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No. 1, Vol. LII.]

JANUARY, 1878.

[THIRD SERIES.

THE  
FARMER'S MAGAZINE,

AND

MONTHLY JOURNAL

OF

THE AGRICULTURAL INTEREST.

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Dedicated

TO THE

FARMERS OF THE UNITED KINGDOM.

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# LONDON AND COUNTY BANKING COMPANY.

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By Appointment to his late Royal Highness  
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LEICESTER HOUSE, GREAT DOVER STREET,  
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**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 improving 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 Manufactory as above, and sold as follows, although any other quantity may be had, if required:—

4 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, it will not injure the hair roots (or "yolk") in the skin, the

feece, or the carcase. I think it deserves the numerous testimonials published. I am, Sir, yours respectfully,

WILLIAM HERBATH, Senr., F.C.S., &c., &c.,

To Mr. Thomas Bigg, Professor of Chemistry,  
Leicester House, Great Dover-street Borough London.

He would also especially call attention to his SPECIFIC, or LOTION, for the SCAB or SHAB, which will be found a certain remedy for eradicating that loathsome and ruinous disorder in Sheep, and which may be safely used in all climates, and at all seasons of the year, and 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, Is. 3d. each.

### IMPORTANT TESTIMONIAL.

“Scoulton, near Hingham, Norfolk, April 16th, 1855.

“Dear Sir,—In answer to yours of the 14th inst., which would have been replied to before this had I been at home, I have much pleasure in bearing testimony to the efficacy of your invaluable ‘Specific for the cure of Scab in Sheep.’ The 600 sheep were all dressed in August last with 84 gallons of the ‘Non-poisonous Specific,’ that was so highly recommended at the Lincoln Show, and by their own dresser, the best attention being paid to the flock by my shepherd after dressing according to instructions left; but notwithstanding the Scab continued getting worse. Being determined to have the Scab cured if possible, I wrote to you for a supply of your Specific, which I received the following day; and although the weather was most severe in February during the dressing, your SPECIFIC proved itself an invaluable remedy, for in 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,

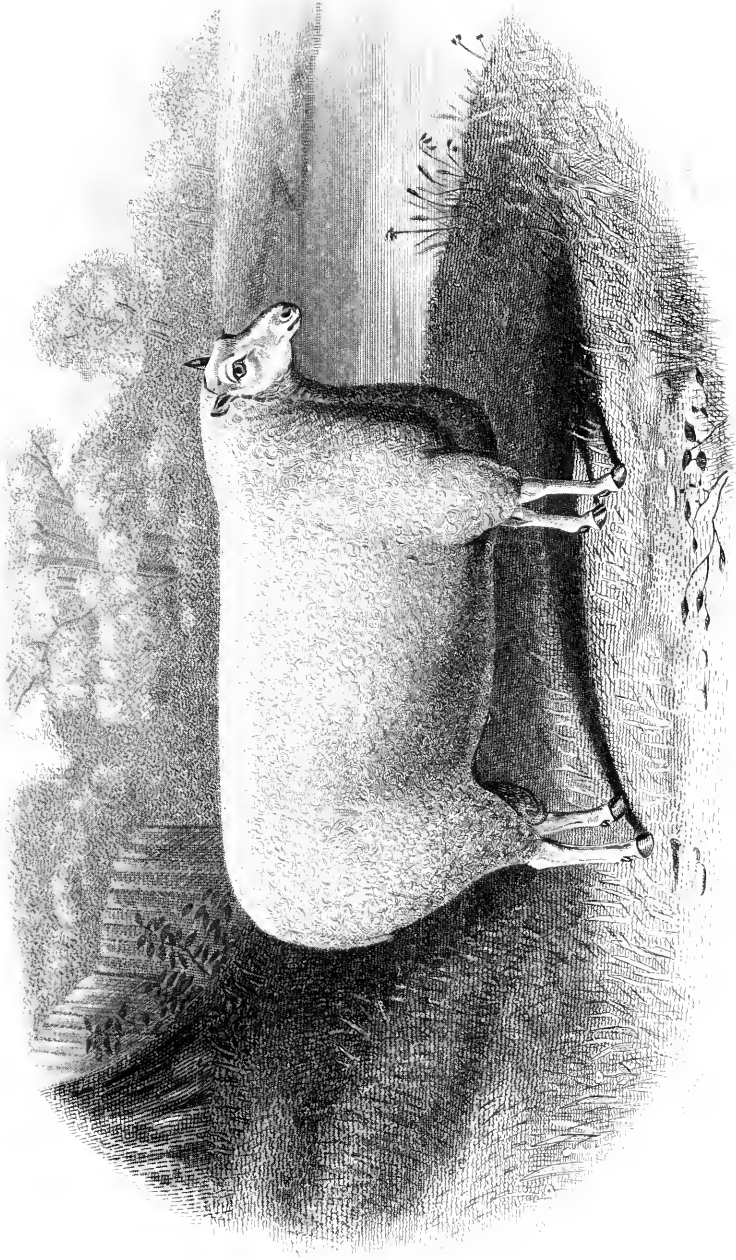
“For JOHN TINGEY, Esq.,

“To Mr. Thomas Bigg.” “R. RENNIE

Flockmasters would be well to beware of such preparations as “Non-poisonous Compositions;” it is only necessary to appeal to their good common sense and judgment to be thoroughly convinced that no “Non-poisonous” article can poison or destroy insect vermin, particularly such as the Tick, Lice, and Scab Parasites—creatures so tenacious of life. Such advertised preparations must be wholly useless or they are not what they are represented to be.

DIPPING APPARATUS..... £4, 45, 51, & £3.





*Royal Duroc.*

*London: George & John Van Nostrand, 1854.*

# THE FARMER'S MAGAZINE.

JANUARY, 1878.

PLATE.

ROYAL LIVERPOOL.

A LEICESTER SHEARLING RAM, THE PROPERTY OF T. H. HUTCHINSON, ESQ., MANOR HOUSE CATTERICK.

Royal Liverpool was bred by Mr. Hutchinson, and got by his first Royal Taunton Shearling, and in the veins of his dam flows the blood of Prince Charlie, Oxford, Blair Athol, etc., all first prize sheep at the Royal and Great Yorkshire Shows' meetings, which sheep breeders look upon as their Derby and Leger.

Royal Liverpool has never been beaten, and is considered by all judges of Leicester sheep as one of the most perfect specimens ever exhibited. He was shown at the following meetings where he took the first prizes—Doncaster, The Royal at

Liverpool, Driffield, The Great Yorkshire a York, Northallerton, and Durham County, where he was also awarded the cup for the best sheep in the yard.

Mr. Hutchinson, with an eye to his own ewes and the future, has refused many liberal offers for his sire, which is still at the Manor House Farm, where he has worked wonderfully well, and will no doubt with many more prize-winners add to the already great renown of the Catterick flock.

## CENTRAL FARMERS' CLUB.

THE MOST PROFITABLE SYSTEM OF FEEDING CATTLE.

At the concluding meeting of the Farmers' Club for the year 1877, held on Mouday, Dec. 10 at the Calcedonian Hotel, Adelphi, and numerous attended, Mr. J. J. MECH, the Chairman, introduced the subject fixed for consideration, viz., "The Most Profitable System of Feeding Cattle."

The CHAIRMAN said: Gentlemen, you may be somewhat surprised to find that I am to read you the paper this evening. In fact, it was intended that this evening's paper should be written by Mr. M'Adam, of Hightrees, near Marlborough, in Wiltshire, but that gentleman wrote to me to say that he was so unwell that he was unable to write the paper allotted to him, and that he hoped I would do it for him. I was very much embarrassed by the request, and, however willing to oblige, I said, "No, I cannot undertake that; you should at once consult the Committee. Write to the Secretary and Committee to know whether they will exempt you from producing the paper, and if agreeable to them I shall try and write a substitute." I subsequently received a note from the Secretary saying I should write the paper; and therefore I thrust myself upon you somewhat out of place. (No, no.)

Well, having received this note, I set to work. I had only a few days to prepare and throw my notes upon paper. I therefore come forward with fear and trembling in this assembly of gentlemen so highly experienced in this matter, and I must say I hope you will forgive me if I make a few mistakes. (Applause.) He then proceeded to read as follows:

THE MOST PROFITABLE METHOD OF FEEDING STOCK. —I should not have presumed to read to you a paper on this subject had I not some experience. My sales of fat meat wool, and poultry for the last ten years amount to £9,977 17s 11d. (about the average of the last 60 years), so that, after deducting £3,019 for lean stock purchased, the actual amount made on the farm was £6,958 19s. 11d., equal to £4 per acre per annum over the whole farm of 170 acres, although one half of it is cropped with wheat and barley. It is therefore quite clear that our home production of meat might be much more than doubled, for out of our farmed acres (47,000,000) less than 7,500,000 grow wheat, barley, and potatoes. I have only six acres of permanent pasture on my farm. I have been fortunate in the health of my stock for 33 years, my losses having been very trifling during that long period—no rinderpest, and very little of any other disease. The question

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of making fat beef in England profitably is one of immense significance at the present time, and under the threatening aspect of American competition, it is a matter affecting landowners quite as much as tenants, for non-success with the latter means (as at present, after three adverse seasons) a difficulty in letting lands and in selling them; for, as an eminent valuer wrote to me to-day, would-be purchasers see no security for a certain return of interest in the shape of fixed or improving rents, but rather the other way: and, no doubt, land just now is at a discount. If experienced and successful cattle feeders, who are amply provided by good landlords with all the necessary appliances and conveniences, see danger, what must be the condition and feelings of those unfortunates who are struggling with adverse conditions and unimproved farms, in addition to bad seasons and fierce foreign competition? Surely the time is at hand when landowners will see that it is to their interest to encourage and attract tenant capital by the utmost freedom of action, security for tenants' investment, and proper facilities for carrying on their business in the most advantageous manner. The American Land Surveys have considerably exceeded the estimate which I made some years ago, that the United States had 1,500,000,000 of acres to dispose of, virgin and uncropped and unoccupied soil, whose fee simple cost would probably not exceed a year's rent and tithes paid by British tenants. I have had very extensive communication personally and by letter with American agriculturists, and have also many volumes, sent to me year by year, of the "Transactions" of the New York State Agricultural Society, and the impression on my mind is that there is a great amount of intelligence, enterprise, and progress in American agriculture. As the farmers nearly all occupy their own land, their mental energy and financial means are quite unshackled and free to enlarge and improve. The mere knowledge that their improvements are their own property, and will be inherited by their widows or children, acts as an extraordinary stimulus to their exertion and progress. The mere fact that no gamekeeper or stranger dare put a foot on their land, and that the game are their own, adds heavily in the scale of advantageous considerations and independent feelings. Under such circumstances, can we wonder at their rapid increase in national capital and general welfare. Imagine the feelings of a man who can say, at any day or hour, "I will sell my farm and buy another, or add to my farm, or do in any other way, just what I like with my own," and compare them with those of a British farmer who, like that model of a good farmer, the late Mr. Hope, of Fenton Barns, was ousted from the beloved place of his birth and inheritance by a mere after-dinner speech, expressing political opinions opposed to those of his landlord. These are some of the many causes which alarm capital and forbid its entrance into British agricultural improvement. Long as this preamble is, it has much to do, directly and indirectly, with the fat meat competition question. It looks as if, for the future, Mr. John Bull must change his name to John Mutton, for the latter always is 1s. a stone of 8lb. dearer than beef; and we know that, while our American cousins "lick" us in cattle at the rate of three for one, and in pigs at six for one, they have only about 25 per cent. more sheep than we have. So strong was the impression of mutton before beef in the mind of an old friend of mine, a very first class and money-making farmer of 1,500 acres, that he never had a bullock, but no end of sheep and pigs; and he used to say that a farmer who kept many bullocks need never make

a will, for he would have nothing to leave. My friend die<sup>1</sup> worth £100,000, but I was not in his will. I have seen the straw 6ft. deep under his sheep in open yards with sheds. The American farmers are finding out that eight tons of maize (40 qrs.), whose freights, &c., to England would amount to probably £35, would, when converted into a ton of pork or bacon, only cost £5 or less, for we may reasonably calculate that 8lb. of maize would make 1lb. of pork or beef. They also thus retain all the valuable manure resulting from so vast a consumption of corn. So we need not wonder at the vast and rapid increase of foreign salted meat. The same remark applies in degree to cheese, butter, and fresh meat.

ADVICE TO YOUNG FARMERS.—A young farmer, desirous of storing his mind with the best methods of cattle-feeding, should refer to the numerous and valuable contributions in the Royal Agricultural Society's *Journal* on this subject, by men dependable and well-known for their agricultural wisdom and truthfulness; and no doubt an abundance of such useful and needful information could also be obtained from the *Journals* of the Highland Society, the Bath and West of England Society, and the Royal Irish Agricultural Society. A glance at their indices would at once give an idea of the magnitude of the subject. I know of no information more valuable and clear in this matter and on dairy management than those two papers by the late Mr. Horsfall, in vols. 17 and 18 of the Royal Agricultural Society's *Journal* (first series). A study of them has put money in my pocket, so I can safely recommend them. Read also Dobito, vol. 6; Keary, vol. 9; Karkeek, Lawes, Simonds, and many others, especially vol. 15, 488, C. Lawrence.

MODE OF FEEDING.—This is most important, because it should be regulated by the age and previous condition of the animal. Half-starved store stock require very moderate and not rich feeding, for all their vessels have been adapted to poor, thin circulating juices, and they are consequently of small capacity, unsuited for rich thick blood. Norfolk farmers, who go in for lots of cake and corn, will not wait for lean animals, but buy them well-fleshed and in good condition, so that good feeding is no novelty to them. A friend of mine—the "mutton farmer," to whom I before alluded—always bought in the autumn high-priced lambs, almost or quite fit for the butcher, and then he could at once feed them on the best of food, and thus fatten his land and his growing animals at one and the same time. Lean stock make starved and lean crops. The condition of animal voidances is a pretty certain evidence of the results that are being produced. Turnips are either food or physic, according to the quantity eaten. Excessive purgation is inconsistent with fat production. Instead of the usual 3 bushels, from 30 to 50lb. is all I allow, in addition to other and drier food. Succulent turnips alone cause immense losses in our breeding flocks. An admixture of cut hay, cut straw, pulped roots, bean or oatmeal, cake, malt culms, and bran, with a little crushed linseed or linseed soup, is a good mixture. I generally add some condimental food which contains fenugreek. Hay of fine quality is in itself condimental owing to some of its fine grasses. My cattle have always access to water and rock salt in lumps in their manger; rock salt is also in our horse mangers. In covered and enclosed yards there are no draughts. Nothing will give cattle pleuro sooner than a draught of cold air in a warm place. The temperature should be as uniform as possible.

WHY ARE LADIES' LAP-DOGS ALMOST ALWAYS FAT?—Because they are well-fed and kindly treated, warm and comfort-



able, and not unfrequently washed and combed. I know that where cows are groomed daily they thrive. We all know that if they can get access to a haulm wall, or a clipped wheat stack, they will groom themselves most heartily and vigorously. I once clipped some cattle on boards and then brushed them, and they fattened quickly. We are too sparing of a little expense in these matters. Many of those grand specimens of obesity at our great cattle shows are washed and groomed, and carefully and delicately fed. In fact we see their attendants thus feeding them at the show. An ill-tempered brutal stockman should have immediate notice to quit. A bullock's tongue is a sort of brush or currycomb, which it frequently uses, but down the back and other parts he cannot reach, and therefore feels truly grateful for a brush or scratch on these parts. Sometimes they oblige each other in this matter.

**BEDDING.**—This question now becomes, owing to the value of straw, an important one. I hope that the covered and enclosed yard question is now an admitted economical and profitable fact, both as regards landowner and tenant, for it will undoubtedly enable the latter the better to pay his rent. In order to economise both straw and labour I have for thirty years used sparred floors, both for cattle, pigs, and sheep, very successfully. In the case of cattle the spars should be 3 inches thick and 3 inches wide, and rather less than  $1\frac{1}{2}$  inch between each spar, strongly attached to, and supported underneath by rafters. For pigs and sheep the openings must be smaller, say one-half to three-quarters of an inch between the spars, which are of yellow deal. In the case of bullocks they keep clean without any attention to the floors, and of course without straw. I once had 12 white cattle on these spars for eighteen months, and they were clean, although not any cleaning had been done to the spars. The opening or bricked tank under the floor should be from 2 to 3 feet deep. Full details of the boarded floors will be found in vols. 1, 2, and 3 of my book, "How to Farm profitably;" published cheaply by Messrs. Routledge and Sons, Broadway, Ludgate Hill. It is surprising how quickly sheep will fatten on these sparred floors, under cover, but with ample openings in the roof. The pit under them should be at least 2 to 3 feet deep. They do not keep themselves quite so clean as cattle, but pigs do so because they generally dung in one corner, and the urine (which constitutes by far the largest portion of the voidances) passes at once through the openings.

**PHYSIC.**—A pound of Glauber or Epsom salts is often a very profitable investment. On any symptoms of "non-feeding" or disquietude, a "good clear out" often sets matters right. A stout brother angler was struck suddenly with paralysis while unhooking a fish by my side (most painful to one's feeling); but when we got him to bed, and the doctor came, I asked the latter confidentially what was the first thing to be done in such cases, he replied, "Oh! a good clear out." I was once foolish enough to buy of a neighbour a few starveling juveniles, and found they would not progress, even with the most careful feeding, and they looked ill; so I killed one, and could find no internal disease, and then tried "Epsoms," and a great change quickly took place, for they progressed favourably—we must not forget the farmers' friends, Day, Son, and Hewitt, for their good deeds.

**CHOICE OF ANIMALS.**—Here again we may compare the human being with the animal. Fat, fair, and forty is a common saying. A well-formed and well-developed frame, at the proper age, is sure to get well covered if the temper is right and the countenance agreeable; but a long, gaunt frame, and

an uncomfortable and irritable countenance, do not give promise of early obesity. A kindly look and contented disposition indicate farm profits. Young animals, like young boys, are difficult to fatten; but I manage it pretty well by limiting their opportunity for juvenile activity and by very good feeding, so that at 18 months to 2 years there is some fat tender beef that wants less hanging than the full-flavoured 4-year-olds. Our mutton generally departs fat at 12 to 15 months old. Farm animals, like human beings, should be well fed from their birth, and continuously so, until finally developed. Some farmers need not go to Mr. Banting about their stock, for they know how to take the fat off, or not put it on, judging from the living skeletons which we much too often see in our farms and markets under the title of "store stock."

**WHY CATTLE ARE LESS PROFITABLE THAN SHEEP.**—This is easily explained. On 50 acres of my land, which I am able to sheepfold, I never cart a load of manure; so that there is no straw littering, no carting and dungheap, and turning and again carting and spreading, as there must be with cattle in the open farmyard. Well, then, again there is no waste of manure with sheep, for it all goes on to and into the land, and no part of it is washed out of the farmyard and down the brook when rains fall. But by covered and enclosed yards with paved floors cattle can be inexpensively managed, and without the least waste of manure and with a minimum of labour, for no dungheap is required, the manure goes at once to the land fit for spreading, and no portion of it is wasted, for the solid and liquid voidances get mixed up into a hodge-podge with the straw by the treading of the cattle. There is no smell or heating until the manure is removed, and the air gets to it. The quantity of straw required is much less than with the open farmyard, and 10 loads of shed manure are usual in productive power to 15 of the open yard turned-over dungheap. But all this is amply proved and fully dealt with in my books. But remember to use straw very sparingly, so that the mass is always wet and solid—no heating—animals always in good health. They certainly progress much more rapidly, both in growth and fattening, than in open yards. Hairy animals require more warmth and shelter than woolly ones, and should, therefore, not be exposed in the cold months. Mine do well under cover all the year round. Sheep, under cover, do not get foot-rot as they sometimes do in open yards. Urine prevents that. They require much more air than cattle, or they would be too warm.

**YOUNG OR OLD CATTLE.**—I make most profit from young things carried on gradually to maturity. Under cover, winter and summer, I have often sold them fat at three times their cost in 12 months, or less. They progress under cover much faster than in the fields.

**NEGLECT OF VENTILATION** is a common and unprofitable error. I so often see even new ranges of buildings without openings in the roofs that I call it monetary suicide. I said openings, for one opening will not answer, unless it be divided down the centre so as to make a double tube, in which case the outward and denser atmosphere forces the warmer and lighter internal air through the second opening, so there is thus a continual gradual circulation. I attribute the salutary condition of my covered yards and general good health of the cattle to this arrangement of ventilation. It is especially and equally necessary in horse stables. These matters greatly affect farm profits. My losses by stock during 34 years have been comparatively insignificant.

CHANGES OF FOOD are dangerous if too hastily made. In spring succulent and watery tares and grasses are mixed with dry hay or straw chaff, for we bring these home and pass them through the chaffcutter. An acre of well-podded green beans, passed through the chaffcutter, is good and acceptable food for any kind of stock. Dry bean straw when passed through the chaffcutter and moistened by hot water is better for cattle than any other straw. Science explains to us its nutritious qualities. It should never be wasted under foot.

