMOND said: I cannot disguise from you that the views which you entertain on this subject are not entertained by everybody in the country. I have received other deputations, and it is clear that the country is very much divided on the subject; but still it does not follow that the Government should not look into the question carefully, and see how far it is possible that disease may be prevented. With regard to Ireland, I may remark that the power of compensating persons for

the compulsory slaughter of animals affected with pleuropneumonia exists at the present moment, and therefore I don't see what the Legislature could do or what I could do further in reference to that matter. As to foot-and-mouth disease, the report of the committee which sat last year goes rather further than Mr. Stratton assumed. Mr. Stratton observed that farmers would be prepared to undergo any amount of inconvenience in order that foot-and-mouth disease might be got rid of. The Committee said in their report: "Your Committee have come to the conclusion that it is hopeless to attempt to extirpate, or even materially to check, this disease, unless the above-mentioned stringent measures are strictly enforced; and they also believe that such enforcement would require a costly and numerous staff of inspectors, an amount of supervision by the local authorities, and would excite much local opposition, at any rate in Great Britain, and," the report goes on to say, "such an interference with the home trade in animals as would much affect prices, and induce not only the consumer, but the producer to consider the remedy worse than the disease." That is an entirely different view from that of Mr. Stratton, speaking as he did as a representative of farmers. I think the opinion of the Committee on this subject is entitled to some consideration. The Committee sat for a considerable period last year; it took a great deal of evidence, and that the members had been carefully selected was sufficiently proved by the attention which they devoted to the subject. Now with regard to another point, I know it is the opinion of a great number of agriculturists that all foreign cattle ought to be slaughtered at the ports of debarkation. Two or three years ago that question was discussed at a meeting of the Royal Agricultural Society, and both in that Society and in the Smithfield Club the opinion has been expressed that it is necessary that foreign cattle should be slaughtered at the place of landing. But before the Committee there was a difference of opinion. On this point the Committee say in their report: "Some of the witnesses representing the agricultural interest have urged that all fat animals imported from abroad should be slaughtered, or subject to a long quarantine. On the other hand strong representations have been made by butchers and dealers (ironical cries of Hear, hear) that such an enactment would discourage importation, and tend to raise the price of meat, especially in inland towns. Your Committee have come to the conclusion that no change should be made in the Act so far as it regards foreign animals; but they recommend that the Privy Council should continue to order the slaughter at the landing-place all animals imported from countries in which the cattle-plague exists, or from which there is reason to fear it might be introduced." Well, now, that is exactly what has been done; that is the law at the present moment. There are scheduled countries and there are unscheduled countries, and what is there suggested is carried out. Don't let it be supposed, gentlemen, that I have any foregone conclusion in reference to this matter, or that I do not consider what has been said deserving of consideration. I am quite aware of the importance of having one's flocks and herds kept free from disease. Personally I should suffer probably as much as anyone in this room could do, if unfortunately disease were to get among my stock; and both in a departmental point of view, and because I am deeply interested in agriculture, it is not likely that I shall do or seek to do anything in this matter which will not, in my opinion, be beneficial at once to the public and to the agriculturists of this country.

His Grace added that he was mistaken in assuming that the Order in Council in Ireland, with regard to the slaughtering of diseased cattle, enabled owners to obtain compensation, and that there was now a bill for that purpose awaiting the royal assent.

The deputation then withdrew.

A COACH HOUSE.—A Road Club has been taken up by some of our leading coaching men, including the Duke of Beaufort, Sir Henry de Bute, Capt. W. H. Cooper, Colonel Winton, and Major Farnival. A temporary abode has been secured in Piccadilly, directly opposite Hatchett's and the idea is that the club should be a rendezvous for all interested in the road, not only coachmen but passengers, where they can meet and have some subject of thought and conversation in common. It is proposed that the economy of the club should be simple, and a grill its only luxury. The club has already an existence, and a responsible proprietor has been found.

THE STAINDROP FARMERS' CLUB.

THE SCIENCES APPLICABLE TO AGRICULTURE.

At the last meeting Mr. J. BRODIE read a paper as follows:

The art of agriculture ranks above every science in point of utility, and its antiquity beyond that of all others, for we are informed by scripture that Adam, after being expelled from the Garden of Eden was sent forth to till the ground; but it would be absurd, however, to suppose that he was acquainted with all the methods of ploughing, harrowing, sowing, &c., that we are conversant with at the present day. Agriculture, as a practice, has been carried on from the earliest ages of mankind; for from the earliest accounts of the eastern nations we have reason to think that agriculture has at all times been understood by them in considerable perfection, as they were always supplied not only with the necessaries but the greatest luxuries of life. As soon as the descendants of Abraham were settled in Palestine, they generally became husbandmen, from the chiefs of the tribe of Judah to the lowest branch of the family of Benjamin. High birth did not then make any distinction, for agriculture was considered as the most honourable of all employments: take for instance the illustrious examples of Gideon, Saul, and David. The Chaldeans, who inhabited the country where agriculture has its birth, carried that valuable art to a degree of excellence unknown in former times. We read of the Egyptians being well versed in agriculture; also the Greeks, who used bones and horns as a manure, as we are told by Hesiod, the earliest Greek writer on the subject, who wrote in poetry and embellished his poem with luxuriant description and sublime imagery. Xenophon also remarks that "agriculture is the nursing mother of the arts." The ancient Romans esteemed agriculture as a most honourable employment, as we find the most illustrious senators of the empire, when not engaged in the public concerns, applied themselves to this profession, and Cincinnatus, one of Rome's greatest dictators, was at the plough when chosen by the senate. At what time agriculture was introduced into Great Britain is uncertain, but when Julius Cæsar invaded the island it was not wholly unknown, for it appears, however, that they were not unacquainted with the use of manures, particularly mail, for we are told by Pliny in his natural history that the use of mail was peculiar to the people of Great Britain, and that its effects continued eighty years; but centuries have passed since then; the races of mankind having so greatly increased, the earth is now required to produce so much more than it did in those days of antiquity, that agriculture is now no longer an art of labour, but one of the important sciences, for I think there is no profession in which there is so much scope for scientific researches; and the object of my paper to-night is to enumerate the different sciences I consider needful to modern agriculture. You must not for a moment suppose that I shall dive into the minutiae of the various subjects that I shall mention (for you have neither a Leibig, a Voelcker, or a Lawes in me), but I will merely give you my opinion why the following sciences are applicable to agriculture. As the great object of every farmer is to raise from his land the greatest quantity of the most valuable produce in the shortest space of time, without deterioration to the soil, I think a knowledge of geology, chemistry, and chemical physiology will aid him considerably in this object. Let us take the soil, from which everything the farmer has to sell is produced, and geology will enlighten us on the inorganic parts of that soil, then if we turn to chemistry we shall learn its organic parts, and having ascertained both its mineral and vegetable properties, let us consider the crops to be raised, the organic and inorganic matter needful for their maintenance, and we shall then understand the proper kinds of manure, rich in what the land is deficient and which is indispensably necessary for maturing the crop to be grown. Then let us consult chemical physiology, and we shall know the habits and composition of the various animals we have to deal with, the kinds of food requisite for fattening, or the foods most beneficial to the production of milk. As all soils derive their inorganic or mineral matter from the strata of rock on which they are situated, and their organic from the decayed vegetable matter, such as the roots of decayed plants, &c., it will be easy for the