WARM FOOD FOR CATTLE.—Thirty years of experience in this matter has convinced one and all on my farm of its advantage. We usually had 40, and often many more head of cattle, young and old. A closed tank of water was heated by the waste steam, and as the lad or feeder mixed the cut chaff, bran, malt culms, or cake, in the iron tubs sunk level with the floor, an occasional pail of this hot water was thrown on the mass layer by layer until it was piled high above the rim. The waste steam passing around these iron tubs kept their contents hot. After a few hours the reeking mess was carried to, and spread over, and mixed with the pulped roots, and then placed in the bullock mangers. We could never fat animals so quickly as by these means. It is a decidedly paying operation. Physically there is little difference between human beings and animals. Warmth, shelter, food of the right kind, and water, administered with regularity, are essentials; and when in confined places ventilation. We human beings look for our meals at regular periods, and if we do not get them disturbance by flatulence and other internal derangements are the consequence of this irregularity. So it is with animals. The next important point is the proportion and qualities of food, and its state of preparation. We can readily see why linseed cake is so generally approved of as food. It combines the nutritious and mucilaginous with the oleaginous in proper proportions. Bean and pea meal alone are often destructive or injurious. They require a little oiling. A land valuer told me that he saw a plain farmer feeding his splendidly fat cattle in a miserable old shed, and found he was giving them small balls of bean meal mixed into a paste with linseed oil. Here was "practice with science." I invariably mix crushed and boiled linseed as soup with the chaff and other ingredients and the pulped roots, and so we need no choke ropes, and have no deaths from "blewing" among our cattle. We never give our cattle more than from 30 to 50 lb. of pulped reeds daily, mixed with their other food. That venerable agriculturist, Mr. Lawrence, justly says the safest course is to mix crushed linseed with pea or bean meal, and he very properly protests against giving to bullocks 150 or 160 b. of roots daily, or, in other words, 16 gallons of water with 1½ gallon of dry food. He found 50 lb. of turnips a sufficient supply (see Royal Agricultural Society's *Journal*, First Series, Vol. 15, p. 488). I find that a bushel of pulped roots (mangel especially) are excellent food for horses, in addition to their dry food.

THE PROFIT OF CATTLE FEEDING must always be indirect, no man, unless he is a farmer, can make a profit by feeding cattle, if he has to pay market price for the food which they consume. Even with pigs, which make the best return, I have seen scores of balance-sheets, or correct accounts of cost and sale, there has generally been a loss, which can only be compensated for by the value of the manure. But for all that, the feeding of live stock on a farm is the best basis of success, and the more that stock is fed with food which was not produced on our farms the greater and more profitable will be the crops

we grow. The misfortune of British agriculture is the small quantity of meat (and consequently of manure) made per acre. Owing to losses not connected with agriculture, I had to reduce my number of stock, and I at once felt their loss by diminished crops and profits. But, if our profits on stock feeding depend on the manure produced, how very important it must be that such manure should not be wasted, but all be applied to the land. This is not, and cannot be done with uncovered farmyards and exposed dunghoops; but it can be, and is done, by covered and enclosed yards with paved floors—from whence the manure is conveyed direct to the land, with all its valuable elements unwasted. Thirty years of my experience has proved this to be correct, and the great crops which I have grown give evidence of the soundness of my practice. I once asked a Norfolk farmer how he charged his cake, which he used to the extent of £1,000 per annum, he replied, "I charge half to the animals and half to the manure." My cattle on sward floors used to give me a quick return; for the manure made one week was washed into the growing crops the next, and in about six weeks I had a grand second or third cut of Italian rye-grass. The same remark applied in a degree to my root crops and cabbage. I am a believer in condimental food and linseed soup as assistants to early ripeness. In former times I used to wean and rear 30 Shorthorns annually, getting them from the milk districts of Bucks, &c., but the cattle plague (which I fortunately escaped) made me change my practice. How easily the people of this country might be fed with home-grown produce by a much larger investment of capital in meat-making!

AMOUNT OF FAT MEAT, WOOL, AND POULTRY SOLD AT  
TIPTREE HALL.

1867 .....	£945 10 7
1868 .....	1341 1 8
1869 .....	1,083 6 4
1870 .....	814 6 6
1871 .....	1,106 8 1
1872 .....	929 10 4
1873 .....	929 19 4
1874 .....	875 17 4
1875 .....	1,018 6 8
1876 .....	936 11 1
	£9,977 17 11
Deduct for lean stock purchased ...	3,019 0 0

Meat actually made on the farm..... £6,958 17 11

I hope you will excuse all imperfections, as I had only a few days to prepare this paper. I will only add my advice to young farmers to consult the chemist as to the value and quality of both cakes and artificial manures. For every shilling so expended they may save or gain five.

Mr. COLEMAN said he had listened with much pleasure to the eminently practical paper of Mr. Mechi. With a great part of it he thought they would agree; and, indeed, the facts he had told them were well known to most practical farmers (Hear, hear). There was one point in the paper to which attention could not be too strongly directed—one which his own experience confirmed, and to which at the present time great importance was attached, namely, the question of covered yards. That point would absorb the main part of the attention demanded by the paper. There were many aspects in which it commended itself to their notice, and he desired to put it before them so as to

show that the tenant could afford to pay a handsome interest to his landlord for the erection of yards with covered sheds (Hear, hear). From his own experience he found the tenant could afford to pay such a sum as the landlord could afford to borrow, repayable in a given time. The profit even on straw alone would be so considerable as to enable the tenant to pay 7 per cent. on the outlay, and at a less rate the landlord could not borrow to repay in a given time. As to the question of straw, they were told by a good authority that a full-grown beast in the ordinary yards would require 20lbs. a day of litter to be kept as clean as it ought to be kept, and he doubted very much whether that quantity would keep it clean, whereas the quantity of litter required under cover was just half the amount. If they took six months in the year as the period when the yard was occupied, and estimated the straw at £2 per ton—and in many cases it would be worth double the amount—the saving on straw would be 32s. upon every beast, supposing each beast to occupy an area of 150 square feet, and his own experience was that 150 square feet was an excessive area for a beast, and that it did not require more than 130 square feet. That was another feature of the covered yard. A larger number of stock could be kept in a given area when covered than in an open yard, where the area for lying down was limited by the extent of the shed. In a covered yard the beasts could lie down anywhere. That, in connection with the fact that with straw at £2 per ton, a saving of 32s. per head for the six months could be realised, was very important.

The CHAIRMAN: You would often have to take the straw at £4.

Mr. COLEMAN only estimated it at £2, as it was not every man who could make £4 out of it. Taking the cost of covering a yard at 10s. per yard—and that was an excess upon the average cost of covering yards, because where walls already existed, as they did in most instances, he was right in saying that 7s. 6d. would be an extreme price for the construction—the interest of the money would be only 12s. per beast.

The CHAIRMAN: That is about the figure.

Mr. COLEMAN, upon this calculation, estimated that upon straw alone the farmer would gain £1 per head upon every beast. With respect to the value of the manure, he thought there could be no question. His only doubt was whether the paper estimated the difference sufficiently high. There it was stated that ten yards of covered yard equalled fifteen of open. He should go higher. With half the straw the manure was doubled. Then there was the question of the progress of the animal itself. He had no experience sufficiently accurate to give an opinion as to what was the gain on that head, but it had been estimated by those who had given attention to the subject that upon the feeding of animals one shilling each per week was saved. Taking these points altogether, he thought the subject of covered yards one which strongly recommended itself to the attention of farmers. At present by this means farmers could save ten, fifteen, and even twenty tons of straw per annum, and he hoped that landlords and agents would be intelligent and liberal enough to enable farmers generally to make the best market they could (Hear, hear).

Mr. TALLANT (Easebourne Priory, Midhurst), asked what about the grazing part of the question? His experience was that the most preferable method was to graze an animal to the best advantage. He was not one who was able to occupy land

which would fatten bullocks without assistance, but he occupied land that would fatten bullocks with assistance given to it. He could say that if they could buy linseed cake at £12 per ton, or cotton cake not exceeding £7 per ton, and give it on second rate pasture they would find it not only of great advantage to the animal but to the pasture itself. (Hear, hear.) He had tested this on light land, and it was now able to carry double the animals it could five years ago. The best thing for a farmer to do in the matter of fattening animals was to raise his own. Tying up cattle and feeding in stalls was a very expensive process. (Hear, hear.) He was now selling animals at £30 and £35 a piece which had been tied up only five weeks. If farmers would pay a little more attention to the nature of their pasture, giving to it bonedust, lime, and other matters applicable to it, they would find it materially to their advantage, and more profitable than erecting expensive buildings and adopting some of the expensive processes of which they had heard.

The CHAIRMAN: What about winter months?

Mr. TALLANT admitted there were times when animals must be stalled. He was a Lincolnshire man, and he could assure them that there were farmers there who would not have their horses housed in the winter, and that one gentleman insisted that he should not have enclosed stables which his landlord proposed erecting. If they did not accustom their cattle to be closely confined they would not feel the effects of bad weather. The best preventive against them was to feed the stomach well; lining the inside well would keep beasts pretty free from disease. Their excellent Chairman had alluded to farmers requiring a great amount of protection from their landlords. He was not sure whether the Chairman had read the paper on prize farms in Lancashire, which had appeared in the last Royal Society's *Journal*, in which a gentleman who was a judge of good authority said that he was surprised to find that all those gentlemen, and a lady in particular, who had won prizes in Lancashire had been sitting on yearly tenancies. (Hear, hear.) The best thing for a farmer to do before taking a farm was to ascertain the character and reputation of the landlord. His experience was that no lease could be drawn which could not be set aside from one cause or another, and that a lease, sooner or later, tended to a vast amount of confusion. The important matter was the reputation of the landlord. (Hear, hear.)

The CHAIRMAN: How about the landlord dying?

Mr. KEELE (Ealing) was surprised to hear the idea expressed in the paper that pleuro-pneumonia was the result of draughty sheds and of bad treatment, his experience, gathered in various parts of the world where the disease was rife, and in other<sup>s</sup> where it was never known, being that it was not engendered by bad treatment, but was the result of actual contact. (Hear, hear.) That, he thought, was an accepted theory, and he was surprised to hear the Chairman's view.

Mr. J. WALKER (Stocksfield-on-Tyne) thought that manure made upon the plan laid down in the paper would be a very dear bargain indeed. He was an advocate for keeping animals warm. He did not agree with all that Mr. Mechi said as to making manure. He kept manure in an open yard, and he found that rain falling upon it when not in excess did it good, the rain apparently having within itself some fertilising power. Of course he did not mean to recommend an unspouted yard, and he took care to have a good large tank into which were put seeds which might do harm, and which received liquids, fitting them to become useful instead of hurtful. He

could tell them he was not a proud man of his vocation this year, for he happened to have got his wheat spoiled with the rain, and as there were some sprouts among it and some people looked upon a few sprouts with a tenfold magnifying glass, he was obliged to sell it at 48s. As to the kind of stock a farmer should purchase and the manner in which he should feed them, so much depended upon the nature and condition of his farm, that it was difficult to lay down precise rules. This was clear, however, that if anything was to be made of cattle they must be well fed.

Mr. C. FOX (Woodlands, West Hootley, East Grinstead), having been absent for two years from the Farmers' Club meetings, attended that evening to hear the best mode of feeding cattle so as to make a profit upon them. Up to that moment he had not heard anything very definite upon the subject. (Hear, hear.) He had fed cattle over and over again, and he had never been able to do so in such a way as to secure a profit.

The CHAIRMAN: You cannot farm profitably unless you do that.

Professor WRIGHTSON (The College, Cirencester) thought the question put by the gentleman who had just sat down scarce r, because it would depend largely upon the way in which cattle were bought and sold whether a profit was realised or not. It appeared to him that all that could be expected from the debate upon this question would be simply that there should be a comparison of experiences, not so much as to the pounds, shillings, and pence realised in the form of profit, as to the rate of feeding and the increase of beef under certain conditions, whether in covered or in open yards, the question of profit to be left to the individual ability of each farmer. He was quite convinced that if a gentleman who succeeded in making a bullock pay—and he knew men who succeeded in doing so—related his experience to the gentleman who had just sat down, and told him every detail, it would not follow, if all those details were absolutely carried out, that the gentleman adopting them would make his bullocks pay. Therefore he should say that the question before them was more with reference to the best possible method which practice and science together could recommend; that was all that could be done in the discussion. As to the management of cattle, their selection, the choice of men to attend to them and seeing that they did their duty, and many other points upon which the question of profit must depend, they must be left to the individual farmer. They could not throw the want of pecuniary success upon a system because in some instances that system might be followed with better success, and in certain instances some details might be better attended to. The gentleman who opened the discussion remarked that the paper did not offer them anything very new. He was unfortunate in coming into the room a little late, but in what he heard of the paper, and in the discussion that followed, there was nothing very fresh. But he did not see that they had an itching ear, and required always to hear something new—like the Athenians, who spent their time in going about hearing some new thing—what was wanted was a greater appreciation of the work which had already been done. There was a want of appreciation throughout the country of the value of the researches upon this subject. They did not read enough; they did not sufficiently know what had been done and ascertained. In saying that he wished to add a qualification. A Farmers' Club such as that had heard so many times these truths that they could not fail to know them. But they were

not known throughout the country, and they were not known to the ordinary farmers of 100 and 200 acres. It had, therefore, occurred to him that a project might be devised whereby their knowledge might be disseminated. Farmers of the class to which he alluded did not read the *Journal* and did not read the agricultural papers. Mr. Mechi's paper would not be read by a tenth part of the farmers of the country. They therefore ought to adopt a rather different mode of action. He did not say they should disturb the system of the Farmers' Club. But they wanted another kind of association—something like the British Association. Now if they had an agricultural conference—(Cries of "Question.") If he was wandering from the question he begged pardon, but he thought his remarks bore directly upon the question. (No, no.) What he desired to urge was that the knowledge which was given to that room-full of members should be disseminated and he thought they ought to organise some means of disseminating it. If they selected certain centres for conference the farmers of the districts could attend. Would not the farmers of a particular district drive into some selected centre to hear what was to be said upon topics of so much importance to them? (No, no.) Then if that were so he was sorry for them. It would be a pity if they would not do so. He found that in other professions it was the case that men did attend such gatherings. All of them there knew these questions, had read upon them, and had discussed them, but what they ought to do was to disseminate this knowledge.

Mr. C. A. CALDECOTT (Holbrook Grange, Rugby), advised farmers never to allow their newly purchased stock to come into contact with old stock for at least fourteen days after the purchase. He was rather struck with the lecturer's remark as to rent and tithes occasioning disturbance in the farmer's calculation. There could not be much uncertainty as to the tithes, which was taken at ten per cent. before the commutation, in consequence of the high price of oats and barley. If the Chairman had said rates instead, he could have understood him, for rates were increasing at such a rate that they outran the farmer's estimate when he took the land. As to a matter of fact, he wished to make a remark. Mr. Coleman spoke of straw at £2 per ton. Fifteen years ago, he (Mr. Caldecott) let a farm on a fourteen year's lease, with the condition that he should have a supply of straw for home consumption at £2. Some time after the tenant said that was not enough, and his agent suggested that the price should be 50s., which he paid. At the present time he was paying to one of his own tenants £5 a ton for some straw with which to thatch some buildings.

Mr. T. OWEN (Clapton, Hungerford), as a cattle feeder in a small way, said he always found that the great object in the first instance was to select animals that would fatten quickest, and then to consider how the animals should be treated. It was, above all things, most necessary to have a good herdsman to look after them, and there should be regularity in everything concerning them. The sooner a bullock lay down when his belly was filled the better, and he never saw a bullock doing well unless he lay down to rest speedily after being fed; rest had as much to do with his condition as feeding. The food ought to be regulated in such a way that it could be improved a little every day, or at any rate, every week. The maxim in feeding ought to be to increase the quality of food and fatten the beast as soon as possible. It was the same with sheep. He had seen sheep nibbling all day and never lying down, and they never came to much. If a

sheep when it filled its belly lay down, it would be sure to make meat. He could only say upon one point which had been discussed, that he found that animals must be lodged very well. He quite agreed that they should be kept as near as possible in the same atmosphere, and also very clean. There could be no question of the great advantage of fattening under cover, but at the same time many of them were obliged to put up with what they had. He considered that nothing was better for feeding than roots and oilcake, but he had also found that the beasts could do as well on swedes or mangel, but he never found it profitable to give straw to fatten bullocks. They could not keep bullocks too well. He had bought bullocks which paid him £1 a week in some years, and as for others they would not pay 5s. a week. The selection was everything.

Mr. FINLAY DUN said, having had some experience, picked up in various parts of the country, and having also had considerable opportunities of conversing with breeders and feeders both in England and in Scotland, he had come some years ago to the conclusion that the greatest amount of profit was to be got out of cattle by adopting something like the same system in the feeding of them as was generally followed out in the management of sheep—to keep the young animals thriving very rapidly from the very earliest calldom, and to carry them on quickly, so that they might not remain too long either on pastures or in stalls, but be relegated to the shambles before they were much more than two years of age. He believed that where that was done, with tolerably careful management, £1 a month might be very readily obtained as the result of feeding young beasts. Following out this system of beginning early, and going steadily on, he had frequently realised a gross return of 25s. per month for beasts sold for under two years old. In some parts of the north of England some friends of his purchased their own calves, so that they had always an opportunity of selecting the very best beasts. They kept them on milk until they were from three to four months old; they supplemented the milk as soon as possible with a considerable quantity of linseed; they taught them to eat either hay, grass, or roots; they gave them cake, beginning with small quantities of  $\frac{1}{4}$  lb. a day, gradually increased in amount, supplemented with mixed meals, and this concentrated fare continued right on throughout the whole period of their existence; and the most successful of these gentlemen managed to get rid of their beasts when they were something like eighteen or twenty months old at £20 to £27 per head. In various parts of Scotland, there was, as most of those present must be aware, only a very limited area of grass land; and among his Scotch friends this system of feeding was successfully carried out, through keeping the animals, in accordance with the recommendation of the Chairman, continuously under cover. (Hear, hear.) All of them knew very well as practical farmers, graziers, and managers of stock, that it did not do to keep young stock, when they were afterwards to be turned out to grass, in covered yards, or too warm. They knew that such animals stood still, even in moderately warm weather, when they were turned out towards May Day. It was, however, very different when the animal was kept steadily growing and feeding right on from the earliest period till it was twenty or twenty-four months old, and then got rid of it. In that way they were compelled to bring to the animals their roots, hay, or straw, and to use a large quantity of artificial food; but they were enabled by rapid growth, by avoiding a check, by lessening the amount of disease,

and by turning their capital more rapidly, to secure a better and a much more certain profit than otherwise could be obtained. They were enabled to cover the expense of bringing the food to the yards and of getting out of the manure, which obtained under such management, was of greatly increased value. Under this high-pressure system of feeding, of course, a larger amount of capital was required; but there could be no doubt that by managing in that way they were enabled profitably to turn over the capital more rapidly than with the ordinary system, under which an animal went on first gaining flesh and then losing it, being kept on grass land in summer, and in winter turned into a cold uncomfortable yard, often losing time and condition, and wasting valuable straw. The system of first piling on and then pulling off flesh could not be a profitable one either for the feeders of cattle or for the nation, and he hoped it would be superseded by the system to which he had imperfectly alluded.

Mr. CLEMENT CADLE (Gloucester) said he did not at all concur in the complaint made by Mr. Fox as to the manner in which the subject was dealt with in the paper; but he hoped the Chairman would explain what he meant when he said that their American friends had found out how to make out of eight pounds of maize one pound of meat. If that were the case, and the meat could be sold at 8d. per lb., leaving a profit of 25 per cent., the wonder was that the Americans sent any maize here at all, that they did not send the maize already made into beef. There was another point which was worthy of notice, and that was that the putting on of fat was nature's provision for a rainy day. Animals stored up fat against a time when they might want it, and every time an animal got a chill, or took cold, as a matter of course, it lost so much fat. Therefore, looking at the matter in that light, there was one of the strongest arguments in favour of keeping an animal warm while they were feeding it. Warmth was, in fact, almost everything up to a certain point. So far as his experience had gone, as a matter of theory, that was worthy of notice, and he was pleased to hear Mr. Coleman bring it forward, because he thought discussion was wanted. Practically, men generally were, he knew, against Mr. Coleman on that point; but as a matter of theory, what he advocated ought to be the best thing, for the simple reason that under it animals were kept warm.

Mr. C. S. READ, M.P., said he had listened with a great deal of pleasure to that discussion; and if they had not heard much that was new, they had heard a good deal that was useful. If they had only heard what his friend Mr. Coleman said about the advantages of covered yards, that evening would not have been entirely wasted. He so entirely endorsed what that gentleman said on that subject that he was glad that he had put his views before them in such a practical and plain manner. He believed that the waste of manure and of feeding material which occurred in consequence of animals getting wet and cold was much greater than almost anyone knew, or could easily conceive. Take, for instance, the county of Norfolk. During the last three wet winters the loss of manure alone was incalculable. Mr. Coleman said very truly that a landlord could borrow money and pay it back at the rate of 7 per cent. to provide covered yards. That sounded a good deal, but he quite agreed with Mr. Coleman that a farmer could afford, even in these hard times, to pay his landlord 7 per cent. for the outlay on that improvement. He was more fortunate than such a person would be; he had a liberal landlord, and on his asking her to build a covered

yard and offering to pay five per cent., she complied at once, and he assured them that the yard had proved a great comfort and saving in various ways. It was not a costly affair, the estimate being only £100 for the roof.

The CHAIRMAN asked what was the extent.

Mr. READ said the yard was 60 feet square, in addition to which there was an old shed of 20 feet, so that altogether there was 60 feet by 80. He had boxed a portion of it off, and he was very well satisfied indeed with the result.

The CHAIRMAN inquired how the yard came to be so cheap.

Mr. READ replied that the roof was in one span, covered with dry pantiles, and that no walls had to be made, there being walls already for the roof to rest upon. He had said that he had listened to the discussion with pleasure. He had also listened to it with a certain amount of pain, because almost everything seemed to tell against the Norfolk graziers. His friend, Mr. Tallant, was, no doubt, right in saying that it was advantageous to give cattle cake upon grass lands; but in Norfolk they had little grass land, and therefore they could not reap the advantage mentioned. Another gentleman said they should breed their animals, rear them, and then fatten them. That could not be done in Norfolk; they had not got the calves to begin with, and they were obliged to get their store stock from breeders who would let them have them from a distance. One gentleman had asked whether stall-feeding ever paid. It seldom paid, he admitted, but there were seasons when even that branch of husbandry was remunerative, and he might add that, if it had not been for the very fair grazing year last winter, the farmers of Norfolk would have been much worse off even than they were. They bought their stock reasonably, they had a good root crop of excellent quality, and they sold their beef at remunerative prices. As regarded cake, he believed that as a rule 1 cwt. of cake would, in addition to other food, produce a stone of beef, and considering its high manurial value, if applied judiciously, it would answer remarkably well. (A Voice: "What is the price?") He could buy good linseed cake at 10 gs. a ton. A gentleman said it cost £12, but he had not heard of that price within the last eighteen months. There was something very curious about the fashion in which the cattle were fed with roots. He was old enough to remember the time when their grandfathers fed cattle on whole turnips. Then there was introduced the slicer; after that came the cutter, and turnips were shredded; and that came pulp-  
ing. Now they had gone back to Gardner's turnip cutter; some persons had gone back to the slicer; and Mr. Robert Leeds, before he retired from farming, actually gave turnips whole as they were given 100 years ago. He believed that Mr. McCombie also fed cattle with turnips whole. Of course in that case the cattle must be old and well matured. If they were to feed young cattle in that way probably they would soon give it up. (A Voice: "It would choke them.") He quite agreed with the gentleman who said, in opposition to the supposed view of the Chairman, that pleuro-pneumonia was not caused by a draught in a warm shed. He thought the Chairman hardly meant that it was; what he meant, probably was that a draught rendered animals more liable to take pleuro-pneumonia than they otherwise would be. They would not actually take it, however, except by contagion. The Chairman was eloquent about the advantages possessed by American farmers. No doubt they had great advantages and so e

drawbacks, and were likely to be formidable competitors with them in the sale of the produce of their farms. But the farmers of this country were not likely ever to be owners of large quantities of land; it would not answer their purpose as farmers to own land, it was too much of a luxury, and they must be content to be occupiers. He could wish that all occupied under as good and liberal an owner as he did, his liberty as regarded tillage being quite as great as it could be if the land was his own. Their excellent Chairman told them that the salvation of the country depended on their keeping more stock and then he told them that to keep stock did not pay. They must look, he said, at the indirect profits. What were the indirect profits? He meant growing corn. That did not pay, and he must, therefore, ask him to explain—and he had an explanation for everything—how he could reconcile the suggested prosperity of agriculture in connection with the development of stock-feeding, which did not pay, in order to grow more corn, which everybody admitted was a losing game. The Chairman's remark about the litter in relation to covered yards was quite true. His friend on his left (Mr. Walker) said he thought a certain amount of water in manure would do no harm. Unfortunately they could not control the amount of water which went into an open yard, and in the last three years he had never seen any yard which was not too wet. Their yards in Norfolk had been perfect Sloughs of Despond the cattle were up to their bellies in slush, and therefore he was quite sure that the provision of boxes, stalls, or of covered yards was the only way in which stall feeding could be made to pay. They had not heard very much as to the mode of feeding cattle. It was well remarked by Mr. Owen that cattle should, if possible have a progressive diet—that is a diet which advanced in quality from week to week, especially in the case of young stock. But unless care were taken to avoid excess there would be waste. He did not believe the stomach of an ox would assimilate more than 7 or 8 lb. of cake, and when he heard lately of its being given to the extent of 10 lb., 12 lb., 13 lb., and even 14 lb., he felt sure that that was a most wasteful way of manufacturing manure. It was very important that the cake used should be pure, clear, and sound. There was an enormous mass of rubbish which was sold under the name of cotton cake. If any one would take a wine glass and put in it a noble of common cotton cake he would find not more than 50 per cent. soluble in water, and a large proportion of it consisted of husk and woolly fibre which was not worth 6d. a ton. If they used artificial food they should take care that it was of the right kind, and they should be especially careful to purchase the best linseed decorticated cake they could obtain.

DR. VOELCKER (Salisbury-square) said Mr. Read underestimated the amount of husk in cotton-cake. The percentage of husk in cottonseed he found amounted on an average to 40 per cent. Although the husk of cottonseed had no feeding value, it was not altogether a worthless material for it contained an astringent principle in virtue of which undecorticated cotton-cake was very useful for stock out on rough pasture, or fed upon succulent food which has a tendency to scour animals. Undecorticated cotton-cake counteracted this tendency, and was a very useful food under such circumstances. (A voice "What about young calves?") Undecorticated cotton-cake should not be given to calves, and decorticated cotton-cake required to be given to animals judiciously. He had had brought under his notice more than 100 cases in which cotton-cake was alleged to have poisoned sheep and cattle. He

found, however, that the alleged injury was due to the injudicious way in which cotton-cake was given to stock. A food so rich in albuminous compound as decorticated cotton-cake required to be broken up very fine, or better still, to be ground into meal, which should be mixed with twice its weight of Indian corn, rice-meal, or other meals, comparatively peaking poor in nitrogenous or albuminous compounds, and rich in non-nitrogenous or starchy constituents.

Mr. WALTER wished to know whether any gentleman had ever tried the value of wheat-meal as compared with cotton cake, as he had.

Mr. READ said that two years ago he tried it. He consumed 200 quarters of wheat, and more worthless stuff as manure he had never found.

Mr. WALTER said his experience was totally different, and he had derived great advantage from the use of wheat-meal in feeding pigs.

Mr. BELL (Secretary of the Farmers' Club, Newcastle-on-Tyne) said he fed a few cattle himself, and, if he did not think it paid to do so, either directly or indirectly, he would certainly not do so. The question of paying, however, depended, as had been remarked that evening, very much upon buying and selling. He had had some cattle which had paid him 1s. a week and others which had paid him 25s. Perhaps the cattle which paid him 1s. a week were fed the best, but he could not continue feeding them for a long time. He concurred in the opinion that the main secret of feeding cattle was to feed them from the day when you get them. In the case of cattle that had been calved on his own farm, the mother and the calf grazed together during the summer; he gave them artificial food and some hay in the winter, and sold them in the spring, getting from £20 to £25 for calves twelve months old. (A Voice: "How long were they milked?") Up to the time when they were sold. He happened to have had some experience with regard to covered yards. Part of his own cattle were fed in a box, and he could only say that he wished all farmers had covered yards. It would be much better both for the beast and for the manure, which was infinitely superior when kept under cover to what it was when exposed. In Durham the Earl of Durham had covered the whole of the yards on his estate, and the experience of his tenants was such that they would be sorry to be without them. As regarded the question of feeding stuffs, which was brought before the Newcastle Club on Saturday, he would observe that in an able article in the *Journal* of the Royal Agricultural Society Dr. Voelcker estimated the value of the residue decorticated cotton-cake at £6 10s. per ton, and that of undecorticated at £4 18s. 6d. per ton. Referring to what had just been said on that subject, namely, that 40 per cent. of ordinary cotton-cake consisted of husks, he must say he could hardly reconcile that with the estimated value of what had passed through the animals.

Mr. H. NELD (The Grange, Worsley, Manchester) said that in travelling along the railway that day he was struck with the necessity for covered yards, which would well repay agriculturists for the money expended upon them. With respect to calves, he would remark that in his opinion their food should be given to them in a mucilaginous state. The same principles as had been adopted in reference to the human body were applicable to animals; and the other day his herdsman remarked that he wished to study the feeding of the animals under him as he would prepare his own dinner. It would be impossible to give a categorical answer to such

a question as that of Mr. Fox—what kind of feeding would pay best?—as that must depend on a variety of details which dovetailed into each other. Their Chairman had made mistakes, but, unlike many others, he had had the courage to confess his mistakes, and he believed the whole of the farming community felt indebted to him for what he had done for agriculture (cheers). The allusion just made to the *Journal* of the Royal Agricultural Society reminded him of the good done by the competition for prizes at the Liverpool Show, and the results showed what might be done with freedom in farming.

Mr. T. HORLEY (Leamington) remarked that the great difficulty in the path of cattle feeders was the suffering to which they had been subjected from foreign diseases. They did not know what they really could not do if they had a few years free from disease. The fact was, however, that breeders were frightened to death. A great number of small farmers had given up breeding. Before fair data could be ascertained in relation to feeding they would require to have a continuance, for a reasonable period, of health in their herds. There was hardly a man in the room who had a large herd who, like himself, had not suffered enormous losses. So many circumstances modified the question of feeding—the nature of the soil, the quantity of roots allowable, and other kindred matters—that it would be impossible to lay down any definite rule as to the best plan of feeding. Roots were never so nutritious as when the animals gnawed them themselves. Pulping never would have been introduced except for the shortness in the supply of roots and in order to economise them. Gnawing the roots led to the secretion of saliva which was most useful to the animal. The value of the manure must be taken into account in estimating the profit derived from an animal, though he thought £15 a ton was more than it was worth, and he believed substitutes could be purchased at a cheaper rate. He hoped the discussion would not be barren.

The CHAIRMAN, replying to the remarks which had been made upon his paper, acknowledged the attention which it had received, and then went on to point out that the question of profit and loss upon his farm was governed by the quantity of fat stock he had, and it appeared to him that that was a settlement of the question so far. If he kept twenty bullocks instead of forty he missed them almost immediately. There was not the requisite quantity of manure, and the manure followed in an exact ratio the quantity of meat he made. As to pleuro-pneumonia, he found that animals exposed to draughts took it, and those not so exposed escaped it. Like other diseases it arose from improper conditions. He was glad that the value of covered yards was so generally acknowledged, though it was no new thing to him, for he adopted the plan thirty years ago, and had been constantly talking about it: so that now he might at last congratulate himself and the country that an impression had been made in the right direction. The authorities on the question would at once disclose the calculation showing that 8 lb. of maize made 1 lb. of meat.

Mr. BROWN, Chairman-elect for the ensuing year, moved a vote of thanks to the Chairman for his able paper.

Mr. PHIPPS, M.P., seconded the motion, remarking upon the great and self-sacrificing energy in which the Chairman had devoted to the interests of the farming class.

The motion was cordially carried, and, having been acknowledged by Mr. Mechi, the meeting separated.

## THE FARMER'S CLUB DINNER.

On Tuesday, Dec. 11, the Annual Dinner of the Farmer's Club took place at the Criterion, the chair being filled by Mr. MECHI, and the company numbering about 100, including Mr. C. S. Read, M.P., Mr. Phipps, M.P., Mr. Pell, M.P., the Rev. E. Smythies, Mr. Charles Howard, Mr. J. Thompson, Mr. Masten, Mr. Major Lucas, Mr. Brown (Chairman-elect for 1878), Mr. Horley, Mr. Weston Tuxford, Mr. Owen Wallis, Mr. Jenkins, Mr. T. Scott, Mr. E. Little, Mr. H. Little, Mr. R. Dring, Mr. J. Druce, Mr. S. B. L. Druce, Mr. Allender, Mr. Treadwell, Mr. C. M. Caldecott, Mr. H. Overman, Mr. Walter Farthing, &c. &c. The dinner was of the very best description.

After the usual loyal toasts, the CHAIRMAN gave "The Army, Navy, and Reserve Forces," Captain GEORGE W. CARTER, R.N., responding for the Navy, and Mr. MATTHEWS of Wolverhampton, for the Volunteers.

Mr. C. S. READ, M.P., said : Mr. Chairman and gentlemen I rise with a deep sense of responsibility to propose the next toast. I have had entrusted to me a two-fold toast, namely, "Success to the Farmers' Club—thanks to the members who have read papers during the past year"; and last, but certainly not least, the health of our Chairman (cheers). We have to thank the gentlemen who have [during the year read a series of most excellent papers. The first one was read, I believe, by our young and able Secretary, Mr. Druce, on the Agricultural Holdings Act. Sometimes, when a man makes a speech down in the country, a little bit of it gets into the London papers, and it not unfrequently happens that what he says is imperfectly reported. On a recent occasion I said that I "highly approved of the Agricultural Holdings Act," but the London papers did not add my postscript, which was, "with the exception of the permissive clause": and that, I consider, makes all the difference. (Hear, hear.) I was very much astonished when the returns prepared by Mr. Druce were laid before the Club to find that the landlords of England, "with one consent, began to make excuse," and to contract themselves out of what I believe ought to be an universal law (cheers). I do not care how compensation is given to the tenant so long as it is secured to him, either by law, by custom, or by agreement; but I am positive of this—that until tenants have an absolute and inalienable right to their improvements the farming of England cannot flourish (cheers). The Act went a great way towards making that right permanent. It was all that the Parliament of England could do at the time, and it was really something for Parliament to say that it was necessary to pass an Act to secure their rights to tenants. It may be asked what sort of an Act they should have passed. If there was to be permissive legislation I would have had a very short Act indeed, simply giving the tenant a legal right to his improvements, and leaving him to make what bargain he pleased. But Parliament willed to pass the existing Act, as if it thought that after having tried to have it worked permissively it might in a short time make it compulsory. Well, then, we had papers on "Pauperism and Providence," "Sheep Breeding and Management," "American Farming and American Agricultural Machinery," "The Products of the Dairy," and last, and certainly not least, a most excellent paper was read last night by our Chairman, on "The Most Profitable System of Feeding Cattle." Not only did the Chairman read to us a very good paper, but he did it with hardly a moment's notice. A gentleman whose name had been placed on the card was unable to introduce that sub-

ject in consequence of illness, and with scarcely any preparation Mr. Mechi, out of his own fertile brain, gave us a most interesting paper on that very important topic (cheers). The discussion turned very much upon covered yards. Mr. Mechi told us that he advocated the use of such yards thirty years ago. Well, there is nothing new under the sun, and the stalled ox of which we read in the Proverbs of Solomon was probably fattened under cover—(laughter)—and although, as we all know, our Chairman has been a great pioneer in agriculture, yet some of the theories and some of the practice which he has endeavoured to instil into us are not altogether new. Our excellent friend in the chair is, I may remark, a thorough evergreen; he is a man who was born three-quarters of a century ago, and I hope that if any of us should live as long as he has done we may be as good men as he is (cheers). He has been the best-abused man connected with the agricultural interest, and there can be no doubt that he has turned away a great deal of wrath by the soft and amiable answers he has always been ready to give to opponents. (cheers). He has always been most amiable and convivial; amid the most trying provocations he has always been the most courteous of men; and he was at last honoured—for I do think it was an honour to him—by being asked to become the Chairman of this Club. If he has had a fault it has been a very pleasing one—it is that owing to his genial and bright temper he has hardly ever been able to look on the dark side of the picture. The man who is a great pioneer should not only mark the channels through which men may sail, but should also depict the shoals and quicksands in which smaller men may founder. (Hear, hear.) I believe our excellent Chairman has recently written a book, but I have not yet had the pleasure of reading it. In my early life I was a great admirer of Mr. Mechi, and one of his most ardent disciples. When I first began farming I went on thin-sowing barley and the result was that within two years I lost about £500. Very soon after I followed the advice of our excellent Chairman, doubling the amount of the seed, and the result was satisfactory. He has recently told us that he has found that the turning up of a very indifferent subsoil by deep steam ploughing is not altogether profitable to the farmer. Gentlemen, whatever we may say about our worthy President, we cannot say too much in his praise as an advanced agriculturist. And there is one thing that he has done which will live much longer than all his theories and all his fallacies—and that is that he is one of the chief founders, if not the real founder, of the Royal Agricultural Benevolent Institution—(loud cheers)—and when his long and useful and active life has ended—may that day be far distant—I am quite sure that generations of ruined farmers—for there will be ruined farmers in succeeding generations as well as in this one—many heart-broken widows, and many desolate orphans will bless the name of Mechi (great cheering).

The CHAIRMAN, in responding, said no man could know so well as he did his weaknesses and failings, and hence he could the more fully appreciate the kindness evinced towards him. It was now more than thirty years since he first began farming. At that time he observed, while going about shooting, that one field produced abundance of corn and another very little—that one field was very wet and another very dry—and the conclusion at which he arrived was that there was great need for improvement. He believed agriculture could never be developed as it ought to be while farmers were subject to so much restraint, and had not proper security, any more than



tradesmen in a town could expend capital successfully without leases. Agriculture was now fettered and shackled, and what farmers required, and landowners should be willing to concede, was freedom of action. He concluded by giving "The Royal Agricultural Benevolent Institution."

Mr. J. K. FOWLER, in responding, claimed for that Institution extended support from the farming community.

Mr. PELL, M.P., proposed "The Royal Agricultural Society of England, the Highland Society, and the Royal Agricultural Society of Ireland." He said he felt very much indebted to the first of these Societies for the instruction which it afforded him in his early days. He was an old member of that Society, having joined it in 1841, about the time when the Chairman began issuing his interesting pamphlets, he himself following Mr. Parkes's views in preference to those of the Chairman with regard to the position of drains (Hear, hear). He had to couple with the toast the name of Howard—a name borne by two illustrious brothers, one of whom was distinguished for his mechanical—not to say his parliamentary—ability, and the other in the not less useful field of agriculture. He coupled the toast with the name of Mr. Charles Howard (cheers). As regarded the Agricultural Holdings Act, he felt thankful for the concession which had been made by the Legislature. Four years ago it would have been impossible to give tenants security for their improvements in the only way in which it was worth accepting, namely, by a charge on the land in the absence of custom. He admitted that it was unpleasant for farmers to demand an agreement for compensation before entering upon an occupation—that it might cause them to be viewed with suspicion instead of favour; but all such feelings would, he hoped, soon pass away, and if anything could make them pass away and render the principle of compensation acceptable to landlords, surely it was the present condition of agriculture. Let them go where they would, they would find that, except on the very best grass lands, farmers were indisposed to undertake cultivation, especially on heavy lands of a soapy nature and imperfectly drained, unless the owner would concede that freedom and security which recent legislation was designed to give them. As regarded leases, the objection to them was that there was nearly always an increase of rent on their expiration.

Mr. CHARLES HOWARD said he felt it a great honour to be asked to respond for such a toast. There was, he believed, a bright future before the Royal Agricultural Society of England. Its *Journal*, as now conducted, offered most plesant reading to tenant-farmers; its Shows were such that the only complaint made about them was that nobody could see all; and it had played a most useful part in connection with the recent outbreak of cattle plague and the importation of live stock. He believed it was mainly owing to the Council of that Society that the House of Commons appointed a Select Committee to investigate the last-mentioned subject; and perhaps the Government would not at all dislike having some pressure upon it, in order that there might be no delay in legislating. The fact that millions had been sacrificed among the flocks and herds of this kingdom through the importation of foreign live stock rendered it indeed necessary that there should be immediate legislation, not only in the interest of the farmers, but also in that of the consumers (cheers). Ireland was a great nursery for breeding stock, and he hoped the Government would do something to ensure its stock being imported in future in a more healthy condition than it had been hitherto. He felt exceedingly obliged to the Chairman for the kind manner in which he had associated his own nam

with that toast, but he could not help regretting that that gentleman was an apologist for a measure relating to the capital of tenants which had justly not found favour among farmers as a body (cheers).

Mr. PHIPPS, M.P., said he had to propose the coming star, "The Chairman Elect," Mr. Brown. The actual Chairman, while he had received as much praise as any man could desire, had also been rated to a certain extent with regard to theories which he had advocated with regard to agriculture. The Chairman Elect was, he believed, perfectly safe on that point (laughter). If any complaint had to be made in reference to that gentleman, it was that he was not theoretical enough, but rather too practical; but all who, like himself, were engaged in agriculture must know very well that an ounce of practice was worth a pound of theory. On the other hand, he was sure all present would admit that the great improvements in modern agriculture were mainly due to those who might be called gentlemen of theory; and it was for them to examine the theories which were presented to their notice, and see whether they were in accordance with practice, and cast them aside if they were not (Hear, hear). It was a great honour for any man to be the President of that Club; but he was quite sure the Committee had made a good selection, and that that time next year he would be as deservedly well received as even Mr. Mechi had been that evening.

Mr. BROWN having briefly returned thanks proposed "The Smithfield Club."

Mr. J. DRUCE responded.

Mr. H. LITTLE proposed "The Committee of Management."

Mr. HORLEY, in responding, said he was proud to belong to the Committee, because he believed that few institutions in this country had done more good than the Farmers' Club. He regretted that the list of members was, comparatively speaking, so small, and he hoped that every member would try to increase its usefulness by increasing its members. He hoped they would not relax their efforts in relation to the prevention of cattle disease, whether collectively or individually. They had got a moderately favourable Report, secured by great cost and labour on the part of a few individuals scattered throughout England, and he hoped they would all exert themselves now in order that that Report might have a useful practical issue (cheers). As regarded the Agricultural Holdings Act, it had been his contention from boyhood that the land of England would never be properly cultivated until tenant-farmers had a better chance of obtaining compensation for unexhausted improvements, and he trusted that that object would soon be realised.

Mr. T. SCOTT followed with some remarks in which he warmly expressed his sense of the necessity of better legislation in relation to the capital of tenant-farmers.

The CHAIRMAN said he had now to propose a toast which he was sure they would all receive most cordially, "The Secretary" (cheers). The name of Druce was associated with the production of a new breed of sheep called "the Oxford Downs," and the Club had now a young Oxford Down for its Secretary (laughter). That gentleman had great legal knowledge, and it was evinced in the masterly manner in which he introduced last year the subject of the working of the Agricultural Holdings Act. He had now to propose Mr. Druce's health, and he hoped he would long live to display his nergies and his administrative powers for the benefit and advancement of that Club (cheers).