farmer to find out the nature of the soil he has to cultivate when he knows the basis on which it is situated. Many soils being rich in mineral and deficient in vegetable matter, while others are quite the reverse, it behoves us to apply to the former manures rich in vegetable and to the latter those rich in mineral matter. Botany I consider the sister science to agricultural geology, for having ascertained by the latter the nature and properties of the particular soils we have to cultivate, a knowledge of the former will not only empower us to recognise any plant we may meet with in the fields, but botanical physiology will make us conversant with the internal structure and functions of plants, thereby enabling us to select the plants most suited for the soil they have to be grown upon. Mathematics I think a science very necessary in agriculture, for in the present days of the high-priced labour, everything that is practicable is let by piece, and the farmer is enabled by this science to measure off work, whether it be surface work, such as hoeing, draining, &c., or the more complicated work of either mason or joiner, without calling in the aid (as is so often done) of the services of the village schoolmaster. Mechanics I regard as one of the principal sciences in agriculture, for the implements that are in use at the present day are constructed so systematically, and whose adjustment is so mathematical, when compared with those used some years ago. True it is that a farm-labourer may be able to work any machine that is put into his hands constructed for a certain purpose; but without the aid of mechanics he cannot understand the principles upon which it is made; in fact, to understand the manipulation of the implements that are at present used, a farmer requires to be a mechanical engineer, and I think if farmers were to make themselves adepts in this particular science, we should not have so many useless implements lying dormant in our implement houses, nor should we find so many flourishing agricultural-implement agents in every market town we go to: we should endeavour to select the most simple and useful ones and make as few do as possible. Hydraulics—to have a knowledge of this science, I fancy, is beneficial to the farmer, for even in this advanced age of steam, water power, when it can be brought to bear, is so much cheaper; and how many farms are so badly watered that water has to be brought from a great distance, perhaps over elevated ground, when the requisition of the water-ran is called into office! Then, should anything go wrong, the farmer, should he understand the motive power of water, would be enabled to rectify it with the aid of his local smith, without having to send to the nearest town for some experienced hand, thereby not only saving time and expense, but perhaps having to move a great portion of his stock from that part of the farm where the water supply was cut off. Meteorology—I cannot pass this science over without alluding to it as a science not only useful to the agriculturist but interesting to all classes of the community, for who is there in this country, let his pursuits be rural or in the town, that does not fancy he is somewhat weather wise? In fact, when two Englishmen meet, after having passed the ordinary compliments, they talk about the weather, and the different opinions expressed on this topic are often somewhat amusing. But, perhaps, I have made an unlucky allusion in the presence of so many agriculturists, for was there ever weather that suited all farmers? Nevertheless, I think a knowledge of meteorology is of advantage to the farmer, for then he will be able to read his barometer scientifically, and by observing atmospheric phenomena will be in a position to a certain extent of prognosticating the coming weather, whether it suits him or not. As the farmer of the present day is not only an agriculturist proper but bucolical, that is having the management of cattle, a knowledge of zoology will be an advantage to him, for he will be enabled to understand the habits of the different animals he may have on his farm, and comprehend the relation one class of animal has to another. Then, should he study entomology, he will be conversant with the myriads of insects that inhabit this globe, and be able to discriminate between those that are of advantage to those that are detrimental to the great animal and vegetable economy of the universe. Veterinary Science—Doubtless when Hamlet in his soliloquy on

sleep speaks of "the thousand natural shocks that flesh is heir to," meant human flesh; but I am rather inclined to think that the flesh of the lower animals has participated in a great many more legacies than that of man; and I think it is the duty of the farmer, under whose care and management his stock is, as long as it remains on his premises, to acquaint himself, to a certain extent, with the veterinary art, in order that he may not only alleviate the sufferings of an animal, but perhaps save its life. As most farmers live a considerable way from a town, where only a veterinary surgeon can be procured, and that often after a considerable delay, it behoves him to keep drugs in his possession that will meet the emergency in any ordinary case, and I think that when we have such firms as Day, Son, and Hewitt, who are able to supply us with antidotes for so many diseases, with instructions how to use them, we should not have so often to send for a veterinary surgeon, nor should we have so many of his bills to pay. There are a great many more sciences equally applicable to agriculture than the few I have mentioned, but being particularly requested by our worthy secretary, when asked to bring a paper before club, not to ascend to the moon or stars, I have endeavoured to stick to the planet that we inhabit; for had I attempted to soar so high, I should have had to have gone deep into pneumatics and the other sciences that relate to the air; but being neither a Glaisher nor a Coxwell, I felt some considerable timidity in ascending beyond the earth's attraction, for then I might have been drawn into some other sphere to have passed the remainder of my days; perhaps in the service of Jupiter, the director of thunder, lightning, and rain, or possibly to have assisted the man in the moon to gather sticks on Sundays.

Mr. SCARTH, the President, endorsed what had been said with regard to the application of science to agriculture. The acquisition of so many branches of science, however, would, he thought, be out of the way of ordinary education; but, still, the more scientific knowledge they possessed the better would it be for them. An acquaintance with geology was of paramount importance as a correct knowledge of the soils and their capabilities was often dependent upon an intelligent appreciation of the strata on which they lay. In some cases soils were thus influenced, as in many parts of England there were immense alluvial deposits—carboniferous and otherwise—which, doubtless, in a great measure, as he had already observed, influenced the character of the soil. In their own immediate district they had a glacial deposit or drift, which, of course, came a distance of many miles, in some cases, and in it traces of Cumberland granites and slates were apparent; and in his opinion the soil would, in its nature of drift, be influenced. He was glad that the Geological Society was about to publish a map of surface survey, which would be of great service to the agriculturist. With regard to chemistry he believed that if a man had no knowledge of the properties of what he was applying to his land he might often be induced to spend a vast amount of money uselessly. Therefore a knowledge of chemistry was an undoubted advantage, and he saw no reason why a man who had the opportunity to do so should not collect the constituents of manure and save the expense of buying artificial compositions ready for use. They would then find that what they might have paid £12 for they could manufacture themselves for something like £5. A knowledge of chemistry, then, was clearly a saving to the farmer. The more they knew of nature, too, the more readily would they appreciate the things which were given them for their benefit. For instance, they were perpetually condemning many birds and many insects which were all for their good. He believed it was on the estate of Sir George Wombwell, or contiguous to it, that the farmers took a dislike to rooks, because, they said, these birds did so much harm. After the rooks were destroyed, however, a kind of red grass commenced growing in the old pastures, and it increased to such an extent that it became at length a very serious thing, and in that particular district they had to break up the land. He (the President) was told that it was all owing to the destruction of the rooks. In that they saw the importance of knowing something of the habits of birds, and it was certainly suggestive that an acquaintance with the habits of animals and insects was desirable. He did not altogether agree with Mr Brodie in what he had advanced respecting the veterinary art. It was impossible to know too much about the ailments incidental to cattle, and their mode of treatment, but to put into practice the little dangerous knowledge which they might possess was rather a ticklish point; and if he himself had an opportunity of employing a good

veterinary surgeon he certainly would avail himself of such services in preference to any hazardous attempt on his part at the healing art.

Mr. BELL thought the farmers in that district could very well spare a few wood-pigeons.

Mr. KAY was of opinion that chemistry, during the last twenty or thirty years, had made great progress. By its agency they were enabled to apply suitable manures to the land. Mechanical engineering had also been of great service to the farmer. Botany, he thought, had fallen rather short, as more good would have attended the introduction of new and improved grasses and plants (in an agricultural point of view) than the importation of exotics for mere exhibition. It was to the young and rising generation they must look, and he was favourable to any scheme whereby scientific knowledge might be inculcated to their sons.

Mr. BALNBRIDGE remarked that although veterinary surgeons stuck to their charges pretty tightly, yet it was preferable, and, in the end, safer to call into requisition the services of professional men when any case of a difficult or complicated nature presented itself. With reference to wild animals and fowls there was no doubt that, in their nature, things were pretty evenly balanced, as one animal preyed upon another, and each existed as a kind of check. It would be a bad day for the English farmer were he to lose the services of the agricultural engineer.

Mr. BYERS expressed his conviction that much of the subject deduced affected the prospective farmer rather than the agriculturist of to-day. In the meantime, as the result of close observation combined with common sense, a man might pretty well understand the capabilities of the land which he farmed. They wanted to know how to produce good crops of oats and barley, but to study botanically the weeds which were on their farms was rather beside the mark, as a good farmer did not care to see them at all. The science of geology did not come within the scope of his attainments, but he was satisfied that he knew good land from bad when he had cropped it.

Dr. BRUNSKILL congratulated Mr. Brodie for having tripped up the hills of difficulty, and was confident that the paper was calculated to inspire his hearers with a zest for the acquirement of scientific knowledge. Mr. Byers had remarked that whilst not knowing anything about geology he knew good land from bad. Well, his (Dr. Brunskill's) idea was that a round stone in a field was better than a flat or angular one. Referring to the veterinary art, his advice was that when animals were ailing by all means send for the doctor.

Mr. TOWNEND thought the study of zoology was an appropriate study for the farmer to adopt. In the district where he farmed they were not so much influenced by geological phenomena as in other places with which he was acquainted. The study of mechanics was of great practical utility. He thought grazing farms were most profitable. He rather differed from Mr. Bell, who did not care to see a wood-pigeon. He (Mr. Townend) always tried to meet these birds on the best of terms, and when cooked were not so bad.

Mr. HODGSON was not acquainted with the sciences enumerated in the paper, and he was bound to confess that the schoolmaster that instructed him was ignorant of them also; and it was evident that a farmer to obtain erudition in the sciences would have to be a very old man. They would not get far wrong with "good ploughing and plenty of muck."

The Rev. J. BROCKBANK had heard nothing mentioned respecting the analysis of soils. He thought that in addition to the existing agricultural colleges, schools for farmers' sons might be scattered up and down the country where scientific knowledge might be imparted. A master might be had for something like £150 per annum. As a class he was convinced that farmers did not read much. Perhaps the action of the air was instrumental in sending them to sleep when the day's work was over.

Mr. HAWDON, jun., was in favour of keeping in stock a few simple specifics in case of the illness of cattle, as the animal might in many instances be lost before the veterinary surgeon arrived.

Mr. HAWDON thought good would accrue from close observation, and it was more than likely that by this means a man would discover the manures suitable for the different lands.

Mr. BRODIE replied, and in doing so said he scarcely considered it necessary for a farmer to be an adept in chemical physiology to administer remedial preparations. "A stitch in time often saved nine."

MANCHESTER FARMERS' CLUB.

THE LABOUR QUESTION.

At an adjourned meeting, the chairman, Mr. HENRY NEILD, defended himself from the animadversions of some friends present, whom he very much valued, and who doubted whether it was a wise thing for the Club to take up this subject at all. In consequence of the discussion which took place at the last meeting, he had a visit from a delegate from one of the troubled districts, who told him that he should inform his friends in the South of the admirable spirit and clear good sense which governed the relations between farmers and labourers in this county. He believed that, though some of the remarks of the Bishop of Manchester had been misunderstood, at the time when he wrote his letters to the *Times*, his lordship had been driving the nail to the right point, and what he said would do something to bring about a more practical action between landlord and tenant. In consequence of the great competition in other branches of industry, the prices of agricultural labour in Lancashire must always be pretty high, and they expected good men. His experience was that three real Lancashire labourers were worth five of the very best he had ever got from the South. He ventured to say that upon the farming land of Lancashire there was more money paid for agricultural labour than in any other county of England, and he believed that very few farmers in England realised the same amount of money out of their land. The fact was that there was more of the commercial element in their farming than in any other county in England, and this led him to say that what was chiefly wanted was a good understanding between landlord and tenant, so that the door of liberty could be opened, cultivation could be made free, economy could be carried out in the maintenance and arrangement of buildings, and facilities might be obtained for the use of machinery and implements. The feature in the labourers' movement which he chiefly deplored was the emigration of many good labourers from our shores. Good men were wanted in England, and he knew a great many instances in which emigrants had endured great sufferings. He warned them therefore against being led away by the delusive promises of individuals who lived by agitation and by fomenting troubles, and who were sometimes paid so much a head for inducing good men to emigrate.

After several members of the Club had declined the invitation of the chairman to enter into a discussion of the question, expressing themselves quite satisfied with what he had said,

Mr. OSBORNE, a visitor, said that he had formerly been a farmer in the South. He disputed the superiority of Lancashire farming, and could not find here barley equal to that which he obtained from Oxfordshire for his own private brewing. He had travelled in many parts, and had never seen farmhouses equal to those around Banbury and in many villages in the South of England. He referred them to Sir Henry Dashwood's estate or Earl Ducie's, where, he said, they had a regular Paradise at once, which put them in mind of Mr. Mechi's model farm at Tiptree. In his opinion, strikes occurred only where there was excessive game preserving, which produced poachers, and had generally a demoralising effect upon the neighbourhood, where there were dilapidated cottages, or where the owner took to horse-racing and betting away his capital. But he knew many places in the South where the labourers were very well off, and he instanced Merton, in Oxfordshire, where he said the men had cottages at sixpence a week, with good garden ground attached.

Mr. GARDINER said he knew Oxfordshire and the Duke of Marlborough's estate, and he knew also the farm on which Mr. Osborne had been. He could not listen to the statements which that gentleman had made without saying that to talk of cottages and gardens at 6d. a week at Blenheim was all *bores*. He knew Buckinghamshire and Oxfordshire as well as Mr. Osborne did, and he told them that it was in vain for him to come to Manchester and endeavour to lead either the farmers or the labourers wrong.