Mr. S. B. L. DRUCE said he thanked them most sincerely for the kind and cordial manner in which they had received the toast. In responding to the same toast last year he came amongst them as a new man, and the gentleman who proposed it very appositely compared him to a bailiff entering on a new farm (laughter). During his first year of office he received the greatest possible assistance from the chairman of that year, Mr. Horley, who carefully instructed him in his duties, and it would be ungrateful in him not to make that acknowledgment. It would not only be his duty but a very great pleasure to try and increase the number of members, and to enlarge the amount of good which the Club did throughout the length and breadth of England by disseminating more widely the reports of the discussions which took place at their meetings—discussions which he believed conducted very greatly to the benefit of the farming interest throughout the whole country (cheers). As regarded his paper on the Agricultural Holdings Act, to which such complimentary allusion had been made he might observe that the returns given there were so extensive that there was not a single county in England which was not included. That Act was, he knew, not viewed altogether favourably by the members of the Farmers' Club; but it could not be denied that it recognised a great principle (cheers)—the principle that the tenant ought not to lose capital which he expended in the improvement of the farm. He was far from saying that the Act was all that tenant-farmers could desire, but it certainly recognised an important principle. As the new bailiff of the Club he had expressed his gratitude to the Chairman last year. But there was another gentleman to whom, as the Secretary of that Club, he owed a deep debt of gratitude, and that was his predecessor in office (loud cheers). His predecessor had advantages that he had not; he was more of a farmer than he (Mr. Druce) was; for although, as their Chairman had intimated, he was bred as an Oxford Down, yet, to his shame and deep regret he it said, he was not himself a breeder of those Downs (laughter). When he entered upon his new duties he found that one who succeeded to an office which had been well filled had, comparatively speaking, an easy position. He was not a private friend of his predecessor, having known

him only in his official position, and therefore in what he was about to say, he could not be actuated by any motives of friendship or intimacy with Mr. Corbet. In his researches as Secretary into the memoranda details and past accounts of the Club, he had found that all were well and ably kept and attended to during no less a period than thirty years (cheers). The accounts were all ship-shape; everything was clear and straightforward; there was not a sixpence or a penny wrong; there was not a single memorandum that was not as it ought to be; there was not one atom or particle of leeway to be made up, and all he had to do was to take up and carry on the good work which, unfortunately, through ill-health, his predecessor was compelled to abandon. He regretted to have to state that Mr. Corbet was not only in ill-health but also in an embarrassed pecuniary position—(Hear, hear)—and it had been suggested by Mr. Charles Howard that the members of that Club should do, not collectively, but individually, what they could to assist him in his present unfortunate state. He (Mr. Druce) was only too happy to render any assistance in his power in furtherance of that object, and he had accordingly promised to take charge of any subscriptions which might be paid towards the fund which was being raised on Mr. Corbet's behalf. He was happy to say that the appeal which had been made had, so far, been well responded to; he had received more than £200, and he could state, on good authority, that a Society whose name he was not at liberty to mention, because it was a rule of that Society that what it did of that kind should not be published—a Society connected with the public Press, to which, as he supposed most of those present were aware, Mr. Corbet was for many years connected—had made a donation of £100 (cheers). He trusted that the hearts of all would be open to that appeal, and that amid the good cheer which distinguished the festive season of Christmas the members of the Club would not forget their former Secretary in the calamity which had befallen him (cheers).

The CHAIRMAN afterwards proposed "The Ladies," and the company then separated.

## SEWAGE, SEWERAGE, AND TOWN REFUSE.

BY LIET.-COL JONES, V.C., ASSOC. INST. C.E.\*

There are probably persons here who know as much or more than myself on this subject, and others to whom it is altogether a new one; but I would ask the former to bear with me while I go over old ground, in order to make my meaning clear to those who have hitherto regarded the waste products of civilised life as of little or no account for good or evil. Sewage consists of urine, faecal matter, soapsuds, slop water, dish washings, and a variety of foul liquids from various trades, all mingled and broken up by a more or less lengthened passage through a system of sewers, and the compound emerges at the outfall usually in a thick, dark-coloured stream, holding a good deal of suspended matter, which will soon subside if allowed a sufficient area of tank accommodation to tranquillise the stream. Milk of lime and other reagents are often used to augment the precipitate, with a view to clarification; but when the effluent from properly con-

structed tanks can be applied to land irrigation simple subsidence is sufficient for all practical purposes, and even that is unnecessary when the sewage is to be applied only to mangels, vegetables, or fallow land. It should be borne in mind that no practical chemical treatment in tanks can ever effect the purification of sewage as land and plant life effect it, and that nearly all the organic matter which was in solution in the sewage will pass away with the effluent after any such treatment, while the bulk of the sediment will be augmented by any precipitating agent employed. This sediment is called sewage sludge, and has been found to be a veritable nuisance, which no one concerned would desire to obtain in greater quantity than absolutely necessary. In fact, the arrangement of a few bodies to stop floating bodies, and perhaps a loose screen or two, with a perfectly level weir, over which only a thin film of water can flow out of the tank (provided the latter be long enough for the volume of sewage), will ensure

\* Read at the Leamington Sanitary Congress.

nearly as clear an effluent as can be produced by any known process of chemical precipitation. Sewerage is the term applied to the system of sewers receiving the sewage, and conveying it to the outfall, and all the ashes, cinders, solid organic and inorganic matter, collected with street sweepings, &c., in scavengers' carts, may be called town refuse as a wide term to embrace everything which is not conveyed by sewers or known as pail stuff, and which for sanitary reasons must be removed from populous places by the local authority. Before the introduction of water-closets all fecal matter and urine which did not percolate the soil was stored up with ashes, &c., in middens or more horrible underground cesspools, which were cleaned out at irregular intervals of a year or two, and their contents spread by farmers upon their fields near the town. But ere they could be thus removed putrefaction set in, and rendered the removal a work of some danger and considerable nuisance, as many of us can testify who remember the odour of a night cart and the discolouration of paint on the privy seat due to the sulphuretted hydrogen evolved from the cesspool below. With the water closet came a generally increased water supply, and sanitarians at once began to agitate for a system of sewerage to remove the water after it had been fouled by use. The first Public Health Act added a stimulus in the same direction, and farmers began to find it more profitable to buy guano, introduced about the same time, of such strength that three or four cwts. would go farther as a manure than many tons of nightsoil, without requiring the labour of spreading and afterwards picking off stones, pots, pans, &c. from the land; so that nightsoil became a drug in the market. All these causes contributed to a hasty adoption of systems of sewerage before engineers had sufficient data regarding the movement of sewage through a smooth pipe or brick sewer. The nearest natural watercourse was selected for an outfall; and partly because it was thought that the ordinary course of sewage would not be sufficiently liquid to keep the sewers open, and partly because it appeared economical and desirable to incorporate the whole or portions of old drains (provided for surface and subsoil water), with the new system, it was generally most unfortunately determined to remove not only sewage, but all the surface, and some of the subsoil, water through the new underground channel. The first of these errors has now to be corrected by the expedient of pumping sewage which might in many cases have been retained at a level sufficiently elevated to command land for its purification, and the second has probably contributed more than anything else to the difficulty of dealing with the output of the sewers, because no farmer can reasonably be expected to receive an unlimited quantity of diluted sewage; and consequently Local Boards who had thus depreciated their manure were reduced to the necessity of attempting to become sewage farmers, and their failure in that line has been universal and conspicuous. Whereas if sewers of smaller section had been laid down little or no flushing would have been required; because the average water supply of a town, nearly all of which must pass away by the sewers, would amply suffice to keep up a regular flow, removing continuously all foul matter from the town, and there would be a definite and known quantity of sewage to dispose of instead of a valuable flow of sewage and water, only known to be the greatest and most diluted in those seasons when land is likely to suffer from excessive watering from the clouds. So much for the economical evils of a hastily-devised system of combined drainage and sewerage; but its sanitary results

are still more objectionable, for it is evident that there must be limits to the amount of foul liquid which can be dealt with by any system of purification, or even clarification and that any excess above the limit of the means for those ends must have a free outlet by which it can escape into the nearest watercourse; and such outlets, or storm-water overflows, as they are called, are always provided against the occurrence of rain in districts sewered in this faulty manner. It was doubtless supposed that when these storm-water overflows take effect there would be a large body of flood water in the brook or river, which would conceal and wash away the foul matter thus poured into it; but it was forgotten that local falls of rain often occur which may set the overflows running with some of the foulest sewage and water, while the brook level is but little affected by the rain, and the result of these local storms, often occurring in the hottest weather, is to deposit foul sewage sludge along the bed and banks of the stream for miles along its course below the point at which the overflow occurs. It is to be hoped that the recent Act for Prevention of Pollution of Rivers will be a bar to the future construction of storm-water overflows; but it does not provide for the closing of existing ones. Nor are overflows the only insanitary results of the attempt to combine sewerage and drainage in the same system; because the large sewers necessitated by the requirements of rainfall have generally a wide invert upon which the dry weather flow of sewerage is reduced to a mere shallow film of liquid hardly able to float the lightest solid matter, much less the heavier, which thus tends to form shoals, and stagnate until putrefaction evolves those dangerous sewer gases which it is so difficult to keep out of our dwellings. Hot, dry weather is, of course, the season in which sewer gas is most rapidly developed, and days or weeks may then elapse before rain comes to wash out any deposit from these large sewers, whereas, if any flushing of the smaller sewers constructed for sewage alone be ever required, it can be administered therein with a very small expenditure of water from the mains, which would be utterly inadequate to the work of flushing the large rain water sewers. All our foremost engineers are now adopting the separate system, and sending the rainwater and subsoil drainage by direct culverts to the nearest water-course, but towns already sewered on the old system shrink from a radical change. It is to be hoped, however, that even these will at least do something to divert as much as possible of the rainfall from their sewers, and thus reduce the frequency and volume of discharges from their stormwater overflow. The purification of liquid sewage in irrigation has been, I think, sufficiently acknowledged as a success both sanitarly and economically when carried out by farmers, although the repeated failure of Town Councils and Local Boards at one time threw some doubt upon the subject. At any rate you have the opportunity of judging for yourselves upon this question by visiting Heathcote Farm, where the sewage of this town is successfully dealt with on the land of the Earl of Warwick; so I shall pass on to lay before you the results of the latest experiments which have been made in the treatment,—1st, of that foul slimy matter called sewage sludge which is generally extracted in greater or less proportion before the liquid sewage is applied to the land; 2nd, of the fecal matter collected in many of our large towns by the pail system; and 3rdly, of what I have above defined as town refuse. I have for many years used sewage sludge in its wet state, carting it on to the land after it had lain on banks of the tanks to drain for a fortnight or so, when it still retained

from 70 to 80 per cent. of moisture, and in that state I have found its effect upon crops about equal to that of an equal bulk of farm-yard manure; and I have used a great deal on fallow-land in winter and on cabbages and mangels during growth in summer, by passing the whole sewage direct to the land without straining in the tanks, so that the charge of cartage and spreading was thus avoided, inasmuch as the sludge was deposited in the furrows of the land instead of in the tanks. But it does not do to irrigate a crop of Italian ryegrass with such thick sewage, as it would leave ugly smears of sludge and kill the grass in those spots on which it lodged. Many of my neighbours have bought the wet sludge at a low price, but they always found some difficulty in carting it along highroads, unless they left it until by exposure to the air it had dried and lost much of its value as a manure. Thus even a sewage farmer may find himself embarrassed with sludge, particularly in a wet season, when it has little chance of drying before rain comes to make it as wet as ever; and in the case of larger towns than mine, when the sludge may amount to as much as 300 or more tons a-day, the proper disposal of such a mass of sloppy filth becomes a very serious consideration. With these views my fellow-townsmen, Mr. John Howard Kidd, began some three years ago to apply his experience in peat drying to this somewhat similar but less tractable material. He has invented and patented a Sludge Drying Machine, of which a model is exhibited at this meeting; and in January last I undertook the management of a Company formed for the purpose of giving a complete trial to Mr. Kidd's system, which also embraces the dessication of pail contents and the systematic disposal of town refuse, all included in his latest patent, dated January, 1876. I will first describe the actual results of our Wrexham experiments, and then briefly allude to that part of Mr. Kidd's patent which relates to town refuse, which I have seen carried out elsewhere. We set up the trial machine (somewhat smaller than those Mr. Kidd is now offering for sale) in a brickwork setting, with two small furnaces whose flues conduct the heated gases over, into, and around a series of four iron semi-cylinders, one above the other, through which the sludge is gradually drawn along by a worm or screw kept revolving slowly in each cylinder, and the sludge on arriving at the end of each trough or cylinder falls vertically into the under one, until, having passed a distance of thirty-two feet through the hot chamber, it falls out at the bottom in a finished state as a dry powder, which is not too hot to be handled, and which (lying together in a heap) dries still more until it has not more than 15 to 17 per cent. of moisture, although it entered the machine with from 60 to 70 per cent. of moisture. When I add that the chimney of our works standing directly above the machine does not exceed twenty-five feet in height, and that no perceptible nuisance has arisen either in the wooden shed which covers the machine or outside where not only sewer sludge but actual fecal matter is passing through the process which renders it perfectly harmless like the sample in this bottle. I think that Mr. Kidd must be credited with great boldness of conception, for no one who has attempted to dry sludge or similar matter on a hot plate, or to burn in a fire, would like to repeat such an experiment, and I know that the Rochdale people, who have a wide experience in such matters were simply horrified at Mr. Kidd's proposal to subject fecal matter to such a trial without first adding sulphuric acid to fix the ammonia. But the fact is, that owing to the sludge or fecal matter being put into the machine in a moist state, and being constantly triturated and turned over by the blades of

the screws as it passes through the hot chamber, *no part of it ever burnt*, and the sulphurous acid gases arising from combustion of the fuel in the furnaces appears to be quite sufficient to fix any small quantity of ammonia which may be evolved in the process. To understand this matter more fully it must be remembered that there is but little actual ammonia present in the substances treated, although there is a large proportion of organic matter containing nitrogen, which may sooner or later become ammonia in the stage of putrefaction, a stage which is totally arrested by the dessication, and which does not supervene until the dry powder comes in contact with moisture which should not be the case until it has been applied to the soil as a manure, within reach of the plant life which is destined to feed thereon. I can adduce the testimony of many medical and chemical gentlemen of high position who have examined the machine in full work with the object of detecting any possible nuisance, and who are unanimous in denying the existence of anything of the kind; and I would ask those who may be inclined to imagine that some part of the ammonia and other valuable manurial constituents may be consumed in the process, to consider the following average analysis of the dried sludge powder, which they will find to be of higher value than any of those obtained by Dr. Voelcker in preparing his Report for the Local Government Board, whence it appears evident that, instead of losing strength in the drying process, we have, as it were, gained it relatively, *i.e.*, the samples dried elsewhere without the aid of Kidd's machine have lost what we have preserved, owing, doubtless, to the fumes of sulphurous acid gas permeating the hot moist sludge in its passage through the machine.

#### Analysis of Wrexham Sludge Powder.

Moisture .....	4.19
*Organic Matter.....	46.26
Oxide of Iron and Alumine.....	7.03
†Phosphoric Acid.....	1.65
Carbonate of Lime.....	9.45
Magnesia and Alkaline Salts...	2.62
Insoluble Siliceous Matter.....	29.40

100.00

\* Containing Nitrogen, 1.81; equal to ammonia 2.19.

† Equal to Phosphate of Lime, 2.29.

This analysis (if a value of only 15s. per unit for phosphate of lime) would give a value for the simple dried sludge of 37s. 5d., exclusive of the value of alkaline salts; but in round numbers, to be within the mark. I do not think we shall be far wrong in estimating at about 30s. per ton the average analytical value of the dried powder produced by Kidd's machine from sewage sludge. A farmer, however, knows that he must cart and spread four or five tons of this manure of this value per acre, in order to give an effectual dressing to his land, and that a manure merchant in the nearest town can supply a compound at £8. or £9 per ton, of which five or six cwt. will suffice to manure an acre of ground; and he is consequently not disposed to neglect the cartage and spreading difficulty which increases with every mile of distance which separates his farm from the sewage works at which he should obtain the 30s. manure for 10s. per ton, on the theory adopted by Dr. Voelcker's Report, which reduces the market price to one-third of the analytical value, on the principle that farm-yard manure seldom fetches more than 5s. per ton although its analytical value exceeds 15s. per ton. In order to make this cartage and spreading difficulty more evident, let us take the following examples:—

FIRST.—FOR MANURING ONE ACRE, WITHIN ONE MILE OF THE SEWAGE WORKS AND TOWN.

To 4 Tons of Dried Sludge, at 10s. per ton	2	0	0
„ Carting 4 tons, at 9d. per mile	0	3	0
„ Spreading do., at 9d. per ton	0	3	0
	—	2	6
OR,			
To 6 cwt. Compound Manure, at £8 per ton	2	8	0
„ Carting 6 cwt. do., at 9d. per mile	0	0	3
„ Spreading do., at 9d. per ton	0	0	3
	—	2	8
Difference in favour of Sludge	0	2	6

SECOND.—FOR MANURING ONE ACRE AT FIVE MILES DISTANCE.

To 4 tons Dried Sludge, at 10s. per ton	2	0	0
„ Carting 4 tons 5 miles, at 9d. per ton per mile	0	15	0
„ Spreading do., at 9d. per ton	0	3	0
	—	2	18
To 6 cwt. Compound Manure, at £8 per ton	2	8	0
„ Carting 6 cwt. 5 miles, at 9d. per ton	0	1	1½
„ Spreading do., at 9d. per ton	9	0	3
	—	2	9
Difference in favour of Compound	0	8	7½

THIRD.—FOR MANURING ONE ACRE TEN MILES FROM SEWAGE WORKS.

To 4 tons Dried Sludge, at 10s. per ton	2	0	0
„ Carting 4 tons 10 miles, at 9d. per ton per mile	1	10	0
„ Spreading do., at 9d. per ton	0	3	0
	—	3	13
„ 6 cwt. Compound Manure, at £8 per ton	2	8	0
„ Carting 6 cwt. 10 miles at 9d. per ton per mile	0	2	3
„ Spreading do., at 9d. per ton	0	0	3
	—	2	10
Difference in favour of Compound	1	2	6

FOURTH.—FOR MANURING ONE ACRE TWENTY MILES FROM SEWAGE WORKS.

To 4 tons Dried Sludge, at 10s. per ton	2	0	0
„ Carting 4 tons 20 miles, at 9d. per ton per mile	3	0	0
„ Spreading do., at 9d. per ton	0	3	0
	—	5	3
To 6 cwt. Compound Manure, at £8 per ton	2	8	0
„ Carting 6 cwt. 20 miles, at 9d. per ton per mile	0	4	6
„ Spreading do., at 9d. per ton	0	0	3
	—	2	12
Difference in favour of Compound	2	10	3

If a farmer desired to carry the principle of saving on the item of cartage to its extreme limit, he would only purchase sulphate of ammonia, nitrate of soda, guano, and phosphate, and mix them on his farm with fine ashes, burnt clay, or some other diluent, if he had the means of doing so; but in practice he prefers, as a rule, to buy a compound which he can cart direct from his nearest railway station to the field in which it is to be spread; and this consideration has led me to imagine that I can compound a manure which will exactly meet the demand of the farmer, at a lower price than he has usually paid, while at the same time its general adoption would relieve towns from a great proportion of their sewage difficulty. In thus announcing my ultimate end and object, I desire to

guard against any disposition to fall into the error of supposing that I have solved the great problem, and that towns have nothing to do but to set up a few sludge drying machines and at once embark on a profitable venture. It would be strange indeed if, with all the failures of sewage enthusiasts before me I could follow them in preaching any such delusion; and, on the contrary, I prefer plodding on in a quiet sort of way with my new light, as I have done in sewage farming, with the liquid part of the difficulty, for the last six years. In this view I am supported by many of my neighbours at Wrexham, who have either joined me in a little partnership called the Wrexham Manure Company, or promised to assist me with trial orders for the compound which has been selected, after many experiments and consultations with the most eminent authorities among the makers analysts, and consumers of manure in the country. This compound, which has been styled "The Farmers' Friend," is composed as follows: viz.

- 1 cwt. Sulphate of Ammonia.
- 7 „ „ Fine Bone Meal.
- 11 „ „ Dried Sludge.
- 
- 1 Ton.

In the present state of affairs one cannot treat the Sewage Question exhaustively without alluding to what is called the pail system, which has been introduced in many of the manufacturing towns of Yorkshire and Lancashire, etc., with the object of relieving the sewers of a portion of the urine and fecal matter which finds its way to them elsewhere, and of establishing a palliative of the old middens and cesspools. When the pails and house refuse can be collected separately on a systematic plan, whereby the house-to-house collection is regularly pursued, each pail being removed weekly, a great improvement is effected, and the process patented by Mr. Kidd will provide for the proper disposal of all the foul matter. His system places the house refuse at once upon riddles, which separate the fine ash, and at the same time all metallic matters are picked out for separate sale. The cinders and vegetable refuse then go to a constantly burning furnace, whence the products of their combustion can keep the drying machines at work with little or no cost for fuel, while the ashes and slag from this furnace can be ground up with lime to make excellent mortar. The pail contents are strained, and by evaporation deprived of a portion of their water, and their thicker portion thus obtained is mixed up with dried sludge powder or equivalent dry material, to be passed through the drying machines, which reduce the compound to a dry powder, which can again be used as an absorbent for a fresh lot of pail contents, to pass again through the drying machine; and where it is an object to reduce the bulk of manure to be ultimately disposed of, this process of concentration by successive steps can be repeated *ad infinitum*. The result of my experiments with this simple kind of drying machine leads irresistibly to the conclusion that this successive drying and mixing is the most satisfactory mode of concentration yet discovered, and one which is very preferable to the process of regular distillation, which I have seen pursued on a limited scale at Oldham, and to Mr. Fryer's "Concretor," of which we have lately heard so much from Manchester. I have visited the Manchester Town Yard in Water-street on two occasions, in order to investigate the system there is course of experiment; and let me first state that I regard Mr. Fryer's "Destructor" as an improvement on the common furnace employed for a like purpose at Rochdale. If,

moreover, it is an object to obtain a cheap kind of charcoal the Carbonizer in the same yard may also prove a useful machine; but I feel sure that Mr. Fryer will shortly abandon his "Concretor" as too expensive and delicate a machine to be applied to anything like sewage or pail contents. On my first visit the output was but little thicker than the thin urine &c., passing in at the other end of that machine, and I saw the treacle-like produce only in glass bottles; while on my second visit the "Concretor" was standing idle, being dismantled for some of those repairs which from its complicated structure must be frequently required. To sum up the conclusions which may, I think, be deduced from the above consideration of Sewage, Sewerage, and Towns' Refuse:—1st. The sewers should be adapted solely to their one purpose of bringing sewage impure and simple to open-air tanks in which a certain amount of sludge can collect by deposition, before the liquid portion of the sewage flows on to the land intended for its purification. 2nd. The sludge thus deposited should be desiccated as rapidly as possible. 3rd. Pail contents, when recourse is had to such an unpleasant adjunct to the sewerage of a town, should be strained through a layer of dry powder, so that the thin liquid may at one enter the sewers leading to depositing tanks, and thence to land, while the thicker part together with the filtering material which has arrested it, should be passed through the drying machine. This filtering and absorption by dry powder to be repeated again and again with fresh pail contents, in preference to attempting evaporation directly from the liquid by still or "Concretor," which must be too expensive a process for employment on a large scale.