Mr. OSBORNE offered to forfeit £20 to the Club if, at that moment, there were not cottages at Merton rented to labourers at sixpence a week, and was preparing to stake the money when he was called to order by the chairman.

Mr. GARDINER said that they had better let the labour

questions alone. Supply and demand would rule the price of labour.

Other members expressed their concurrence in this opinion, and there appeared to be a reluctance to discuss the question, at the same time the chairman's opinions were generally endorsed.

Mr. HURCHISON evoked the sympathy and approbation of the meeting by stating his own rule of conduct which he said was "to keep in with his landlord and please his labourers," and that, he thought, was the real point to work at.

Mr. PERKINS, Northenden, complained of the difficulty of obtaining good cottages. He said that in his parish out of 126 cottages for farm labourers only 25 were used for the purpose for which they were originally built. The rest were taken up by gardeners and others who were employed by the gentlemen who had lately built houses in the neighbourhood. Cottages were much wanted.

Mr. NEWTON expressed his sympathy with the labourers in the locked-out districts. He said that to pay a labourer with 12s. a week was a piece of perfect nonsense. Even if a man had a bit of garden ground, a wage like that was nothing upon which to bring up a wife and family. To speak of that as a high wage was scandalous, and it was time that the men should try to look after their interests and improve their position. He deplored the scarcity of cottages, which he said made it difficult for a labourer to bring up his family, and impossible to keep them with him after they had grown up. He believed that cultivation would be generally very much better if farms were of a moderate size, and said that in his opinion 200 or 300 acres were as much land as a farmer could manage thoroughly well.

The CHAIRMAN said he agreed with Mr. Newton in his last remark. Many farmers would realise more net profit a good deal if they had smaller farms and developed them thoroughly.

This closed the discussion.

THE AVERAGE PRICE OF HORSES.—I have had an average taken out from our books for the last ten years. I can give you the numbers of each kind of horse in each year from 1863. I have left the thoroughbred horse out altogether in this statement, and I have divided the rest of the horses into two classes. I have taken, first, the early part of our sales, in which we consider that the horses are not of the highest value; and then I have taken the later stables, where I consider that they are of the highest value. I have taken one average day in each month throughout the ten years, and I can give the number of each kind of horse, and the amounts obtained for them from the year 1863. I cannot give you the number sold throughout each of those years, but only the numbers from which this average is taken. I do not think that that would be of much value if I could give it you; but I can tell you about the number that we sold in each year. We sell, upon the average, between 5,000 and 6,000 horses in the year, but that would include the thoroughbred horses. This is an average of about 40 or 50 horses sold on one day in each month throughout the year; there are about 40 horses in each class; for the year 1864 the average was, for the first-class, £21 11s.; for the second-class, £40 19s. For the year 1865 the average was £21 13s. for inferior horses, and £44 10s. for the superior horses. In the year 1866 the averages were £24 7s. and £15 18s. In 1867 the average, for the first class, was £34 9s., and £57 5s. for the second class. In 1868 the average was £26 10s. for the inferior horses, and £52 17s. for the superior horses. In 1869 the average was £29 18s. the first class, and £78 15s. for the second class. In the year 1870 it was £29 12s. the first class, and £80 14s. for the second class. In the year 1871 the average was £34 7s. for the first class, and £91 7s. for the second class. In 1872, the last year for which I have taken any figures, it was £36 10s. for the inferior horses, and £90 for the better ones. Comparing last year, 1872, with 1864, it appears that there was an increase of price between those years of 70 per cent. on the general horses, and of more than 100 per cent. on the hunters, &c. The rise has been very great in the last three years.—*Mr. E. Tattersall before the Lords' Committee.*

MORAYSHIRE FARMERS' CLUB.

At the quarterly meeting, Mr. GEDDES, Orbliston, the chairman, said that the question to be discussed was a most important one at the present moment, namely: "Whether, under existing circumstances, it is more profitable for the Morayshire farmer to breed or to purchase the horses required for the cultivation of his farm." Under existing circumstances, I understand that question was raised by the high price of horses as compared with some years ago, when we debated the question. It is now for the members to give their opinion.

Mr. WALKER, Altyre, said the question was certainly an important one, as the Chairman had remarked, and the high price of horses had doubtless forced the matter on their notice again. Although the question had been disposed of in 1870, it was quite possible that a different conclusion might now be arrived at with propriety. What suited one farmer might not suit another, and in summing up the evidence it would doubtless be a ticklish matter to arrive at a definite conclusion. It was of the utmost importance, he believed, to select both good sires and dams to breed from. In Morayshire they had not had the facility for selecting sires in breeding horses they could have wished. Another very necessary thing in rearing stock was to have good accommodation for the mares and foals, and after the young stock had been weaned, suitable and enclosed pasturage was very desirable for their successful upbringing. The most important feature in the successful breeding of young stock was the selection of good sires and dams, and he feared the Morayshire farmers had not given that attention to this fact that they should have done. Had they done so, as they evidently had been doing in regard to the breeding of Shorthorn cattle, the chances were that they would have had a very different class of horses in the country than they have had. The farmer grudged no expense in getting a good sire to his breeding stock, and it was to be regretted that so many would take an inferior horse, simply because they got him cheap. A Clydesdale horse should have a pedigree as good as a Shorthorn or Polled bull. Along with a great many of his acquaintances and friends, he was at one time under the impression that Morayshire was not very well suited for breeding horses, the soil not being adapted for rearing animals of superior bone and sinew. Latterly, however, he had been very much inclined to change his mind, and from personal experience and observation, he had found that horses picked up in Morayshire, when sent to the South, and exhibited at some of the shows there, came well to the front. Now, if the same attention were paid to the breeding horses, the chances were that the results would be as favourable here as in the South. He regretted that the subject had not been brought up earlier, when steps could have been taken to secure the services of a first-class entire horse for the locality, but he must say they had some really very good ones this season. With regard to the question under discussion, he had not the least hesitation in saying that where circumstances would admit of it, and a good sire could be selected, horses could be as profitably bred in Morayshire as any place he knew.

Mr. MUNRO said he had always looked upon Mr. Walker as an authority in regard to the rearing and breeding of horses, and he quite agreed with the remarks made by him. It had always been his opinion since he was a farmer—some 30 years ago—that, if a person were to set himself up as a breeder, it was necessary to have every facility in the way of accommodation. He thought that every farmer, if he had any "smeddum" at all, should always rear a horse annually, or two every season, in case of emergency, such as any of the horses dying or meeting with accident. If this had been the case, the price for horses would not perhaps have been so high as at present. He would impress on every farmer the necessity of studying the subject fully for himself, and if he wanted to get matters economically managed in regard to the horses needed for his farm, just have a foal or two every year, after a good sire if possible.

Mr. WALKER wished to add to his remarks that he did not think sufficient encouragement had been offered to the owners of good sires to send them down to Morayshire. He had observed from the new-papers that first-class premiums were offered in different districts for this purpose. He was satisfied that, as it was really a money speculation, no one would send his horse

for a small sum, unless perhaps a premium of £70 or £80 was guaranteed.

Mr. WILLIAMSON pointed out that if a good three-year-old colt or filly could be purchased some time ago for £30, it would now cost perhaps from £90 to £100 for the same class of animal. He knew, for one thing, that if he bred the animals himself on his farm they were generally better, stronger, and more tractable for work than those purchased from a dealer. If a good horse could be reared for £50, the farmer, he thought, was a great profitter, because a good horse could not be bought just now for much less than £70, and often a great deal more. He did not know anything that would pay a farmer better than to bring up two or three foals every year, which, if not required for the farm, could be disposed of at lucrative prices. Another thing to keep in view was the fact that a well bred animal was just as easy to rear as an inferior one. It was his opinion that it was more profitable to breed than to purchase horses.

Mr. LAWRENCE did not altogether agree with Mr. Williamson's remarks as to farmers managing to rear young stock with as great ease as formerly. For one thing, a good dam was not so easy to be got at present, and if any accident overtook her, it detracted considerably from the profits of the farmer. He thought good dams were of great importance to the successful rearing of superior young stock, and they were, on the whole, well supplied with sires this year in Morayshire. He was very much in favour of rearing, if at all possible, heavy well-bred animals, even supposing they were not required for farm work. In large cities there was always a great demand for such a class of animals to draw lorries, and it was worthy of note that persons in want of such horses hardly grudged any price for them.

Mr. BRUCE, Newton of Strathers, agreed with Mr. Williamson's remarks, but would like to see a better class of horses in the county than there were at present. He was of opinion that it was the most profitable course, in the present circumstances, to breed agricultural horses.

Mr. YOOL was in favour of breeding horses rather than purchasing them. As compared with a few years ago, horses had risen from 100 to 150 and even 200 per cent. Although prices were never so very extreme as at present, he thought it might be a wise plan on the part of farmers to breed as many horses as they required for themselves. As a rule, horses brought up on a farm always turned out more satisfactory than the ones bought at a market. Care in the selection of sires and of dams, as had been mentioned, was very necessary, as also the careful upbringing of the young stock. He would be in favour of rearing a few horses to sell or keep.

Mr. CRICKSHANK had always found that horses reared upon a farm paid best. It was not always easy, he believed, to get foals, although he was of opinion that it was more profitable to breed than to purchase them.

Baillie BLACK said that his experience had extended over some twenty years, when prices were very much lower than they are now. About that time he was not much in favour of breeding horses, but he had no doubt the turn of prices had made it clearly more profitable to go into the breeding of horses for agricultural purposes.

Mr. SMITH believed the question to have practically arisen from the scarceness of horses and the high prices paid for them. Farmers, as had been said, paid more attention to the breeding of cattle than horses, but he held that every farmer ought to be equally careful in the breeding and upbringing of young horses. At any rate, a farmer should keep up his own stock, and be able now and again to dispose of a few animals at a good price. He was not prepared to say how many he would recommend a farmer to rear every year, as a great deal depended on the size of the farm and convenience for the upbringing of the young animals.

The CHAIRMAN thought every farm, in regard to the breeding of horses, should supply its own wants. Some years ago farmers were in the habit of selling a pair of two-year-old stots, perhaps for £17 or £18 a-head, to purchase a horse for £35, but now, although a good horse would fetch perhaps £60 or £70, it was still just the price of a pair of first-class two-year-old stots. Mares, he knew, were about £15

cheaper at Carlisle than in the North here. They would all agree with him that the scarcity of horses arose, to a great extent, from the fact that cattle had engrossed the attention of the farmer so much of late. A good two-year old bullock brought just now about £25, but a well-bred two-year-old colt would bring often much more, while the keep would perhaps be less. He had no hesitation in saying that horses bred on a farm generally turned out better than bought ones. As had been truly remarked, good sires and dams had much influence on the quality of the stock, so that it was of the greatest importance to make a proper selection in this respect, as it was as easy to bring up a good animal as a bad one. He thought it was a great mistake to breed from any kind of a horse but what

we would term an "All" animal. Allusion had been made to the fact that it was often difficult to get proper mares to breed from, which he could endorse. Last season he had six mares served, and had only two foals, which he thought was very lucky, as the year before he had an equal number served without any foals. In summing up, he would say in direct answer to the question, that it was his opinion that, under existing circumstances, it was more profitable for the Morayshire farmer to breed his own horses, than to purchase them for the cultivation of his farm. He believed that this was also the unanimous opinion of the meeting. And he might add that every one seemed to desiderate the breeding of first-class horses.

CARMARTHENSHIRE FARMERS' CLUB.

TENANT-RIGHT.

At the last quarterly meeting in Carmarthen, there was a large attendance of members; Mr. W. E. B. Gwyn in the chair.

Mr. BRODIE (Ty'rdaill) opened the subject for discussion, The Landlord and Tenant Compensation Bill, continued from the last meeting. He said: When I desired to have the discussion on this subject continued, I was solely animated by a wish to further ventilate the principles of this bill, which if adopted by the legislature would, in my opinion, promote the advancement of agriculture all over the country, but particularly in this district, where, as you know, improvement is much wanted. When we last met there was every reason to hope that by this time there would have been some advancement made, and that there would have been something fresh to talk upon. At the late elections even Mr. Disraeli made one bold proposition, and if he were only to turn his great mind to the subject, he would soon see that only another step is wanted to settle the matter. But I fear some of his old friends are holding him back, and so preventing him from making this second step. At any rate the bill and its promoters are, in the meantime, laid on the shelf. As to the previous discussions, I will only say that it is very cheering to find those noblemen and large owners who have honoured us with their presence so very favourable to the tenant having full security for any capital he may lay out in the improvement of the land. There has not been much direct opposition—to only a few of our friends I would like to send a bill for "compensation" for exhausting my temper. It was only fragments that I promised, and I am sorry to say that I have only bone-pickings for you. As I get upon some dangerous ground allow me to say that I have no grievance of my own, and no feeling against any man, but for the love of agriculture I must risk the wrath of some. We will first take a look fairly around the country. South Wales is in a very high position with regard to mines and minerals and all work connected with them—unrivalled in copper smelting, and in iron and tin-plate manufacture. But its agriculture appears to make but little progress, and I believe it is considerably below the average of the kingdom, and much of the land is at the lowest point of fertility. Acts of Parliament and loan companies have failed to over-take a tenth part of what should be done in the way of improvement. Even cattle and sheep are little improved. One generation succeeds another, content to follow in the footsteps of their forefathers—the same small fields remain, and water percolates to a lower level just as it did centuries ago. I will now endeavour to take a glance at the effects which such a bill as this would have on the owners and occupiers, and see how far they would be benefited. There can be no harm in saying that many landowners are not wealthy—some succeed with burdens on their estates, some succeed in burdening themselves, and others have only a life interest. In such cases, as matters now stand, and as water cannot be drawn out of empty wells, there is no alternative but to leave the improvement undone, or apply to loan companies, who do not appear to be popular in this part, and, for reasons that we need not go into just now, have effected but little. I believe the proposed bill would, in a measure, supply a remedy for this state of things. Sometimes tenants have saved small sums by industry and hard living, or they may have been left it. Now when the landlord is unable or