The work of the institute, newly laid before the public as it is, has received the flattering compliment of imitation in France, and the French "sanitariums" submitted the draught of their constitution to the English association, which has thus already made its influence and example the basis of new work in the same direction across the Channel. Already the Institute has established relations with the Fisheries Preservation Association, the Association for Preserving the Rivers and Lochs of Scotland from Pollution, and the Conservancy Boards.

**SILENCE.**—The recognition of silence as a virtue by wise men in their respective generations leads us to conclude that it is worthy not only of observance but of cultivation. We must, of course, distinguish between that silence which is a habit acquired in Society, as being respectful to the tastes and feelings of others and that which is the accompaniment of a stolid indifference, or which is sometimes a national or psychological peculiarity. According to Solomon, "Life and death are in the power of the tongue;" and Euripides declares that "Every unbridled tongue shall in the end find itself unfortunate." Not less significant are the proverbs of different nations. The Italian says, "He who speaks sows; he who keeps silence reaps." The Spanish, "The evil which issues from thy mouth falls into thy bosom." The Persian, "Of thine unspoken word thou art master; thy spoken word is master of thee." Our own: "A quiet tongue shows a wise head;" "Confine your tongue, lest it confine you." Coleridge tells of a man whom he met at a dinner party, whose respectful attention to, and silent acquiescence in, all that was said impressed him favourably, till the appearance of a dish of apple-dumplings elicited a remark which broke the charm, and he thereupon concluded that "Silence does not always

mark wisdom," a sentiment from which we dissent; because it was by his silence that the man displayed his wisdom, nor did he exhibit any lack of sense till he opened his mouth. Perhaps, however, the admiration of silence was characteristic in one who loved to engross all the talk to himself. Not the least compliment paid to Von Moltke, who is a very taciturn man, and at the same a great linguist, is that he knows how to hold his tongue in eight languages. The fair sex has ever been proverbial for loquacity. A facetious lawyer seemed to be inspired by the knowledge of this fact when, in writing a deed commencing with the old formula, "Know all men by these presents," he substituted "Know one woman," &c.; & because," said he, "if one woman knows it, all men soon will." Illustrations of this "touch of nature" abound from Plutarch downwards. Let it suffice that we recall the story of the young man elected into one of the national councils of ancient Greece, whose transactions were kept secret, and at no time profaned by the unhallowed presence of the now ubiquitous newspaper reporter. His wife pressed him to tell her something of their proceedings by argument, persuasion, and entreaty, without effect. Wearied at length by her importunity, he consented, at the same time warning her of the consequences should the matter be divulged. He then informed her that the council was discussing the question whether it would be better that one man should have two wives, or that one woman should have two husbands. Next day, while the wise men were in consultation, a deputation of females was announced, who desired to lay a petition before the senate; and on being admitted, the spokeswoman proceeded to say how important it was that their views should be known on a question so momentous as that under consideration, and urged that it was highly desirable that a woman should have two husbands. The senators were not less amused than amazed, and looked to one another for an explanation, whereupon the recently admitted member accounted for the singular requisition by explaining the stratagem to which he had resorted for the sake of peace, at the same time proving to the assembly his fitness to take part in its deliberations. Whether other tales to the same effect are reliable is of little moment. Their purport and spirit show the general estimate of silence.—*Times's Magazine.*

**METROPOLITAN PAUPERISM.**—The following is a return of the number of paupers (exclusive of lunatics in asylums and vagrants) on the last day of the second week of December 1877:—In-door, adults and children, 39,978; out-door adults, 26,239; children, 16,333—making the total of both in-door and out-door paupers, 82,298; in 1875, 87,744; and in 1874, 95,879. The total number of vagrants relieved in the metropolis on the last day of the second week of December was 764, of whom 544 were men, 177 women, and 43 children under 16.

ZADKIEL is melancholy in view of the New Year. It appears already settled that, thanks to the malign influence of Mars and Saturn, "martial ideas will predominate, and warlike preparations will ring through this island, as well as the Continent." By the Ides of March, however, Sir Stafford Northcote's bit of blue sky is to be visible; but the diplomatists are warned not to meet in conference whilst the moon is in conjunction with Mars, as they did in 1876, or farewell to hopes of a happy settlement.—*Maufair.*

**CHESHIRE AGRICULTURAL SOCIETY.**—At the last meeting of the Society it was decided to hold the next Show at Knutsford, on Friday and Saturday, August 23rd and 24th.

## THE AGRICULTURE OF SPAIN.

The information respecting the agriculture of Spain is very limited, and we are indebted to Mr. Mark, the British Vice-Consul at Malaga, who is himself a practical agriculturist, for as full a description as can probably be given of the farming operations in the Southern part of that country. It is a land endowed by nature with a most prolific soil, assisted by the finest climate in Europe, embracing all the advantages of both the temperate and torrid zones. In it are produced all the cereals which supply the necessaries of life, whilst, at the same time, are grown the sugar-cane, the banana, guava, &c., with almost the luxuriance of the West Indies.

The cultivated soil is naturally rich, as generally it is selected in spots which are the results of the accumulation of the alluvium washed down from the mountains and heights above. These have, of course, been the deposits of ages, and thus large masses of decayed organic matter are interlaid with other strata of the land, imparting to the soil conditions of fertility which otherwise might be sought in vain. The farmers, although living at the gate of civilisation and in close intercourse with countries where cultivation is carried on almost to perfection, have been extremely slow in adopting the numerous fertilisers which have been discovered and manufactured with the object of restoring vitality to exhausted soils. This is all the more serious mistake because the Spaniard is extremely avid of screwing out of the land as much as it can possibly yield, and this without even the ordinary means of rest in fallowing. Crops upon crops are gathered in, even before they are thoroughly ready, simply with the object of sowing others without a moment's loss. The only manures used are the ordinary stable sweepings and town scavengings, save where a few cargoes of Peruvian guano are imported for the sugar-cane and rice plantations. Spain has one or two rich phosphate deposits, which, if spiritedly turned to account, might do wonders.

All the farming implements are poor and uncouth, and are mostly such as were used by farmers in the remote patriarchal times—weak, wretched ploughs, which will not do much more than scratch the surface: thrashing is done by means of cattle on thrashing-floors; and other operations are carried out in a like primitive manner. The writer states that he once introduced the most approved English ploughs, reaping machines, steam-thrashing ma-

chines, and other implements, but he only succeeded in getting them used as long as he superintended them, and insisted upon it. Now, simply the memory of them exists, although, at the time, all lookers-on admired and approved of them,

Sugar-cane cultivation has extended itself considerably along the Southern and Eastern coast of Spain; but this cannot be looked upon as a lasting industry, for it merely pays because the legislature has endowed it with such protection as to render it almost a kind of monopoly, and to enable it to flourish in direct detriment to the public good. Rotation of crops is little studied, as, excluding the vine and woodlands, little besides seed crops are planted. It is not the custom to sow root crops on a large scale, although they might be extremely useful for the feeding and fattening of cattle for the meat markets. Some fine flax and hemp are grown. The latter, which is produced at Granada and in the province of Murcia, far exceeds in length of fibre and strength that of Russia and the Northern countries.

Very large tracts are dedicated to the cultivation of the olive tree. Its produce is a source of material wealth to Spain, and constitutes one of her principal exports. This item alone, however, serves to demonstrate the degree of indifference and shortsightedness of the Spanish cultivator. Whilst the oil which his trees yield, when properly treated, bears advantageous comparison with the best Lucca or Florence oils, he is contented to see it quoted in foreign markets at the bottom of the list, and at the lowest rates, condemned and sneered at as green and rank; whilst a little energy, aided by the fine machinery used in other countries, might raise its character and price to its proper position, to say nothing of its improvement for home consumption, which is so large—although, perhaps, such improvement would not suit the taste of the Spaniards, who, as a rule, might deem it tame and insipid were it deprived of the sting and smack which so invariably accompany it. The olives are gathered carelessly. They are beaten off the trees whilst yet green, and heaped up in yards, where they are allowed to heat and ferment for months, so that when they are ground and pressed they more resemble masses of manure than any other substance. Then the application of scalding water to the paste whilst pressing assists in the extracting of all the foul and putrid essences. The best and most careful cultivation carried on in the South of Spain is, per-

haps, that of the grape, in the first place for wine and next for raisins. The Jerez or sherry wine, so well known, the Malaga and Montilla dry sherries, and sundry sweet wines are all grown in the South of Spain. The far-famed Malaga raisins are the result of careful and expensive cultivation, as most of the lands dedicated to it are of kinds which require a deal of breaking in, and which would be inappropriate to the growth of cereals or root crops.

It appears that agriculture, owing to personal insecurity and the consequent withdrawal from its pursuit of all large proprietors and capitalists, has reached a very low ebb in the Malaga district, and is consequently carried on by peasants, whose poverty and thriftlessness render them unfit to extend or improve it. The heavy taxation by both Government and the municipalities leaves but a small margin of profit to the cultivator; hence

the large emigration of the labouring classes to seek for existence in foreign lands, a fact which has lately so much occupied both the public attention and that of the Government itself. It is indeed a sad thing that a country naturally endowed with such rich soil and so benign a climate should, in the matter of agriculture, be so far behind its neighbours who do not enjoy those benefits to such an extent, boons which a sentimental French writer briefly sums up when he says that, "We have the palm without the desert, and the sugar-cane without the slave." Since the suppression of the Carlist insurrection and the establishment of a settled Government, brigandage has almost disappeared from the province; but the unfortunate habit which Spaniards have of using the knife on the slightest provocation is as prevalent as ever.

## BRITISH AND AMERICAN METEOROLOGY.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Last March I called your attention to the above subject, in connection with the verification of certain warnings of storms coming to us from across the Atlantic, and also in connection with a Blue Book containing the report of evidence before a Treasury Committee respecting the "Conditions and Mode of Administration of the Annual Grant in Aid of Meteorological Observations." The affairs of our Meteorological Committee received such a thorough overhauling before that Committee, and its attention was then so forcibly called to the importance of doing something of present practical public value for the £10,000 it annually receives from the State, that it was natural to expect improvement in the direction mentioned. I am sorry to say that this hope has not been realised. This is, perhaps, most apparent in the neglect of the Committee to obtain such information as has been sent us gratuitously by a New York paper. From the evidence of several of the witnesses before the Treasury Committee it appears very certain "that the changes of weather move from west to east," a fact acknowledged by even Mr. Scott himself in his evidence. That gentleman, however, strongly inclines to the belief that having the ocean to the westward of our island is "unfavourable to a complete system of weather telegraphy, and that although information is received by post from Newfoundland, such information as requires the use of the telegraph is not considered worth the cost of employing the Atlantic Cables to obtain." I referred to this view of Mr. Scott in my letter to you in March last, but mention it again here in order to show its incorrectness, because of the following facts:—First, we have had storm warnings from across the Atlantic which have been duly verified; without such warnings regularly received, forecasts of

weather for this country will not be so fully reliable as with them. This is the case in the instance mentioned in my letter in your last Monday's issue. Secondly, having such a perfect system of practical weather observation, west of us, as that which exists in America, extending as it does from the Pacific to the Atlantic, and from the Gulf of Mexico to Canada, our system may be rendered more complete by establishing a regular telegraphic connection with it. The Washington Weather Signal Office, by its observations, traces the progress of storms over a large area of country, in one direction about 3,500 miles, and in another about 2,500 miles. It is thus in a position to acquire and communicate valuable information as to their origin and movements over a large area from west to east.

As already said, many of the witnesses before the Treasury Committee admitted that our storms came from the west. Many of them, it is true, scarcely touch the American coast, as in the case of the August and September hurricanes of 1848, in which the writer was caught in the latter month 180 miles east of Cape Sable. Maury's chart of its course shows that it originated, as many of our western storms do, in the West Indies, and only touched the American coast from Cape Florida to Cape Charles; thence following the course of the Gulf Stream it swept south-east of the Great Bank, and over our islands. Other marked American storms never leave that Continent at all, as was the case of that which did so much damage recently in Cape Breton, Nova Scotia, and Labrador, and which passed out of sight off Newfoundland. But there are other storms which originate in the west or north-west of the American Continent, and in some instances west of the Rocky Mountains, which have been traced across the Atlantic to our shores.



While, therefore, as Mr. Scott says, in a tone of apparent triumph in his last Report, that during the month of August, 1873, not a single American storm is traceable to Europe, although admitting at the same time that "our storms probably originated over the Atlantic," and while some American storms never cross the Atlantic Ocean at all, there are others, as I have said, which do, because they have been traced, and warnings of their approach verified. Under these circumstances I cannot but believe Mr. Scott is in very great error. Between him and the Pacific for 3,500 miles he has a complete system of weather telegraphy established and ready to assist him. Between Cape Race and Galway there are but 1,600 miles of ocean to watch, spanned by cables and traversed by a fleet of rapid ocean steamers, averaging more than forty-five vessels at sea every week. Why should he not, therefore, test this question practically, instead of condemning the notion *a priori*? Surely if a sub-editor of a New York paper can send us gratuitously information about these storms, our own Meteorological Office should be inclined to spend £500 in cablegrams, if only for the honour of the thing. It is pretty evident that Mr. Scott has given too little attention to the Atlantic to make his opinion on the subject of very great value. Many others have, however, the opinions of some of whom appear in the appendix to the Blue Book of the Treasury Committee. Captain Moreland, of the Cunard steam ship *Batavia*, there says: "I believe if our (Meteorological) office obtained daily, or semi-daily reports from Washington, Boston, and Trinity Bay, N.F., and studied the rate at which the particular cyclone is travelling over the earth's surface, a very accurate opinion may be formed of the approaching weather, and much loss of life and property may be avoided by accurate warnings to outward-bound ships. I find that from a constant observation of the weather on my homeward trips I can foretell the coming week's weather very fairly while I am in Liverpool." I am afraid, however, our Meteorological Committee are too much engaged in purely scientific operations, and spending too much money on merely collecting facts for future theories, especially under the present management, to do anything really popularly practical. Recently they have certainly ventured to add to their storm warnings daily weather forecasts, but not on their own motion or out of the £10,000 we have to pay for their work. To its credit, *The Times*, in order to remedy this great defect of the past system of the office, was willing to pay £500 for an extra observation in the 24 hours as a basis for these forecasts, permitting the office, however, to use them in order to render its ordinary storm-warnings more valuable.

If *The Times* pays for these forecasts it has a right to a monopoly of them, and the credit also of their introduction. But is it creditable to the management of our Meteorological Committee, not to be able to give the public at large these forecasts? Why should they be dependent upon *The Times*, or any other paper, for £500 to do the on y

popularly practical thing they can do? If we want to know what the weather may be, according to the present arrangements of the Meteorological Office, we must either make our own deductions from the bare facts they give us, or read *The Times*. How many of the people of Great Britain and Ireland read that paper, at any rate early enough to make its forecasts of any value to them? How much more useful would these forecasts be—imperfect even as they are from the circumstances mentioned—if they were disseminated simultaneously over the whole kingdom, as they might easily be through one of our telegraphic press agencies. More than one of the witnesses before the Treasury Committee, and amongst them the Astronomer Royal, urged a practical as well as a purely scientific conduct of the procedure of the Meteorological Committee. Why have not these suggestions been adopted? It is all very well to accumulate facts and read papers dealing with them philosophically, but the bearing of these facts would be better understood if immediate use were made of them. Sir G. B. Airy said the right man was wanted for this. If we cannot get one here let us send to General Meyers at Washington for one of his trained men. Certainly meteorology never will be popularised amongst us so long as it only tells us what we already know about the weather. Give us, as the Washington Signal Office does, *forecasts*, and it will become as popular here through them as it has under these circumstances become in America.

I have much more to say, but am afraid I have already trespassed too much upon your valuable space.

I am, yours, &c.,

A. M. D.

**POTATO CULTURE.**—A French agricultural journal, called the *Besce Cour*, describes the result of some experiments in potato-growing recently conducted in Germany. The principal conclusions to which the experimenters have come seem to be two in number. The first of them is that the vigour of the potato plant is always in direct proportion to the weight of the tubercle used for sets—a theory which certainly finds some support in common sense alone, considering that the young shoots for some time draw their sole nourishment from the mother potato. The second conclusion is that there is a great variety in the productive power, not only of different tubercles, but also of different "eyes" in the same potato. It is found that the eyes at the top of the potato produce a much more vigorous offspring than those in the lower part, and the consequence is that those agriculturists who cut their potatoes in half before planting them are not well advised in cutting them vertically, but should always divide them horizontally, planting the upper half and using the other as food for cattle. But the best plan of all is to plant the tubercle whole, cutting out, nevertheless, all the eyes except those in the top part. Such being the principles laid down, we come now to the experiments upon which they are based. These were conducted in a garden soil by Professor Gantz, the amount of crop produced by several different settings of potatoes being accurately estimated in statistical tables. It appeared that from tubercles divided vertically only 5 tons were produced per acre, and from whole potatoes 7½ tons. The third sort were potatoes horizontally divided, which are set down as having produced 9½ tons. In this particular, however, some of the other experimenters do not agree with Herr Gantz, but maintain that, other things being equal, the whole potatoes will always produce more than halves, however cut. On the fourth result, however, all agree, and that is, that the whole potatoes from which the lower eyes have been cut out produce 11½ tons per acre, or more than double the result shown by the same sets cut once.—*Irish Farmers' Gazette*.

## BIRMINGHAM AND MIDLAND COUNTIES FAT STOCK SHOW.

The twenty-ninth annual exhibition of fat cattle held in Bingley Hall opened on Dec. 1 under very favourable auspices. Should the weather prove fine there is every probability of a financial success being attained. The number of entries of live stock is not equal to those of last year, being 216 against 375; but there are scarcely any vacant stalls, the few to be met with here and there being the result of accident, or some cause other than withdrawal. There are some very excellent animals in the Show, but the general quality is not, perhaps, quite equal to that of former years. Stock have done badly this year on the grass, and they do not appear to have done so well as usual in the stalls. There is a want of finish about many of the animals which lowers the tone of the Show, and there is no superlatively good beast to take the championship. Mr. Kidner's ox last year was a show in itself, and alone worth going to London or Birmingham to see. But such animals are not to be met with every year. Mr. McCombie's polled Aberdeen ox, "Black Prince," some six or seven years ago at Islington, and Mr. Kidner's Devon last year at Islington and Birmingham, were a long way beyond the usual excellence of show animals, and we may not see their like again for some time to come. The Championship falls this year to Shorthorn blood, but scarcely to the best butchers' beast in the Hall. The entries of cattle are 112, of sheep 69, and of pigs 64. The money prizes amount to about £2,500, and in addition to that there are cups and medals to the value of about £300. The Committee have gone back to the old rule in respect to the date of the Show, and the days of the week on which it is held, as the departure from ordinary custom was not attended with success last year. The miscellaneous exhibits of roots, corn, machinery, and poultry fill every foot of available space; altogether the Committee are to be congratulated on a well-arranged and highly interesting Show, which we trust will meet with the patronage it deserves.

## CATTLE.

The Herefords come first in the catalogue, but not first this year in quality and character as they were last year. Mr. Robert Worley takes the first prize in Class 1 for oxen exceeding four years old, and the extra prize of £100 for the best Hereford in any of the classes. This bullock is four years and seven months old, full of thick flesh, and handles to perfection. He is a little defective in front of shoulder, on his rump, and a little plain in his twist and flank, but a most excellent animal when every fault has been found. His live weight is 20 cwt. 1 qr. 21 lb. The second prize falls to Mr. H. Betteridge for an animal that is not much beyond mediocrity, and the third prize goes to Mr. Colman, M.P., for the animal which was second in the younger class last year. This is Mr. Price's blood, but the animal has not improved in feeding; was better last year than he is now. Mr. Lobb

is highly commended for an uneven beast, which scarcely calls for special mention. In Class 2, for steers exceeding three and not exceeding four years old, the Earl of Powis is first with the animal which took first in the next younger class, both at Islington and at Birmingham last year. This animal is of Mr. Price's breeding, and of excellent quality, but he does not handle as well as he did last year, and appears to have made fat rather than flesh. The Earl of Powis is also second with another animal of the same blood, not equal in character, but a very useful butchers' beast. Mr. Prichard's third prize is a nice quality animal, and another exhibit which takes a high commendation, belonging to the same owner, is useful, but nothing more than an average show animal. In fact, these two classes are not in the best Hereford form, and are not the credit to the breed which they were last year. In the next class for steers not exceeding three years the first and third prizes fall to Mr. Platt, and the second to the Earl of Powis for animals of Mr. Price's breeding. The Hereford cows are only three in number, and a great contrast to the animals in the cow class last year, which was fairly a good one; perhaps the fate of Mr. Peren's cow on that occasion, was a discouragement to exhibitors. The awards will be found in the prize list, although it must appear to onlookers that they might very justly have been withheld for want of merit. The heifer class is much better, in fact a really good one, although only four animals are in competition. Mr. Pike's first prize is a small taking animal of Mr. Taylor's breeding, with excellent qualities, and yet deficiencies enough to put her out of the first rank of prize-winning Herefords. Mr. Philip Turner's second prize is a very nice quality heifer, of beautiful character. Mrs. Sarah Edwards third, and Mr. John Prichards highly commended. When animals from Showle Court, The Leen, and Wintereott, put in an appearance the quality is sure to be good. As a class the Herefords are not in good form this year at Bingley Hall.