disinclined to expend on improvements, I want the tenant to be put into a position in laying out his little hoard on the land—in fact, as safe as if it were in the Bank of England, and with a good prospect that it will yield a better interest. As things now stand it is unreasonable to expect that this will in general be done, but I am convinced that in many cases, were security given, the tenants would often find the means to make many improvements; it would soften the hearts of friends, and even bankers would be more pleasant. Although the owner, from his circumstances, was disinclined or unable to play at land-improving, that was no reason why the tenant should be prevented. He was afraid that improvements would in many cases not be attended to by the landowners because many of them knew little of their properties, and did not look personally after the affairs of their estates; in general they were perhaps more dependent on others than any other class; and their representatives were often not practically acquainted with agriculture. For this reason the tenant farmers ought to be assisted in works of improvement, and this could only be done by compensation. In addition to a compensation bill, he hoped the legislature would shortly offer a State prize for the best managed property in each county, or perhaps the tenants might have to do it. Numerous plausible objections having been raised as to any interference between land owner and tenant, he went on to show that in no other country does there exist any such system of land tenancy as there is generally in England and Wales. In France the terms are 6, 9, and 15 years; Belgium, 3, 6, and 9 years; Austria, 9 to 15 years; Germany, 6, 9, and 15 years; all State lands 15 years. In England it is six months with the expressive phrase "Good understanding," or "good feeling." For the advancement of agriculture and the requirements of the age, something more was required than these kindly feelings, they were but poor substitutes for a lease or an extended notice with compensation. It was estimated that on the average tenants change every 20 years, taking all that they can out of the land—Carmarthenshire is certainly not exempt from this rule. Certainly there was, by this, a deterioration of the owners' property, and a loss to the community, a farm "worked up to a quitting" could not be again brought up to proper condition under five or six years, or more. And besides the expense of keeping up a high state of cultivation was small in comparison to restoring it after being worked out. Therefore rather than allow a farm to be exhausted in this manner, it would surely be better for the owner at the end of the term to say, "Now, sir, there is the money, and more than you would have made although you had scourged the farm for the last two or three years." The tenant's side of the question was next. Farmers multiplied, but farms did not. There were few baby farms, for should a small one appear, the big one was not satisfied till the little hopeful was swallowed up. Therefore the demand for farms had been increasing and the supply diminishing; hence, rather than lose a desirable farm, or it may be a home of any sort, many a man would agree to what he knew to be unfair terms, and offer too much rent, hoping, when once in possession, to come to some better arrangement. A good deal had been said about the tenant being able to contract for himself, and certainly it is very pleasing to feel that some people think so; but in the renting of land he believed the farmer the most

anguine and dupeable man alive. With, say a cute lawyer or agent, and a dozen or more applicants, it was obvious he had the worst end of the stick. Manures and feeding stuffs were easily obtained from respectable firms, and expenditure in the purchase of them was both necessary and profitable; still many tenants in this country were now living (he could hardly call it farming under easy rents, not improving the land, knowing full well that they had by that means a better chance of remaining undisturbed. Why should a tenant, he asked, not be in a position to do justice to his farm, himself, and the country? He was not an advocate for hereditary farming, for they were apt to have hereditary fashions along with it, but he believed some amendment was necessary. Why should a good tenant not have a better place than a bad one? Whatever deterred a tenant from laying out his money in improving a farm thereby obtaining more produce should, he held, be swept away. Having always farmed under leases he did not pretend to enter into the feelings of those who hold under such precarious tenure as was shown by some cases he cited to exist in Wales; but he must admit that such cases as those would not be likely to engender kindly feelings in his Highland heart, although he supposed tenants get used to it as, it was said, eels do to skinning. It had been well said that no man will farm well unless he take pleasure in it. There was little here to encourage one to do so, or to sweeten the path of life. The "well enough as we are" and the "leave well alone" policies should be given up. They were daily becoming more dependent on the artificial rather than the natural fertility of the soil. It was admitted that the land in this country is not producing so much as it might do, and many people say that it can produce double; although he believed this an over-estimate. But seeing that three millions are sent away to purchase food from other countries, and that a considerable increase can be obtained at home, the question arose on whom should devolve the duty of obtaining it. To help to supply the wants of this thickly peopled country the legislature must move first, then the owners and occupiers would assuredly follow. The occupation of land if properly regulated would give a field for men of ability, for there was room for brain work as well as sinew and money. He hoped that the time was not far distant when owners and occupiers would join heartily hand in hand in the improvement of land, that there would be emulation whether the one shall be more liberal or the other more industrious.

VISCOUNT EMLYN said the subject was one of such importance he should have been sorry to have missed it. He considered they were much indebted to Mr. Brodie for the way in which he had brought the discussion forward. Many of them were rather afraid of the subject, of the interests which might be brought against each other, but the kindly tone the discussion had taken, was due to the healthy way in which it had been introduced. He thought it was a matter of great importance for landlords and tenants to meet together and consider these subjects, or other people might take them up and argue them on false grounds. One thing they should endeavour to do was to get more capital invested in the land, and the question arose in his mind whether there was not more capital being invested in land than there was a few years ago. In Wales the holdings were generally smaller than in England, and the tenants were not men of such capital; but would this bill give the tenants capital? Certainly not; and if they were intending to transplant the small farmers of this country and bring in men of capital, they had a very difficult task. However, the difficulties in the way of obtaining labour and the increased employment of machinery seemed to have a tendency to merge small holdings into large ones. It was only a question of time, perhaps, but there was a great deal to be said in favour of a number of small holdings. There were two points connected with the bill, one was that leases should be granted, and the other that compensation should be given for unexhausted improvements. He, himself thought there was not the slightest doubt that the tenant ought to have compensation for unexhausted improvements. Then, again, the 12th clause of the bill did away with the right of contract, and that seemed to be the stumbling-block of the whole measure. His lordship then referred to the custom of the county observed in Gloucestershire, and in concluding said it had been suggested that the tenant should only be able to claim compensation for improvements which had been made with the sanction of the landlord. The whole subject, however, was of such great importance that he felt it was pre-

sumptuous on his part to offer any opinion on it. He hoped that discussions would be held in many parts of the country, and that they would be conducted in the sane healthy tone as had characterised this one.

MR. W. de G. WARREN, in reference to the small tenants, believed that the principal thing they required was fixity of tenure. Unexhausted improvements, &c., were matters with which they had little to do. What they wanted was fixity of tenure, in order that they and their children might not be liable to be thrown out of home and have nothing to depend upon.

MR. NORTON believed that by the proper expenditure of capital on the land of this country the produce of it might be doubled or trebled.

MR. LEWIS (Gurrey) advocated the provision of some security for the tenant, saying a man could not be expected to lay out a large sum of money on a farm while he was under a six months' notice to quit.