The Shorthorns are just a nice lot of cattle, and that is all. In Class 6 for oxen exceeding four years old there were but two entries, and the second prize is awarded to one of them. Class 7 for steers exceeding three and not exceeding four years old has 13 entries, including, as a matter of course, some good animals. Mr. Bond's first prize roan steer is a stylish Shorthorn, of good quality and a good handler. Lord Fredegar is second, with a massive animal very full of flesh. The Earl of Ellesmere's third prize is quite another type—neat and pretty, but not a firm handler. Sir Watkins Wynan, Bart., obtains a high commendation for a really good animal. The Class, with one or two exceptions, represents the average Shorthorn in show form; hardly that perhaps. The younger steers in Class 8 will come under the same description. The Earl of Lonsdale takes first

honours with a fairly good animal, Mr. Adamson second, and the third is withheld. The cows are a small lot containing one good animal from the Stand Stud Company, which takes the first prize—nice quality, good touch, thick through the heart, excellent chine and crops—bred by Messrs. Dudding. The rest will scarcely gain credit by description. The heifers are a lot better, as they are in the Hereford class. Mr. Richard Stratton's heifer, Icicle, 2 years and 9 months, is the sweepstakes winner—the champion of the Show. This is one of the small and pretty type of Shorthorn excellence; not a very common one. She is short on the legs, fine in the bone, long in the barrel, with excellent loin, wonderful chine and rib—in fact good all over. But, (and there is a but), she is full of fat, not flesh, and as a butcher's beast would not be worth so much by 5*l.* per stone, consuming value, as the cross-bred Hereford, with which she was in competition for the championship. The "best" animal in a fat stock Show must be the best butcher's animal, and in that respect it is difficult to agree with the decision of the judges. Mr. Coleman's second prize is a little flat on the ribs, but in many respects a good Shorthorn; the third prize animal, belonging to Mr. Pike, is level and good—very pretty quality. Mr. Henry Bettenge is commended for a moderate animal. There are doubtless two good heifers out of five. Taking the Shorthorns as a whole, they cannot fairly be described as going beyond showyard mediocrity.

The Devons were a small show of six entries, and two of these were decent. Mr. Fryer's first prize ox, which also takes the £50 extra prize as the best Devon, cannot be called a first-rate animal, and Mr. Smith's heifer is neat and pretty, as good Devons always are; but she is no better than she should be.

The Longhorns come next and may have many good qualities; the difficulty, to any save a fancier of that breed, is to discover them. We have never been able to see why this antiquated prototype of a more recent and better breed should be encouraged and rescued from the oblivion into which it must fall in the natural course of things. A Longhorn is not as good as a Shorthorn in any point of excellence, and falls much below it in many respects. The breed cannot compete with the Herefords when the latter are in their proper places. These flat-ribbed, bare-shouldered, patchy-rumped animals may have good milking capacities and be very hardy; but we cannot see why any breeder should spend his time over slow-growing stock, which has nothing in common better than other breeds, and which can be beaten in detail by each and all of them.

The Polled Scots are excellent. Mr. James Reid takes the first prize and Messrs. Martin the second, and both of them with good animals. Mr. McConnel's beast, which is highly commended, is uneven in his get-up, as is also his second prize cow in the next class, where Mr. McCombie shows a level, thick-fleshed animal of Mr. Clark's breeding. The West Highlanders are another very excellent class, the quality being first-rate.

The crossbreds are the best cattle in the show by a great deal. It would seem that Shorthorn blood on the Scotch polled breeds produces the best butcher's animals. There is no other cross which comes out as well as this, and the first class is the best as it usually is under any circumstances. Messrs. Martin take first prize in the class for oxen over four years old, with the heaviest live weight in the show. Altogether there are 24 entries in the several classes, and this section of the show is quite up to modern show-yard form and finish; it has probably not been surpassed either at Islington or at Birmingham. It is difficult to find an indifferent animal. Amongst the younger steers, which are all of the very best quality, is winner of the extra prize of £50 as the best crossbred. This is the animal which, as the best butcher's animal should, in our opinion, have taken the championship. He is an extraordinarily thick-fleshed beast, of excellent quality and wonderful thickness; yet he is not made on a very big scale, but weighs 16 cwt. 21 lb. live weight, against the Shorthorn heifer's 16 cwt. 1 qr. 7 lb. He has not been considered as good as the heifer alive, but we should expect to see him a better animal when dead. As it is the heifer beats him for the championship and also for the Earl of Warwick's silver cup, value £25, for the best animal bred and fed by the exhibitor. The Crossbreds and Scots are the pride of Bingley Hall Show this year.

#### SHEEP.

Sheep were not in great force; the entries were only 69 against 195 last year. The Leicesters, Lincolns, Cotswolds, Oxfordshire Downs, Hampshire Downs, and Cross-breds were all represented by a two or three animals in each case, so that there was really no competition at all. Mr. Stilgoe and Mr. Brassey furnish between them four pens of Oxfordshire wethers, and Mr. Morrison sends two pens of Hampshire. There were six entries of Southdown wethers and Lord Walsingham takes first and second with great ease; the Prince of Wales takes the third prize and a high commendation.

Shropshires are naturally the great feature of this part of the Show, and there are 33 entries in the different classes. Taking them as a whole they are a fairly good lot of Shropshire sheep. The class for pen of three fat wethers is not such a strong one as last year, nor as good. Of course Lord Chesham wins; but his sheep are getting too fine—growing out of type. His lordship has a clever shepherd who is master of the art of getting up sheep for show; and this has now become one of the fine arts and a science into the bargain. His lordship's first prize pen are not the best handlers we have ever had under our notice, neither are they perfectly well matched; but they are got up well—no doubt at all about that. The second prize, too, goes to the same flock. The third prize is taken by Mrs. Beach for animals of a very different type, more like Shropshires, and not only bigger but to all intents and purposes—Shropshire purposes—better. But these sheep had not been through the hands of Lord Chesham's artist. However, to our mind, as Shropshires they are better, because more useful sheep than Lord

Chesham's. There is no advantage in getting a Shropshire sheep into Southdown form and style, because the Southdown must win at that game. Mrs. Beach is likely to breed rent-payers while Lord Chesham is likely to do the prize-taking. There are some good single sheep, but they do not afford a very good index to the capabilities of the flock. Altogether the sheep are nothing out of the common way in point of excellence.

## PIGS.

Pigs are well represented, there being 64 entries against 66 last year. In Class 42 for three fat pigs of one litter, not exceeding ten months old, the exhibits are very creditable; Mr. Spackman is first with very nice quality black pigs, and Mr. Crowther is second. In the older class for pigs of one litter not exceeding fifteen months old Mr. Wheeler takes the first prize with an excellent pen of white pigs, and Mr. Mort's second prize pen are larger but not quite the quality. For single fat pigs exceeding fifteen months old there are some of all sorts, but Mr. Duckering takes the first prize with a square black pig not too big, and not more overdone than a prize pig must of necessity be. The breeding pigs are not the worst part of the Show, and there were some very useful entries. Mr. Humphrey's first prize Berkshires are a particularly nice lot. The Tamworth breed may be useful, but they do not commend themselves to the stranger who is unaware of their hidden virtues. For pigs of the large breeds the Earl of Ellesmere and Mr. Peter Eden are first and second, as usual, and Mr. Wheeler third. Pigs of a small breed are sparingly represented by only four entries, but they are very nice. Mr. Sexton takes first prize with black Suffolks, of pretty quality—small, fine bone, and plenty of hair. The Earl of Ellesmere is second. Pigs of the middle breed are those which cannot be conveniently classed in either of the foregoing divisions, and the term makes a handy class for pigs which have no very distinctive character. The pigs are, on the whole, good.

## THE JUDGES:—

## CATTLE.

Mr. G. W. Baker, The Hoo Park Farm, Luton, Beds.  
Mr. Gibbons, 24, Chiswick-street, Carlisle.  
Mr. John Thompson, Badminton, Chippenham.

## SHEEP.

Mr. Thomas Instone, Callaughton, Much Wenlock.  
Mr. James E. Rawlence, Balbridge, Wilton, Salisbury.  
Mr. Francis Spencer, Alana House, Claybrook, Lutterworth.

## PIGS.

Mr. Edward Little, Lanhill, Chippenham.  
Mr. Henry Tait, The Prince Consort's Shaw Farm, Windsor.

## CORN.

Mr. Joseph Guest, Ashted, Birmingham.

## ROOTS.

Mr. William Brewster, Balderton Hall, Middle Salop.  
Mr. Thomas Horley, jun., The Fosse, near Leamington.

## POTATOES.

Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

Mr. Samuel Evans, Arbury Gardens, Nuneaton.

## C A T T L E.

## HEREFORDS.

Hereford Oxen, exceeding four years old: 1st, R. Wortley, Norfolk; 2nd, H. Bettridge, East Hanney, Berks; 3rd, J. J. Colman, M.P., Norfolk.

Hereford Steer, exceeding three and not exceeding four years old: 1st and 2nd, Earl of Powis; 3rd, J. Pritchard, Stanmore, near Bridgnorth.

Hereford Steers, not exceeding three years old: 1st, F. Platt, Hereford; 2nd, the Earl of Powis; 3rd, F. Platt.

Hereford Cows: 1st, R. Bowen, Craven Arms, Salop; 2nd T. Nott, Brampton Brian, Herefordshire; 3rd, T. Jones, Red Lion, Shrewsbury.

Hereford Heifers, not exceeding four years old: 1st, P. A. Pike, Milton, Tewkesbury; 2nd, P. Turner, Pembridge, Herefordshire; 3rd, Sarah Edwards, Leominster.

## SHORTHORNS.

Shorthorn Oxen, exceeding four years old: 2nd, Col. J. Ellis, Bagworth Leicestershire.

Shorthorn Steers, exceeding three and not exceeding four years: 1st, T. Bond, North Thoresby, Louth; 2nd, Lord Tredegar; 3rd, Earl of Eilesmere; highly commended, Sir W. W. Wynn, Bart, M.P.

Shorthorn Steers, not exceeding three years old: 1st, the Earl of Lonsdale; 2nd, D. Adamson, Aberdeen.

Shorthorn Cows: 1st, Stand Stud Company, Whitfield, near Manchester; 2nd, J. J. Sharp, Broughton, Kettering; 3rd, Colonel R. Loyd-Lindsay, M.P.

Shorthorn Heifers, not exceeding four years old; 1st, R. Stratton, Newport, Mon.; 2nd, J. J. Colman, M.P., Norwich; 3rd, P. A. Pike, Milton, Tewkesbury.

## DEVONS.

Devon Oxen or Steers of any age: 1st, W. Fryer, Poole, Dorset; 2nd, Her Majesty the Queen; 3rd, W. Smith, Whimble, Devon.

Devon Cows or Heifers; 1st, W. Smith, Whimble.

## LONGHORNS.

Longhorn Oxen or Steers of any age: 1st, The Duke of Buckingham and Chandos; 2nd, R. Hall, Walton, Burton-on-Trent.

Longhorn Cows: 1st and 2nd, R. Hall, Burton-on-Trent  
Longhorn Heifers, not exceeding four years old; 1st, R. Hall; 2nd, W. J. Legh, M.P., Stockport.

## SCOTCH BREEDS.

Polled Oxen or Steers, of any age: J. Reid, Alford, Aberdeenshire; 2nd, Messrs. James and William Martin, Aberdeen; highly commended, J. McConnell, Glasnick, Kirkcowan.

Scotch Polled Cows or Heifers: 1st, W. McCombie, Aberdeen; 2nd, J. McConnell, Kirkcowan.

West Highland Oxen or Steers: 1st, H. D. Adamson, Alford, Aberdeen; 2nd, J. Grey, High Wecklade, Northumberland.

Scotch Horned Cows or Heifers: 1st, Sir W. C. Trevelyan, Bart., Willington, Newcastle-upon-Tyne.

## FOR OTHER PURE BREEDS AND CROSS-BREEDS.

Fat Oxen, exceeding four years old: 1st, Messrs. J. and W. Martin, Newmarket, Aberdeen; 2nd, R. Jardine, Lockerbie N.B.; 3rd, the Prince of Wales.

Fat Steers, exceeding three and not exceeding four years old : 1st, D. Adamson, Aberdeen ; 2nd, G. Strathan, Mains of Inverehrie ; 3rd, Sir W. C. Trevelyan, Bart.

Fat Steers, not exceeding three years old : 1st, J. F. Hall, Ripple, near Tewkesbury ; 2nd, J. and W. Martin ; 3rd, D. Adamson, Aberdeen.

Fat Cows and Heifers : 1st, D. Adamson ; 2nd, J. Reid ; 3rd, Sir W. C. Trevelyan, Bart.

## EXTRA PRIZES.

Silver cup, or other suitable piece of ornamental plate, of the value of £25, for best of any breed or age, to be bred and fed by the exhibitor.—R. Stratton, Newport, Mon.

The Elkington challenge cup, value 100 gs., for the best animal, to be won two years successively, or any three years, by the same exhibitor.—R. Stratton.

A prize of £100, for the best Hereford in any of the classes.—R. Wortley, Aylsham.

A prize of £100, for the best Shorthorn in any of the classes.—R. Stratton.

A prize of 50 gs., for the best Devon in either of the classes.—W. R. Fryer, Lytchett Minster, Poole, Dorset.

A prize of 20 gs., for the best Longhorn in any of the classes.—W. Smith, Whimple.

A prize of £50, for the best Scot in classes 16 to 19 inclusive.—J. Reid, Alford.

A prize of £50, for the best cross-bred in classes 20 to 23 inclusive.—J. Fountain, Ripple.

## SHEEP.

## LEICESTERS.

Three Fat Wethers, not exceeding twenty-three months old : 1st, B. Painter, Burley-on-the-Hill, Rutland ; 2nd, Mrs. S. P. Herrick, Leicestershire.

## LINCOLNS.

Three Fat Wethers, not exceeding twenty-three months old : 1st, C. Lister, Coleby Lodge, near Lincoln ; 2nd, C. Sell, Poplar Farm, Cambridgeshire ; highly commended, T. Gunnell, Willow House, Milton, Cambridgeshire.

## COTSWOLDS.

Three Fat Wethers, not exceeding twenty-three months old : R. Jacobs, Signett Hill, Burford, Oxon.

## SOUTH-DOWNS.

Three Fat Wethers, not exceeding twenty-three months old : 1st and 2nd, Lord Walsingham ; 3rd, the Prince of Wales ; highly commended, the Prince of Wales.

## SHORTHORNS.

Three Fat Wethers, not exceeding twenty-three months old : 1st and 2nd, Lord Chesham ; 3rd, Jos. Beach, Brentwood ; 4th, G. German ; highly commended, H. Roger, Penbridge ;

Fat Shropshire wether, exceeding twenty-three and not exceeding thirty-five months ; 1st, Lord Chesham ; highly commended, Thomas Ryland.

Fat Shropshire wether, not exceeding twenty-three months : 1st, T. Ryland, Perry Barr ; highly commended, J. Beach.

## OXFORDSHIRES.

Three fat Wethers, not exceeding twenty-three months old : 1st, A. Brassey, Chipping Norton, Oxon ; 2nd and 3rd, N. Stilgoe, Adderbury, Oxon ; highly commended, W. Stilgoe, Adderbury Grounds, Oxon.

## HAMPSHIRE, WILTSHIRE, AND OTHER DOWN.

Three fat Wethers, not exceeding twenty-three months old : 1st and 2nd, A. Morrison, Tisbury, Wilts.

## SHEEP NOT QUALIFIED TO COMPETE IN ANY OTHER CLASS.

Three fat Wethers, not exceeding twenty-three months old : 1st, H. Farthing, Bridgwater.

## CROSS-BREDS.

Three Fat Wethers, not exceeding twenty-three months old : 1st, the Prince of Wales ; 2nd, W. Wells, Peterborough.

## EWES.

Fat Leicester Ewe, having bred one or more lambs.—No entry.

Fat Lincoln Ewe, having bred one or more lambs : 1st, C. Sell, Bassingbourne, Cambridgeshire.

Fat Cotswold Ewe, having bred one or more lambs : 1st, R. Jacobs, Burford, Oxon.

Fat Southdown Ewe, having bred one or more lambs : 1st, Lord Walsingham ; highly commended, C. Chapman, Frocester Court, Gloucestershire.

Fat Shropshire Ewe, having bred one or more lambs : 1st, Lord Chesham ; 2nd, T. Noek, Sutton Maddock, Shifnal ; highly commended, G. German, Ashby-de-la-Zouch.

Fat Ox'ordshire Ewe, having bred one or more lambs : A. Brassey.

Fat Ewe, of any other pure breed, having bred one or more lambs : A. Morrison ; highly commended, H. Farthing.

## FAT PIGS.

Three Fat Pigs of one litter, not exceeding ten months old : 1st, R. J. Spackman, Melksham, Wilts ; 2nd, A. Crowther, Star Inn, Bury ; highly commended, R. E. Duckering, Northorpe, Kirton Lindsey.

Three Fat Pigs of one litter, not exceeding fifteen months old : 1st, W. Wheeler, Long Compton, Shipston-on-Stour ; 2nd, W. Mort, Basechurch, Salop.

Fat Pig exceeding fifteen months : 1st, C. E. Duckering ; 2nd, R. F. Duckering ; highly commended, the Earl of Ellesmere.

## BREEDING PIGS.

## BERKSHIRE BREED.

Five Pigs of one litter, exceeding three and not exceeding six months old : 1st, H. Humfrey, Shrivenhams, Berks ; 2nd, Arthur Stewart, Gloucester ; 3rd, R. Fowler, Aylesbury Bucks ; highly commended, Miss H. Smith, Healey-in-Arden.

## TAMWORTH BREED.

Five Pigs of one litter, exceeding three and not exceeding six months old : 1st, H. Sharp, Packington, Coventry ; 2nd, H. Barclay, Middleton Hall, Tamworth.

## OTHER LARGE BREEDS.

Five Pigs of one litter, exceeding three and not exceeding six months old : 1st, Earl Ellesmere ; 2nd, P. Eden, Cross-lane, Salford ; 3rd, W. Wheeler ; highly commended, P. Eden.

## MIDDLE BREED.

Five Pigs of one litter, exceeding three and not exceeding six months old : 1st, P. Eden ; 2nd, Colonel B. G. Davies Cooke, Colomendy, Mold, N.W.

## SMALL BREED.

Five Pigs of one litter, exceeding three and not exceeding six months old : 1st, G. M. Sexton, Ipswich ; 2nd, Earl of Ellesmere.

## EXHIBITORS OF IMPLEMENTS, SEEDS, &amp;c., WITH THEIR CHIEF EXHIBITS.

Proctor and Ryland, Birmingham.—Artificial manures.

Underhill, W. S., Newport, Salop.—Vertical engines.

Samuelson and Co., Banbury.—Mowing machines, reapers, root pulpers and cutters.

- Rusomes, Sims, and Head, Ipswich.—Steam engines, ploughs horse rakes.
- Field, Alfred, and Co., Liverpool.—American agricultural implements.
- Turner, E. R. and F., Ipswich.—Corn crushers and kibblers.
- Ball, George, North Kilworth, Rugby.—Carts and waggons.
- Corbett, S., and Sons, Wellington, Salop.—Grinding mills, root pulpers.
- Corbett and Peck, Shrewsbury.—Corn elevators, weighing machines, turnip hoes, drills.
- Powis, Charles, and Co., Gracechurch-street, London.—Mortising machines, sawing machines.
- Albion Iron Works Co., Bugeley.—Sheep racks, horse rakes, cheese presses.
- Sherwin, G. E., Hackney, London.—Crushing and grinding machines.
- Marshall, Sons, and Co., Gainsborough.—Steam engines, thrashing machines.
- Hindley, E. S., Bourton, Dorset.—Vertical engines and boilers.
- Warr and Lewis, Walbrook, London.—Sawing machines, mortising and boring machines.
- Riches and Watts, Norwich.—Vertical engines, grist mills.
- Barford and Perkins, Peterborough.—Steam ploughs and diggers, grinding mills.
- Barrows and Stewart, Banbury.—Portable steam engines.
- Bristol Wagon Works Co., Bristol.—Farm carts, harvest ladders, seed and manure distributors.
- Humphries, Edward, Pershore, Worcestershire.—Thrashing machines and engines.
- Bentall, E. H., and Co., Maldon, Essex.—Chaff cutters, pulpers, turnip cutters, corn mills.
- Ruston, Proctor, and Co., Lincoln.—Portable engines, thrashing machines.
- Mapplebeck and Lowe, Birmingham.—Chaff cutting machines, turnip cutters, grinding mills.
- Clyton and Shuttleworth, Lincoln.—Steam engines, thrashing and finishing machines.
- Duvalon and Lloyd, Birmingham.—Vertical "Atlas" engines, hand pumps.
- Hornsby, R., and Sons, Grantham.—Portable steam engines, combined thrashing, shaking, and finishing dressing machines, respers, ploughs.
- Pickin, John, Birmingham.—Chaff cutters, butter churns, lawn mowers.
- Cheavin, G., Boston, Lincolnshire.—Cistern tank filters.
- Pinfold, J. D., Rugby.—Engines and boilers, combined grist mills.
- Fenney and Co., Lincoln.—Potato diggers, rotary corn screens.
- Smyth, James, and Sons, Peasenhall, Suffolk.—"Eclipse" corn drills, with steerage.
- Williams, John, and Son, Rhuddlan, near Rhyl, North Wales.—Mowing machines, chaff cutters.
- Richmond and Chandler, Salford, Manchester.—Chaff cutters, corn crushers, steaming apparatus.
- Woods, Cocksedge, and Co., Stowmarket.—Steam engines, horse gears, root pulpers.
- Perkins, John, and Sons, Lichfield.—Double and single-furrow ploughs.
- Glover, W., and Sons, Warwick.—Cup drills, carts with gearings.
- Waite, Burnell, Huggins and Co., Upper Thames-street, London.—American self-acting horse rakes, lawn mowers.
- Handley, R. G., Birmingham.—French mill stones.
- Jones, John Milton, Gloucester.—Specific for foot-rot in sheep.
- Davies, Griffith, Regent-street, London.—The Royal Polytechnic cement.
- Wright, John, and Co., Birmingham.—"Otto" gas engines, rotary pumps.
- Page, E., and Co., Bedford.—Chaff cutters, bean mills.
- Denning, C., and Co., Chard, Somerset.—Chain drills.
- Muller, H. L., Birmingham.—Gas making machines.
- Sicker Safe Company, Soho, Birmingham.—Safes and deed chests.
- Lay, Francis, Derby.—Pulley blocks and hoists.
- Winn, C. W. Easy Row, Birmingham.—Amateur's lathes.
- Bamford, Henry, and Sons, Uttoxeter.—Chain pumps, horse gears, oil-cake mills, chaff cutters.
- Pickering, Jonathan, Stockton-on-Tees.—Pulley blocks, sack hoists.
- Vipan and Heady, Leicester.—Pulpers, corn crushers.
- Alexanders and Loveridge, Leominster.—Cow cribs, sheep racks.
- Loweck and Barr, Shrewsbury.—Mowers, chaff-cutters, &c.
- Walker Alfred, Shrewsbury.—Steam engines and boilers.
- Maldon Iron Works Co., Maldon, Essex.—Chaff-cutters, oil-cake breakers.
- Tyler, W., Summer-row, Birmingham.—Roots, meal, oil-cakes &c.
- Holt and Willetts, Brierley Hill.—Patent sack hoists, spades, shovels.
- Hollings Brothers, Swindon, Wilts.—Canadian corn-drills.
- Harrison, McGregor, and Co., Leigh, Manchester.—Self-raking machine, combined mowers and reapers.
- Tittley, Henry, Suethwick, Birmingham.—Vertical boilers, with engines combined, horizontal engines.
- Houghton and Hill, Birmingham.—Mortising machines.
- Ottley, Thomas, Birmingham.—Gold and silver medals for agricultural shows.
- Elwell, John, Birmingham.—Cattle cribs, gates, hurdles.
- Armitage and Reston, Chatteris, Cambridgeshire.—Lever horse hoes.
- Marston, John, and Co., Birmingham.—Double and single village carts.
- Birchills Hall Iron Co., Walsall.—Tabular hurdles, fencing, tree guards.
- Ryland, Alfred, Birmingham.—Fuel-saving fire bars.
- Howorth, James, Farnworth, near Bolton.—Revolving ventilators.
- Kneebone and Timmis, Birmingham.—Churns, washing machines.
- Millward, John, Birmingham.—Weighing machines.
- Harris, G. H., Birmingham.—Chaff cutters, pulpers, corn crushers.
- Brokes, Isaac, and Co., Birmingham.—Calf, pig, and lamb feeders.
- Bradford, Thomas, and Co., Holborn, London.—Churns, washing, wringing, and mangling machines.
- Walford, John H., Birmingham.—Fowl houses.
- Bell and Co., London.—Washing, wringing, and mangling machines.
- Martin, William, Manchester.—Improved sewage tanks and filters.

- Blaucke, C. W. Julius, and Co., Manchester.—Boiler mountings, water gauges, lubricators.
- Robey and Co., Lincoln.—Portable engines, "Robey" engine and locomotive boiler combined.
- Thomas and Taylor, Stockport, Manchester.—Eccentric churns, washing machines.
- Adams, M., Hereford.—Field gates, hurdles, &c.
- Bragging, G. F. and H., Banbury, Oxon.—Wicket and entrance gates.
- Roe, Amos, Birmingham.—Gates, posts, hurdles, fencing.
- Periam, E. T., Birmingham.—Lock bolts with split points.
- Hope Foundry Engineering Co., West Bromwich.—Washing, wringing, and mangling machines.
- Walker and Feuby, Birmingham.—Garden seats, gas apparatus.
- Tangye Brothers, Birmingham.—The "Soho" Engines, with Tangye's Governor, Steam, and Throttle Valve.
- Gardner, John, Birmingham.—Chopping machine, engine and boiler combined.
- Crooper and Smith, Birmingham.—Model of boiler.
- Chaplin, J., Birmingham.—Salt-cellars, spoons, egg cups.
- Day, Son, and Hewitt, Dorset-street, Baker-street, London.—Medicine chests, cattle medicines.
- Dickson, F. and A., and Sons, Upton, Chester.—Samples of trees, shrubs, roots, seeds, etc.
- Mutthews, Son, and Co., Driffield, Yorkshire.—Corn Feeding cake, Driffield linseed cake.
- Elliman, Sons, and Co., Windsor.—Embrocation for horses and cattle.
- Barnard and Lake, Braintree, Essex.—Horse hoes.
- SEEDS, FEEDING CAKES, MANURES, ETC.
- Gibbs, James, and Co., Mark-lane, London.—Feeding cakes.
- Baker and Bodington, Ranelagh Mills, Leamington.—Feeding cake and meal.
- Sutton and Sons, Reading.—Agricultural roots, grasses, potatoes, "magnum bonum" kidney potatoes.
- Webb and Sons, Wordsley, Stourbridge.—Agricultural roots, grasses, cereals, potatoes, special manures.
- Morris and Griffin, Wolverhampton.—Artificial manures, roots, and cereals.
- Carter, James, and Co., High Holborn, London.—Agricultural roots and grasses.
- Dickson, James, and Sons, Chester.—Trees, seeds, &c.
- Tipper, B. C., and Son, Balsall Heath.—Cattle, horse, and sheep cakes.
- Hope, William Ash, and Sons, Agricultural Hall, London.—Cattle and horse food.
- Myers, Thomas, York and Birmingham.—Cattle and pig spice.
- Eagles, J. G., Bath.—Cattle cakes.
- Dames, C. R., Chigwell, Essex.—Food for horses, cattle, sheep, and pigs.
- Beach, J., and Co., Dudley, Worcestershire.—Food for cattle, sheep, and pigs.
- Day and Sons, Crewe.—Driffield oils, and other medicines for horses, cattle, and sheep.
- Carbon Fertiliser Co., Strand, London.—Bone phosphate manures.
- Green, P., and Co., Birmingham.—Powders for horses and cattle.
- Harrison and Sons, Leicester.—Roots and grasses.
- Barr, P. W., and Co., Liverpool.—Feeding stuffs.
- Ayres, Chambers, and Ayre, Hull.—Feed cakes.
- Binney and Son, Birmingham.—Steam fittings, lubricators.
- Bliss, B. K., and Sons, New York.—American potatoes.
- Sellers, F. B., Tewkesbury.—Cattle spice.

## CHAMBERS OF AGRICULTURE.

### BEDALE.

A special meeting of the Bedale Chamber of Agriculture was held on Nov. 27, at the Black Swan Hotel, Bedale. Captain Clarke, President of the Chamber, occupied the chair.

The SECRETARY read a letter from Mr. Dunn, President of the York Chamber of Agriculture, suggesting that the Bedale Chamber should join with other local Chambers in forming a Yorkshire Chamber of Agriculture.

The CHAIRMAN asked for the opinion of the members upon the question.

After some discussion it was resolved that the President write to Mr. Dunn declining the proposed joining.

The next business was the discussion of the recommendations of the Cattle Plague Committee.

Mr. J. P. BOOTH, Killyby Hall, who was to have introduced the subject, wrote as follows to Captain Clarke, the President of the Chamber:—

"I am very sorry I cannot manage to get to the meeting to-day, but I feel sure that in your hands the subject of the cattle plague will find a very able advocate. I forward you three papers, one with the recommendations of the Cattle Plague Committee, another with the resolutions passed at the meeting of the Royal Agricultural Society of England, of Mr. Jacob Wilson, and the third with an account of the reception

of the Royal Agricultural Society by Lord Beaconsfield, which reception we take to be very encouraging. I am quite of the opinion expressed in your letter of the 24th, that we should memorialise the Government to make the recommendations of the committee into law; or think that if the Chamber pass a resolution somewhat similar to that passed by the Council of the Royal, it will be all we can do at present. You might also send from the Chamber to request our members of the North Riding to support any measure brought in by the Government for the suppression of cattle disease based on the recommendations of the Cattle Plague Committee. Hoping you will have a successful meeting,—Yours very truly, JOHN P. BOOTH."

The CHAIRMAN said that they regretted Mr. Booth's absence, but he was glad to say Mr. Smith, at short notice, would introduce the matter.

Mr. J. SMITH then said, the question of the importation of live stock, and consequently of cattle disease, had been so often and so fully discussed at Farmers' Clubs, Chambers of Agriculture, and elsewhere, that it was not necessary to make lengthened remarks. He was, however, glad to see it was taken out of the category of party questions; and he agreed with Mr. Leeman, M.P., "That the consumers were quite as much interested in the prevention of imported diseases as farmers themselves." There was an article recently in *The*

*Times*, on the diminution of live stock, having a very strong bearing on this subject. It appeared that the diminution did not arise from any reduction of pasturage, or turnip, or clover, or of land under any kind of cropping from which our beef and mutton were manufactured, for it appeared that the acreage of our pasturage and green crops had slightly increased during the last three years, and that they had now a greater extent of land under grass or crop for feeding animals. If such were the facts, and they were proved by the census—during the last three years the country suffered so great a reduction of live stock whilst increasing the means to support them, is it not fair to assume that the diminution of sheep and cattle may be fully attributed to stock-breeders (a class amongst farmers who have suffered most heavily), finding it a risky, grievous, and unprofitable business, in consequence of the importation of foreign diseases? And was it not less fair to assume that if proper measures were taken to prevent such importation of foreign diseases, the number of cattle and sheep would increase in the next three years in as great a ratio as they had decreased in the last three, thereby assuring to the consumers a constantly increasing supply of animal food, which, together with the ever-increasing supply of dead meat from abroad, will most assuredly together have a tendency to lower prices without any real injury to the British farmer. Mr. Smith concluded by proposing:—

“That this Chamber of Agriculture desires to memorialise the Government to adopt and carry out by legal enactment the recommendations of the Cattle Plague Committee, feeling satisfied that such legislation will tend to the lessening of infectious diseases and to the consequent public advantage.”

Captain OTHER, in seconding the motion, said whilst all might not be well up in statistics, common sense ought to guide any Government in a measure they might bring in, and the best thing they could do would be to make law the recommendations of the Parliamentary Committee on Cattle Plague. If the cost of the cattle which had died from the cattle disease—those imported and those which had died from imported disease—were known, it would more than pay for all the cattle ever imported.

Mr. G. T. ROBINSON, in supporting the motion, said as one who had suffered very heavily from the cattle plague in 1866, he should like to say a few words. He was a free-trader from the crown of his head to the sole of his foot; but in this case a protectionist policy was the best—a policy of protection to the breeder, the grazier, and to the consumer. The consumers had suffered as heavily, or more so, than any one else from the cattle plague; the price of meat had gone up, and up, and up, and would not come down he feared under present circumstances. Were the herds protected from the disease, the cattle and sheep in this country would vastly increase in number, and the meat from abroad, if brought dead instead of alive, would not diminish. He said the Government ought to carry out the recommendations of the Committee, disregarding all the clamour against the measures, as the meetings protesting against the recommendations were organised by people for purely selfish motives.

Mr. FRYER, V.S., supported the resolution, convinced that nothing would put an end to imported diseases but slaughtering at ports of embarkation. He used to be of a different opinion, but was now quite changed. But there was one thing which must also be looked to—they must clean their house at home.

He knew of instances where farmers had not reported foot-and-mouth disease until the fat stock had all been removed. That must be put a stop to.

The motion was then put and agreed to unanimously.

A resolution was also agreed to that the Secretary should draw up a memorial on the basis of the resolution already passed, and forward it to the Members of the North Riding for their support.

## CIRENCESTER.

### OUR MEAT SUPPLY.

A meeting of this Chamber was held on the 26th Nov., when Professor SHELDON read the following paper on “Our Meat Supply”:—

The question of our meat supply is not so much becoming as it has already become a matter of supreme importance to us as a nation. Whether for good or ill I do not pretend to say, but we have gradually become, from the highest to the lowest classes, an essentially meat consuming people. Within the recollection of men who are not yet very old even farmers themselves seldom ate fresh meat except on Sundays, whilst the labouring classes seldom ate it at all “from year’s end to year’s end.” Home-fed bacon was the chief animal food of the master, and the sole animal food of the man, and even this was sparingly used. But now all is changed, and the great bulk of our labouring populations eat flesh-meat daily, while the classes above them are liberally supplied with all kinds of delicacies which are brought from all parts of the world. There is food for reflection in this wonderful transformation in our mode of living. The extent to which it makes us dependent on the rest of the world—dependent for our very existence—is a fact of such momentous meaning that we do not often, from fancy only, give it the amount of consideration which it will one day demand from us in a voice which will brook no further supineness at our hauds. The expensive and prodigal and altogether artificial habits of life which we have got into are matters of grave concern to those among us who try to read the hidden possibilities of the future. Not only our supremacy as a naval power, but our very existence as a nation, demands each year in an increasingly imperative manner that we make every effort to maintain our position as mistress of the seas; and it equally demands that we remain, as far as we honourably can, at peace with the world. If we are ever unfortunate enough to go to war with a first-rate naval power we must crush that power quickly, or there will be a famine in this happy England of ours. Or if we are insane enough to quarrel with America the same result will happen whether we crush her or not, and crush her we could not. Therefore it follows that with our growing population we are condemned to roll the stone of Sisyphus, and while we constantly prepare for war, it becomes each year increasingly necessary that we remain at peace. Coupled with the important fact that we have become essentially a nation of beef and mutton eaters is the still more grave one that our population has increased, and is increasing at a rate which fills all thoughtful minds with serious alarm and misgiving. Look at the figures relating thereto. According to the Registrar-General’s returns for the present year our population in 1801 was 18,552,522; ten years later we had 21,300,573; in 1831 we had 24,423,588; in 1841, 27,097,095; in 1851, 27,764,034; in 1861, 29,358,927; and in 1871, 31,914,985. We have, therefore, almost doubled in seventy years, and if



we go on increasing in the same ratio for another century we shall have more than 100,000,000 of people to feed, to clothe, to shelter, and to employ. We, of course, long before that time shall have returned to the dust from which we sprang, but it is none the less on that account our duty to lay a solid foundation for the countless millions who will spring from our ashes as we have sprung from those of our forefathers; and the best way of providing against the future is to look well to the present; and, indeed, it is the present with which we have more immediately to deal this evening. I need not, and it would be indeed foreign to my present purpose to, do more than briefly allude to the startling fact that at every harvest time, so far as bread is concerned, we are within two months of absolute starvation; and not we only, but the whole of the human family is. In this country it is difficult, happily it is impossible, to realise even in thought this alarming truth; but that it is a truth is plainly demonstrated by the terrible famine which has so very recently slain its scores of thousands in India. But try just for a moment to imagine the awful catastrophe, the terrible volume of suffering, which would ensue if the harvest of the world were, for one season only, blighted. There would not be many of us left to reap the following harvest. But we do not live by bread alone; beef and mutton are most important auxiliary articles of food—and the question of our meat-supply, on its own intrinsic merits, quite independently of what I have said about corn harvests, and also in the light of that very question of bread, is a question in itself of supreme importance. Some time back, when the people of Paris were suffering from a famine of food an innocent French Princess is said to have wondered why the people did not eat cakes! This was all very well in its way, but where were the cakes? Leaving behind us the question of cakes and of all other food of a vegetable nature, I may now ask and try to answer the question—"Where is the meat of the future to come from, on which our ever-increasing millions must be fed?" We have seen above that our population increased, from 1861 to 1871, 2,556,058. This shows a yearly increase of 255,605, and a daily one of 700. Now just think for a moment of the dreadful importance of these figures—700 additional mouths to feed each successive day. Here is serious food for reflection for the political economist—for all of us in fact. How are we to feed these mouths? Where is the meat to come from? Let us look first at our own resources. According to the statistical returns obtained and issued by order of Government, we find that in 1867 we had 8,731,473 cattle, 33,817,951 sheep, and 4,221,100 pigs in Great Britain and Ireland. Added together, the number of these animals amounts to 46,770,524. The numbers under the separate heads have fluctuated considerably, and in the present year they stand as follows:—Cattle, 9,997,189; sheep, 32,252,579; pigs, 3,731,420. Together they amount to 45,984,197, showing a decrease in totals of 786,327. This is alarming, for we have to set against it an increase in population of about two and a half millions of souls in the same period. To meet the increased demand we imported last year 271,576 oxen, bulls, cows, and calves, and 1,041,329 sheep and lambs, to say nothing of pigs and of the immense quantities of dead meat which also have been imported in shape of fresh beef and mutton, and of bacon. In 1874 our imports of cattle, sheep, and pigs were 1,068,167 animals, valued at £5,250,000; in 1875 they rose to 1,313,489, valued at £7,330,420, showing an increase for the year of nearly 300,000 animals, and

of money value of more than £2,000,000. Now we cannot afford to go on importing food at this alarming rate of increase; but what are we to do to obviate it, and why has it already risen to such enormous dimensions? To the second of these queries I will address myself first. I do not fear any serious contradiction when I state that the whole amount of this enormous importation of animal food is due to the destruction caused among our own flocks and herds by contagious diseases brought to this country by foreign cattle. First of all let me impress upon you the fact that epizootic diseases amongst cattle and sheep have been in existence for centuries in the steppes of Russia, and in Eastern Europe generally. These diseases are chronic there, and it would seem as if they were indigenous to that part of the world. I am aware of the appalling which exists among men of science about the word "indigenous," as applied to infectious diseases existing in a country. They contend that no disease can break out without the germs being present, and that these germs must be deposited. But this is mere hair-splitting. What we have to do with is the recurrence of these epizootic diseases amongst cattle in Eastern Europe, and their transmission to this country by cattle sent to us from there. The first outbreak of foot-and-mouth in this country is traced to two lots of some bovine species brought over in 1839 for the Zoological Gardens, Regent's Park. Then came the lung disease, which was introduced into Ireland by some Dutch cows that were landed at Cork in the year 1840. And last, though not least, came the rinderpest in 1865. The best informed men who have investigated the subject state their conviction that these foreign diseases cause an average annual loss of stock in these islands of £10,000,000. From actual returns made for the county of Hereford, the money loss from a foot-and-mouth disease alone in Great Britain and Ireland during 1872 was stated at £19,510,707, as against £4,006,582, the total value of imported live stock for the same period. It is hardly possible to imagine a more suicidal course to pursue than that of allowing foreign cattle to come to this country, bringing with them diseases which inflict on our own cattle a greater loss than the value of the imported ones amounts to. The total annual meat production of the United Kingdom is calculated at £60,000,000, where it might be at least £80,000,000 but for foreign diseases. The difference is more than what we pay for foreign flesh-meat. I ask you the simple question, Would it not be better that we kept the £10,000,000 in our own pockets? The argument invariably brought forward by importers of foreign stock is that they import animals from countries, such as Spain and Denmark, which are free from diseases. But the history of cattle diseases goes to prove that no part of the Continent of Europe is free from epizootics when cattle from the east are allowed to pass in a current through it. I am not for a moment presuming that the western countries of the Continent are naturally subject to these maladies to the extent that the eastern ones are, but they are never, as we might be, absolutely free from them, because there is no streak of salt-water to stand as a barrier against them, as we have it, between us and the rest of Europe. They are, however, continually liable to have them by reason of the interchange of stock which is continually going on; and, if we allow them, they will as regularly transmit them to us. Many times, to our cost, have they done so already. But, you will ask, where are we to get a sufficient supply of animal food from to tide over the time which would elapse before we could raise stock enough of our own for our requirements?