MR. HARRIS (Penlyne) followed, quoting cases of tenants who had been evicted after spending large amounts on improvements.

MR. D. T. MORRIS highly approved of the bill, saying he knew a case of a man who, after spending £3,000 on his farm, had to leave, and did not receive a penny for his expenditure.

MR. BOARDMAN expressed his approval of the bill.

MR. J. L. PHILLIPS (Bolauh) expressed his disapproval of the bill, saying it was put on the shelf, and he hoped it would never be revived. He did not agree with Mr. Norton as to trebling the produce of this country. There was a certain limit beyond which it was impossible to go. A great deal had been said about bad landlords, but a man who had a good tenant would be exceedingly foolish to give him notice to quit.

THE CHAIRMAN said it was generally conceded that the tenant should have compensation, and the question was what means should be adopted to meet the views of both landlord and tenant. He had always held that the tenant should have a lease, for a man was not justified in investing money without security, and one result of leases becoming general would be increased drainage. He was not an advocate of large farms; he did not believe that they could be worked satisfactorily in this district, and there would be some difficulty in getting men to occupy them.

MR. BRODIE briefly thanked the company, and touched upon the various points which had been raised in the course of the discussion.

THE COTTAGE HOMES OF ENGLAND.

"The Prince of Wales began, immediately after his marriage, by building the Alexandra Cottages, a row of twelve dwellings, built of Carr stone found on the estate, faced by white stone, and each entered through a pretty porch, with gardens in front and rear. For these a rent of £4 per year is paid by the tenant. The cost of the erection of each was £195. The Louise Cottages, built on the West Newton portion of the estate, are only inferior to the Alexandra Cottages in outward appearance; but they are also inferior in rent, and even their outside is attractive enough. They cost less than the Alexandra Cottages, the money laid out for the erection of each being only £140. For these the tenants pay a yearly rental of £3 10s. each. On the whole, the Sandringham Cottages produce only about one and a half per cent. on the capital invested."

—*The Hour*, May 12.

"The Cottage-homes of England,

How beautiful they stand!"

(So once Felicia Hemans sang)

Throughout the lovely land!

By many a shining river-side

These happy homes are seen,

And clustering round the commons wide,

And 'neath the woodlands green.

The Cottage-homes of England—

Alas, how strong they smell!

There's fever in the cesspool,

And scavage in the well.

With ruddy cheeks and flaxen curls,

Though their tots shout and play,

The health of these gay boys and girls

Too soon will pass away.

The Cottage-homes of England!
 Where each crammed sleeping-place
 Foul air distils whose poison kills
 Health, money and grace.
 Who stables horse, or houseth kine,
 As these poor peasants lie,
 More thickly in their straw than swine
 Are herded in a sty?

The Cottage-homes of England!—
 But may they not be made
 What Poetess Felicia
 In graceful verse portrayed?
 With chambers where a purer air
 The sleepers' lungs may bless,
 And pretty porches, gardens fair?—
 The Prince of Wales says, "Yes."

The Cottage-homes of England,
 Whose aspect makes men wince,
 May turn to happy dwellings yet,
 With landlords like the Prince:
 Then quicker brain and readier arm,
 And more strength better spent,
 May add an economic charm
 To less than two per cent.

The Cottage-homes of England!
 The toiler gay and blithe,
 Who drinks his ale, and plies his flail,
 And swings his sweeping scythe,
 His sons and daughters, braced anew
 With strength that nothing ails,
 Will bless each Prince of landlords who
 Does like the Prince of Wales.

—Punch

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The month of May is often cold in England, with a prevailing east wind; but this year it has outdone its predecessors in severity, with a frost so intense immediately after the outbreak of summer on the third week of April, that the early potatoes were quite cut down, the young shoots of the trees and shrubs being blackened, and much of the fruit, lately so full of promise, materially thinned. The almost total absence of rain prevented a good deal more mischief; but this alone has become a serious evil to the young spring corn and grass, neither of which can be bountiful without genial showers in their season. But we have now a change, and hope it will last. Even the wheat on light, as well as poor heavy soils, seems shaken, and our general prospects have become materially changed. The fact is, we have had 5 degrees more cold than for fifty years, and the fall of rain has been very scanty, and below our wants. It may, however, yet come steadily, and in plenty, and save the spring crops and grass, though a sudden influx of wet and warmth might send the wheat plant too much into straw. Other countries, however, have not suffered to the same extent as England and France, for over Europe there has been a fair distribution of showers welcomed by every land. Prices during the four weeks have not materially changed as regards wheat, as shown by the averages, both in country and town fluctuating slightly with the weather and aspect of foreign markets, more especially those of America, where changes have most occurred. But the feature of the period has been the steady falling off of native as well as foreign supplies, till we find the latter materially below our calculated necessities of one million quarters per month. It is generally admitted there is now little of native produce left in the country; but the fine weather overhead has acted as a warning to millers, who prefer taking hopeful views to paying too dear; but when we find two countries like France and England with little of home-growth on hand, it is better to watch events than be certain we are to have plenty up to next harvest, when wheat is not in ear yet, even in the South of the former country, and we know not how many morning frosts are yet in store for vegetation. Foreign stocks in London at the end of April were not equal to a month of the vast city's consumption, which has been estimated at over 50,000 qrs. in wheat weekly, and though we are told there is a great falling off in consumption during the summer months, and with but a small supply we shall hold out, it strikes us there will be but little abatement of the appetite if frosty mornings return. The following rates recently ruled at the places named: Best native wheat, at Paris 70s. 6d., at Bordeaux

68s.; Berdianski at Marseilles 68s.; Ghirka at same place 64s., top price in Belgium 69s.; wheat at Maestricht 65s., white Zealand at Rotterdam 64s., fine at Hamburg 64s., Danish 66s. per qr., free on board.; red at Stettin 56s. 6d., at Berlin 58s. 6d., at Cologne 62s.; at Konigsberg, high mixed, 59s., at Danzig 60s.; best at Pesth 64s. 6d.; Ghirka at Odessa 52s. 6d.; foreign red at Zurich 72s., soft at Algiers 63s., hard at 57s., white in Santander 60s., ditto at San Francisco, 57s. 6s., cost, freight, and insurance per 500 lbs. Spring red at New York 47s. 2d. per 480 lbs.

The first of these four weeks commences on Monday, 27th of April. The London market then opened with the supplies of English wheat so short that they were exceeded by the exports, the foreign arrivals being at the same time only moderate, and nearly half from the East Indies. There was then very little wheat exhibited on the Essex stands, and almost nothing from Kent; yet, the morning being bright, millers were very shy buyers, at the previous rates. Notwithstanding the falling off of foreign, the demand for it was very slack, and it would have been impossible to sell freely without accepting some reduction in price. The arrivals off the coast being limited, there was no change in values. The wheat trade in the country being first influenced by a sudden outburst of summer, though speedily followed by cold, generally evinced a retrograde movement, and several places gave way 1s. per qr.—as Lynn, Melton Mowbray, Rotherham, Sleaford, St. Ives, &c.; while some were down 1s. to 2s. per qr.—as Spilsby and Shetfield. Liverpool on Tuesday gave way 1d. to 3d. per cental; but recovered 1d. on Friday, and several of the later markets became firm, through the return of severe frost, and some were dearer. Edinburgh and Leith gave way 1s. per qr., but Glasgow made no change. At Dublin the sale of native wheat was slow, and foreign could not be placed freely without some concession in prices.

The second Monday again opened on small native supplies, with but a light increase on the foreign, a fair portion being from Japan. The additional samples of the morning on the Essex stands were limited, and the condition much improved by the drying winds and sun. Factors commenced by asking higher rates; but soon found this was firmly resisted by millers, so they were content to place their samples steadily at previous rates. Foreign sorts had, however, a firmer aspect, prices being dearer at New York, and red American made 1s. per qr. more money, but not very readily. There were few cargoes off the coast, and rates were maintained. The change to severe cold and better tone of the London

trade had its influence in the country, and though the advance was not general, there was an improvement of 1s. per qr. at Birmingham, Gainsborough, Leeds, Rotherham, &c. Liverpool showed an upward movement of 1d. to 2d. per cental on Tuesday, but this was lost on Friday. Glasgow was firm for wheat, and Edinburgh 6d. to 1s. per qr. dearer. Native wheat at Dublin tended upwards, as well as foreign.

On the third Monday there was again a small supply of native wheat, and moderate arrivals from abroad, chiefly from Danzig and India. There were but few fresh samples exhibited during the morning on the Essex stands, but the condition was fair, yet only the previous currency could be realised, and that slowly. In foreign less was doing than during the previous week, but prices were nevertheless maintained. With increased arrivals off the coast prices gave way 1s. per qr. Though cold weather ruled through the week, and supplies of native wheat at the country markets were limited, prices generally remained about the same, farmers steadily resisting a decline where demanded; but at Liverpool prices were 3d. per cental down on Tuesday, with a further reduction of 1d. to 1d. on Friday. At Edinburgh a reduction of 1s. was accepted, and the tendency was that way at Glasgow; but no alteration was noted at Aberdeen. At Dublin the prices of Irish wheat were little more than nominal, and foreign pointed downwards, and was dull.

On the fourth Monday English supplies continued small, but foreign were rather increased. But few fresh samples appeared this morning on the Essex stands, but business was very dull, it being the day of the Czar's visit, and few people in attendance; the quantity showing was too small, however, to induce factors to accept any reduction, so the little done was at previous rates. The country markets this week made little change, but a few were 1s. cheaper. Liverpool on Tuesday was unaltered for white wheat, but 2d. per cental cheaper for red American.

The arrivals for four weeks into London were 15,856 qrs. English, 84,206 qrs. foreign, against 27,693 qrs. English, 97,782 qrs. foreign in 1873. Exports from London 9,159 qrs. against 12,842 qrs. in 1873. The London averages commenced at 64s., closing at 65s. 2d. per qr. The imports into the kingdom for four weeks ending 9th May were 2,106,992 cwt. wheat, 436,439 cwt. flour, against 1,983,287 cwt. wheat, 371,515 cwt. flour in 1873. The general averages commenced at 60s. 6d., closing at 62s. 2d. per qr.

The flour trade throughout the month has scarcely changed the value of either country or foreign sorts, simply varying in firmness or briskness of demand with the aspect of the wheat trade. Millers have made no difference in the top price of town qualities, which has continued at 54s., while the best country households have been fetching 46s. to 47s. per sack. Extra fine barrels have been worth about 33s., extra State at New York closing at 24s. 5d. per brl., and the best marks D at Paris 32f., equal to 52s. 5d. per 250lbs. The imports into London for four weeks were 61,922 sacks English, 25,359 sacks 10,854 barrels foreign, against 88,457 sacks English, 12,333 sacks 11,355 barrels foreign, for the same period in 1873.

The barley trade has been better supplied in foreign

sorts, but English has been much reduced, and very little now appears to be left in farmers' hands; but the malting season being closed it has mattered little. Foreign grinding sorts have given way during the month about 1s. per qr., very fair quality being procurable at 34s. to 35s., and those for distillation at 40s. to 44s. Prices have materially risen on the Continent, and have kept high in France, where the best has been worth 44s. per qr. The imports for four weeks into London were 6,327 qrs. British, 57,575 qrs. foreign, against 1,293 qrs. British, 28,088 qrs. foreign in 1873.

The malt trade has been firm through the month, and gained about 1s. in value, extra fine being very scarce, and worth 80s. to 82s. per qr. Stocks generally are very limited.

Of maize there have been more free supplies, and a reduction of 1s. to 2s. has been the consequence in mixed American; but round sorts for poultry have still been high priced, say 41s. to 42s., though American has sold with difficulty, at 38s. to 39s. per qr. The London imports in four weeks were 39,000 qrs., against 21,146 qrs. for the same period in 1873.

Of English oats the supplies have been very limited, of Scotch still more so, and of Irish nothing has come forward, but the foreign arrivals have materially increased since the opening of the Baltic. Fine sweet heavy old as well as new corn has become very scarce and dear, 38lbs. being worth 25s. 6d. to 26s., but inferior Russian and damp new Swedes have given way in value 6d. to 9d. per qr., the same weight not being worth over 24s. There is, however, such a large demand, and prices have so generally risen on the Continent, that there is little chance of their receding materially before harvest: 41 to 42lbs. at Paris are worth 30s. 6d., and several other Continental ports. The imports into London for four weeks were 1,808 qrs. English, 170 qrs. Scotch, 180,564 qrs. foreign, against 1,958 qrs. English, 195,257 qrs. foreign for the same time in 1873.

Of beans the entire supplies have been limited, both English and foreign, and as the long continuance of dry weather is considered to be very much against the crop prices have risen about 2s. to 3s., with a brisk demand, there seeming to be but little left in the country, foreign supplies being short. Fine harrows have become worth 48s. to 49s., small to 52s., Egyptian to 45s., French 45s. to 46s., and Barbary 45s. to 46s. The rise in maize is calculated to keep up this pulse, it being so much heavier and more nutritious for cattle. The imports into London for four weeks were 1,920 qrs. English, 1,829 qrs. foreign, against 1,694 qrs. English, 4,229 qrs. foreign in 1873.

English peas have become still more scarce, and had they been equally in demand would have advanced still more, but the high rates for hog-feeding sorts limit the trade, 45s. to 46s. being asked for common dun, and 47s. for maples, while white have only been worth 45s. to 46s. The London imports for four weeks were 439 qrs. English, 2,252 qrs. foreign, nearly all white, against 400 qrs. English, 4,022 qrs. foreign in 1873.

Of linseed the supplies have been moderate, and prices very steady, with a continued demand for cake at full rates. Receipts 33,657 qrs., against 13,395 qrs. in 1873.

A small full-priced trade has been going on in cloverseed, from the inclemency of the weather and an opinion against a future crop, but stocks are very light and below the attention of large speculators.

END OF VOLUME.

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