In reply, I would point to the American dead-meat trade, which commenced in October, 1875, with 36,000lb., and increased until in April, 1877, it had attained to 8,578,213lb., valued at £16,462. If such a trade in dead-meat be possible with a country 3,000 miles away cannot the Continentalists send us their meat dead instead of alive? You may object that ice is scarcer on the Continent than it is in America. Granted, but natural or artificial ice it is no longer necessary to the preservation of dead-meat. Messrs. Giffard and Berger, of Paris, have invented a system of refrigerating rooms, in which the method applied for producing the desired temperature is simplicity itself. There is an entire absence of the chemical processes employed in artificial freezing, such as ether, ammonia, hydro-sulphuric acid, or the salts of potash or ammonia. All that is used is a simple mechanism for compressing the ordinary atmospheric air, and subjecting it, whilst under pressure, or rather while it is in the act of expanding from pressure, to the action of a jet of cold water, which, thrown suddenly upon the air, deprives it of its heat, and the atmosphere thus cooled passes into the chamber, the temperature of which it is intended to reduce. A retort from which to draw the air to be operated upon, a couple of cylinders for compressing, a small pump to supply the stream of water, and a freezing chamber are in reality all the mechanism used in the combination with, of course, the ordinary motive power. At a recent test of this system the results were surprising. In half-an-hour after commencing to work the machine the thermometer within the freezing chamber stood at 20 degrees below zero, the interior of the chamber was covered with hoar-frost half-an-inch thick, bottles of water were frozen solid, and the general temperature of the chamber in which the temporary freezing-chamber stood was reduced to 30 degrees Fahrenheit, or the freezing point. The German exporters, I believe, complain loudly, and so do the English importers of cattle, at our demand that they shall send us their meat dead instead of alive. But they, of course, are not English farmers, and have not that need to fear the introduction of diseases that English farmers have. They have got firmly rooted into the system of bringing live animals over, and habit is strong. There are also, no doubt, certain "vested interests" which would be abolished by the introduction of the dead meat instead of the live cattle trade. Hence they naturally object to a change. But are they to be allowed to stand in the way of the welfare of British Agriculture? Are their interests to be regarded as of greater importance than those of the thousands of British farmers? Are English farmers to be kept in chronic peril of being ruined because of the vested interests of a coterie of traders in cattle? Nay, is the meat production of this country to be treated as of an importance quite secondary to the Continental cattle-trade? The inhabitants of our towns and cities, too have taken alarm at the project of Continental cattle being prohibited from coming to this country alive. They, of course, have no particular sympathy with the cattle importers I have referred to—their object being to have cheap meat by whatever means. But they regard this question purely from a consumer's standpoint; they have not studied the merits of the question sufficiently and impartially—impartially they could not, because they flew off at a tangent the moment they heard of the project, and came to the conclusion, which was as unjust as it was untrue, that our farmers wanted to re-establish the old Protectionist system. True, English farmers do demand Protection, but not Protection against foreign competition, only Protection against foreign diseases. A grave responsibility rests on

those who first raised the false and mischievous cry that the farmers were reactionary and Protectionist in their demands for the prohibition of live-stock from the Continent of Europe; and the cry was as cowardly as it was false—it was like a cry of "fire" in a crowded assembly, it created a frenzy of excitement which drove a portion of the country mad. Tennyson says that "a lie which is half the truth is even the blackest of lies." The half-truth in this is that the farmers do demand protection—from imported diseases. Panic-mongers have raised this into a cry against the farmers, plausible of course they made it, and they played on the tender susceptibilities of their dupes by declaring that if foreign cattle were prohibited meat would at once go up to famine prices, and that the farmers would get rich out of the helplessness of their fellow-citizens. The cry of "Wolf, Wolf" was raised, and the farmers have been swamped once more. The rest of the world seems very jealous about farmers getting rich, and watches them as a cat watches a mouse. If a farmer is indiscreet enough to admit that he is saving a little money, his landlord thinks his farm is worth more rent, and the tradesman cries out that he ought to sell his beef and mutton at a less price. But, as a matter of fact, getting rich is an amiable and pardonable weakness, in which farmers very seldom indulge. Those who cry out so loudly that farmers want to re-introduce Protectionism are blind in the most hopeless manner—with the blindness of those who *won't see*. When, I would ask, have farmers clamoured for a stoppage of the American meat trade? They knew well enough that it would diminish their profits, which were already small enough in all conscience, but they knew that the dead meat trade was a fair and straightforward competition which they had to meet, and though they were very much frightened at what they supposed the result would be, yet they never hinted at Protection against it; nor would they ever have demanded Protection against Continental live stock were it not for the diseases they bring along with them. Those who advocate Free Trade in cattle have themselves to thank for the present high price of meat in this country. It has been proved to satiety that no precautions of quarantine and inspection have hitherto been sufficient to prevent the introduction of disease along with these foreign cattle. If these means had been effectual the farmers would never have asked for prohibition. The English farmer has no need to fear foreign competition, providing his flocks and herds are secure from periodical attacks of diseases. Give him this immunity and he can hold his own against all the world. A Select Committee has recently been sitting to hear evidence on this question, and it has issued a Report recommending that live cattle shall not be allowed from certain infested countries, and that all other cattle from abroad should be most carefully inspected and quarantined on arrival in this country. So far good; but what will Government do? Why, the question will be shelved again as it has been shelved before, and we have again to suffer from that hope deferred which maketh the heart sick. I repeat again that the great bulk of our meat-consuming public do not properly understand this question. They stand in their own light continually, and their policy is a hand-to-mouth policy. If our farmers had only fair play they could, after a time, produce animal food enough to supply the country, at all events for some time to come. But our population promises to become so large that we cannot supply them; still it is surely the highest wisdom to produce as much as we can ourselves before we begin to import from other countries. Suppose we get involved in a war with a great naval power some day, what then will be the

result? Our own internal resources having been so cruelly slaughtered in the meantime, a great war of this kind would quickly rid this country of contagious diseases amongst animals, but it would find us with a stock utterly inadequate to supply our wants. Meanwhile Government is trifling with this question of foreign diseases. On Friday Lord Beaconsfield promised a Bill on this question, and at the same moment, almost, the Privy Council has rescinded the Cattle Plague Resolutions relating to the metropolis—rescinded them, forsooth, because the Smithfield Club Show is coming on, and, rinderpest or no rinderpest, this must be held. We see now what value the Council attaches to this question. What must be done? This: The farmers of these islands hold every county constituency in their own power, if they like to be united, and they must be united now—they must tell their representatives that if they cannot have justice done them by this Parliament they must see to it that the next one will not refuse it. Meantime British stock-farming is fast going to the dogs.

An interesting discussion ensued.

### MR. READ ON AGRICULTURAL AFFAIRS.

The following remarks were made by Mr. Read in his speech at Diss.

A sporting paper said I spoke very gloomily of agriculture, but it was a happy thing for the farmers that they could still pay 20s. in the pound and 10s. 6d. for a bad dinner. Of course it is a sort of sneer the London press would indulge in, for they get much better dinners, but what it costs them I don't know. To-night we have had a good tea for half-a-crown, and, perhaps, that will not offend those gentlemen who think we ought not to dine together and enjoy ourselves because the times are bad. If the leading agriculturists of a district go to their Show it is surely a fair way of spending their time and money, and as a rule the farmers who go to those meetings are the best and most well-to-do portion of the agricultural community; but, I think you will agree with me, however genial and pleasant they may look at these dinners, there is a class outside them who, perhaps, could not pay 20s. in the pound, for it is no use disguising the fact that the times recently have been very hard indeed for farmers, and especially the small farmers, of arable land. A third bad season must be a great deal worse to contend with than a second, and the second than the first, and no doubt this is our third bad season. I mean to contend—I don't know whether I am speaking without my book as to this locality—that we grew no more corn this year than last, and the prices are but very little different—about 3s. per qr. more than last year. In our district we did not grow so much wheat as last year, and I am sure if you contrast the weight of the root crop, it is not three-fourths, and perhaps not much more than two-thirds, the weight of last year's roots. All this I am willing to admit is not the fault of any one. It is the dispensation of Providence and we must cheerfully bear with it. But to say that we are no worse off this year than we were last is to say what is not the fact. The only thing is that we must be much nearer better times, and I do believe those better times will come very shortly. Just one word about that old hobby of mine, the Malt-tax. A London paper asked how I could reconcile the fact when I state that barley answered better to cultivate than wheat, that the Malt-tax could be any injury to us at all. Now, Free-trade has taught us many things. Previous

to Free-trade a bushel of wheat and a stone of meat were about the same value—both of them about 7s. After twenty-four years of Free-trade we find that a bushel of wheat is worth about 5s. 6d. and meat about 10s. per stone. Now, suppose the Government were to put an excise duty of 5s. a stone upon every stone of butcher's meat throughout the country, what would that do? Would it not very much decrease the consumption?—and would not that act upon the farmer and reduce the value of his fat stock? Of course it would. Suppose it should reduce meat only 2s. per stone, and that it still sold at 8s. per stone, even then it would be possible in certain districts of England to say that it was better to grow meat than to grow wheat notwithstanding this tax. That is the case with barley. We can compete with barley against the whole world, and I say it is a great injustice to the British farmer to saddle him with the malt-tax when we have what they are pleased to call Free-trade. Then an agricultural journal, in commenting upon my speech at Acle, said that with my sound sense and practical knowledge I ought to induce the farmers of Norfolk to breed their own stock as well as graze it. I have always said that where you have grass land it would be a good thing to keep more stock, and certainly of a better quality. I have always said that if you could by any possibility know the value of a good pedigree bull, and could command its services at a reasonable cost, you would never be without one: but to suppose that we are going to transform this great winter grazing county into a breeding county is perfectly preposterous. You might as well tell the Irish people that they ought to plough up all their pasture land and grow wheat. We can grow corn here but we cannot rear cattle to any great extent, and therefore it is ridiculous for people who ought to know better to tell us that we in this district ought to breed our own cattle as well as graze them. There has been an article recently in that generally well-informed paper, *The Pall Mall Gazette*, commenting on the production of meat in Devonshire and Norfolk; and because the agricultural census is taken in June, when we have hardly any cattle upon our arable land, whereas, of course, they have a vast quantity in Devonshire, they come to the conclusion that that county produces more meat than Norfolk. Why, it is patent to everybody that if the census was taken in the month of January instead of the month of June, Norfolk would be placed in a very different position indeed, as I endeavoured to press upon the committee that sat last session upon the cattle diseases. I wrote to three different farmers in North, South, and West Norfolk, and asked them to tell me how many cattle they had on the 1st of December, and how many when they had made their returns to the Government? The result was that whilst in the month of June they had 100, in the month of December they had something like 400 cattle in their yards and stalls.

**NORFOLK AGRICULTURAL SOCIETY.**—At the last meeting of the Society, it was agreed that the next Show should be held at North Walsham. Lord Suffield was elected President for the ensuing year, Mr. T. Chambers was re-elected Hon. Director, and Mr. J. Eason Secretary. On the motion of Mr. C. S. Read it was resolved that "The Norfolk Agricultural Association respectfully urge upon Her Majesty's Government the great importance of passing the main recommendations of the Cattle Diseases Committee into law at the earliest possible period of the coming session." A copy of the resolution was ordered to be forwarded to the Prime Minister.

## MR. MECCHI CRITICISED.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Many who know nothing of the capital employed in farming by the tenant of Tiptree Hall and the tenants of Messing respectively will sympathise with Mr. Golden Fairhead in his resistance to the habitual and the very reprehensible practice of Mr. Mechi of taunting agriculturists generally with the application of an insufficiency of capital to the cultivation of the soil. Why Mr. Mechi should do so, with his knowledge of the insecurity to tenant capital which exists is to me and many more a mystery. He continually points to Tiptree Hall, its outlaid capital and results, as if his security there was no better than elsewhere over the country. But has he the notice to quit hanging over him there? Has he the danger of being reuted up on his own improvements there? Does he stand in the possibility of eviction, and by it of the confiscation of his property in his improvements there? Does the law of distraint affect him there? Has he game preservation, game damages, and the mischievous surveillance of the gamekeeper to contend with and dishearten him there? Is he embarrassed by antiquated estate restrictions as to cultivation there? Is he, in short, handicapped there by these and other difficulties and trammellings which a still "protected" lauded system carries with it and places in the path of tenant's security, tenant's enterprise, and tenant's independence everywhere? If not—if the security to tenant-capital at Tiptree Hall is perfect, and in this respect an exception to the general rule, it is no example to tenants still in bondage of landlord-made laws, still in a state of insecurity in their farms, still liable to have their unexhausted improvements confiscated arbitrarily by increased rent or by eviction, and above all, obliged to compete with foreign produce admitted free, while they are handicapped by that "protection" to landlords which thwarts them at every step, and strangles them in every exertion they make. I say it is unreasonable on the part of Mr. Mechi or any one else to expect tenants to make large investments of capital in improved farming under the present circumstances of their position. As already noticed, Mr. Mechi has not expended his capital at Tiptree Hall under the risk of the circumstances referred to. Has he done so in Leadenhall-street, London? I suspect not. I guess he has perpetuity of tenure there—a rent that cannot be increased on his improvements there, and along with them the right to sell his interest and the goodwill of his business at pleasure, in the open market, and to the highest purchaser there. Shall I quote the old adage in reference to such a state of things—What is sauce for the goose ought to be sauce for the gander? Clearly, if such conditions as these are necessary to induce a liberal outlay of capital in the business of Mr. Mechi and others in trade, they are much more required in the far more important, while more precarious and uncertain, business of cultivating the soil, and of growing therefrom a nation's food. If Mr. Mechi and others can only

prosper under such security where their capital can be turned over many times within the year, realising a profit at every such opportunity, then surely are farmers, who can only make one profit from their expended capital within the year, and who have to contend against weather, cattle disease, and other difficulties incidental to their position even for that single chance—then, I say, are they much more entitled to that security which Mr. Mechi and others have, but which he at least has never put forward systematically as the necessary preliminary to those improvements of the soil he is so clamant for. Therefore it is that I sympathise with Mr. Golden Fairhead, why I think Mr. Mechi has been hitherto putting the saddle on the wrong horse—hitherto trying to make the team go with the waggon first and the horses after—hitherto lecturing tenants to improve when he should have been lecturing landlords to emancipate and give security to their tillers of the land—hitherto pointing to Tiptree Hall as a model to follow while keeping religiously in the background that security of tenure and of capital which enabled and induced its tenant to steam-plough, manure heavily, and by other expensive processes at once increase its produce, and realise more wealth from it annually for the benefit of the community. By this practice of putting the wrong end foremost great mischief has been done—by it, in fact, a red herring has been drawn across the noses of the landlords, so to say. They have been thus led to blame their tenants where they should have blamed themselves. When they should have been considering in what possible manner they could give that security to their farmers which all capital requires, they were running after Mr. Mechi's lead, and calling for high cultivation under the six months' notice to quit!—I am, yours, &c.,

THOMAS ROBERTSON.

*Narraghmore, Athy, Nov. 24th.*

## DISEASE AND THE DECREASE OF LIVE STOCK.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I have read with great interest the various discussions on the importation of cattle disease and diseased cattle, and I see with dismay that most writers on the subject would allow store cattle to come from some foreign ports. Now, I think that small harm could arise from fat cattle being imported and slaughtered at the ports of our country, with proper supervision; but to allow store cattle to be sent into the heart of this country, and be trucked from fair to fair as they would be, I am certain would just be the worst plan that could be adopted for our buying graziers, and the means of bringing death and destruction to our breeding herds. Let us consider how free from disease our cattle have been for the last nine months, even though there have been reports of plague having visited some few localities. I attribute this to the care that has been exercised over the imports, and to the admirable manner in which the various railway companies have cleaned and limed their trucks. Only the

strict law that every truck must be cleansed and limed could have effected this reform; for the cattle dealers, as a rule, are the most careless offenders in this respect. What interest is it to them to have trucks cleaned? The cattle are out of their hands before any harm comes.

I see you publish from *The Times* a statement of the number of cattle in these islands and their apparent diminution. That is true I don't doubt, although many people are still averse to state the exact number of cattle on their farms. If we look back a few years, we see that disease killed a great many cattle, and the price of meat got up.

Well, that was a temptation to the breeder and grazier to part with his two-year-olds fat, instead of keeping them to three-year-olds, and increasing their weight from 40 to 60 stones. This statement will agree with the experience of all graziers of this class. When prices are high breeding farmers sell closer off their store cattle and sheep. I could give instances that I know well. We can remember when the dry summer of 1858 caused the Lincolnshire farmers to sell largely off their lambs in the autumn, instead of making them fat, and the price was as low as 8s. each—not the price of much mutton certainly. Well, when grass came again sheep got up very much in price, and the scarceness of store ewes caused the price to go up 20s. a head—over an average price for some year previously, and the advanced price kept up for three years. Then the reaction commenced as far as store stock was concerned. During those high prices I knew sheep breeders on high land that sold all their store ewes, and now that the price of store sheep is pretty steady they are getting up their stocks again.

Let us have no importation of store stock; but on all farms where it is suitable let our farmers rear good young cattle, and import corn and cake. On what are now corn farms grow green crops, sell more value in milk than you sell in corn, and as much or more in meat. You will have your own calves, which will do better for you than any stock you can buy, and value your corn crop as so much meat and bedding for your stock. In this county of Derby we are sending milk hundreds of miles north and south, and buying more keep for the cows on one farm than ten years ago was bought on ten, and we only look on our small quantity of plough-land as a convenience. I am, sir, yours &c.,

A GRASS FARMER.

## SUFFOLK STUD BOOK ASSOCIATION

A meeting of this Association took place on Friday week, at Ipswich, Lord Waveney, chairman.

The first question considered was the title of the Association, and it was resolved that it should be "The Suffolk Stud Book Association." Five was resolved upon as a quorum for committee meetings, and then came the consideration of the question as to the qualities required in a Suffolk horse.

Mr. GARRETT, being appealed to by the chairman, said it was difficult to define the qualities required, inasmuch as they were the good points of every good horse. They did not go in for hirsute appendages, or for particolours, they went for a

whole colour, and clean legs, without more hair than necessary. They claimed for a Suffolk horse that he should have every good point a good horse had about him—activity, constitution, and uniformity of colour. With regard to the head there might be some difficulty. His memory carried him back to when a plain head was rather characteristic of a Suffolk horse; still that could hardly be made a point of, for there was no reason the head should not be improved. It was comparatively easy to define a Clydesdale, but a Suffolk claimed all the good points of a good horse. In constitution, perhaps, the Suffolk horse was distinguished.

Mr. HERMAN BIDDELL said what a Suffolk horse should be was pretty well understood by breeders, but it required definition. At any rate they would be able, he thought, to say certain things which should not be found in a Suffolk horse.

The CHAIRMAN read the following letter from Mr. Manfred Biddell to his brother:—

Playford, November 22nd, 1877.

"Dear Herman,—I fear and much regret that through illness I shall not be able to attend the meeting to forward the promotion of a Suffolk Horse Stud Book, but I feel the importance of the subject, and send you my ideas of what a Suffolk horse should be. Colour—chestnut, golden or red hue preferred, free from white on legs, but a white star or shim on face rather approved than objected to. A few white or silver hairs well blended with chestnut on back and hind quarters belong to a certain strain of the breed, and have not been objected to, but these must be in too small quantities to be confounded with roan colour. Height varying from 15h. 3in. to 16h. 2in high, on short flat legs, with short strong pasterns, free from much long hair, hard clean legs with bone of compact quality being desired rather than large soft legs. Shoulders very long, lying rather forward to suit draft purposes. Hind-quarters long, heavy, well and close, coupled with loin and back, having the legs well under the horse. Girth should be large and flanks well drooped. If the fore hand is a little low, this is not objected to provided the neck is strong and the head well formed and carried with spirit.

In all other respects he should be as in all other breeds, long, low, and wide.

"Yours, &c.,

"MANFRED BIDDELL."

Mr. HERMAN BIDDELL thought chestnut would be sufficient as to the colour, and a gentleman present suggested that white should be noted as an objection, but Mr. A. CRISP said white faces were always characteristic.

Mr. MAYHEW said there would be no objection to a little ore hair of the right sort on the leg.

Mr. HERMAN BIDDELL said he had heard that remark before, but had never heard it from a man who bred or liked Suffolk horses. It came usually from good judges used to other breeds. He never heard old Suffolk breeders complain of want of hair provided the leg was good enough and big enough.

Mr. MAYHEW said he had heard it spoken of as a defect.

Mr. JAS. SMITH said he remembered hearing the late Mr. R. N. Shaw say the absence of hair under the dock was a characteristic of Suffolk horses.

The CHAIRMAN remarked that colour was undoubtedly a distinguishing characteristic, and

Mr. BIDDELL said they could not debar any of the horses which had always been recognised as Suffolks, although there were cases in which there had been out-county crosses. He supposed they would allow them to be entered with a full

account of how they were bred, so that the public would not be deceived in any way. He meant at the start; he would not in the future admit any such.

On the question of height,

Mr. GARRETT said Mr. Freeman informed him that Mr. Capon's Matchett was only 16h. 0½ in.; and Lord Stradbroke's mare was the same height.

Mr. CRISP said the breed originally was only 14 hands; and Mr. B. W. COOPER said he thought judges might be trusted to discourage anything like a leggy horse.

The CHAIRMAN thought some height should be defined.

Mr. COOPER, referring to what Mr. Biddell said in his letter about the head, said they could hardly have too long features.

Eventually it was determined that a sub-committee should be appointed to draw up a statement of the qualities desirable in a Suffolk horse, and present it at a subsequent meeting, the committee to consist of Sir John Blois, Mr. M. Biddell, Mr. B. W. Cooper, Mr. F. G. Freeman, Mr. J. Mayhew, Mr. J. Skeet, Mr. Jas. Smith, Mr. R. Garrett, Mr. Jas. Toiler, Mr. S. Wolton, Mr. E. G. Hodgson, and Mr. R. E. Lofft.

The secretaries were empowered to obtain office requisites, and a conversation then ensued as to funds, it being agreed that the fund raised by private subscription should be applied by the secretaries to the compilation of the first volume of the stud book, and on the motion of

Mr. GARRETT, seconded by Mr. HODGSON, it was agreed that a subscription of a guinea should constitute membership of the Association, and that each member should be entitled to have his name, residence, &c., entered in the stud book, and be supplied with a copy free.

In reply to a question it was said no charge would be made for entering horses in the stud book, and

Mr. BIDDLEL remarked that it would greatly facilitate the compilation of the stud book if owners would understand that it was not compulsory to stick to a few old names.

A conversation subsequently took place, when considering the contents of the book, as to the entries of mares, which

Mr. BIDDLEL regarded as attended with some amount of difficulty.

Sir JOHN BLOIS favoured some restriction as to the entry of mares, but

Mr. BIDDLEL thought it would be unwise to refuse to enter a mare which was perhaps undoubtedly a Suffolk, because her pedigree was not known, and most of those present agreeing that the basis to start upon should be broad rather than limited, a resolution was ultimately come to that mares should be entered with certified pedigree and history as far as practicable.

It was also resolved to enter Suffolk winners at the Royal Show, and winners at the Suffolk Agricultural and Woodbridge Horse Shows.

## WORKHOUSE LIFE.

We have received the following communication from the Secretary of the Howard Association:—

It is to be hoped that the attention of the Local Government Board authorities will be increasingly directed to the separation of pauper children and invalids from adult paupers and from unsuitable nurses, in consequence of what has recently occurred in a workhouse, near Birmingham, where an attendant has been sentenced to two months' imprisonment for cruelly beating, with a leather strap, a miserable

pauper, 75 years of age, blind, dumb, paralysed, and bedridden. In connection with this case the appearance, in *The Contemporary Review* (December, 1877), of a very valuable paper on "Pauper Children," by Mr. Francis Peck, is very timely. He advocates the enactment of a measure to prohibit the training of children in the same building with adult paupers, and to provide for their being brought up exclusively in District Schools, or in grouped Village Homes, on the Mettray plan, or on the Boarding-out system, individually, under regular supervision. He shows that the latter system is universally adopted in Scotland, where it works admirably in its moral, sanitary, and economical results, as described by Mr. John Skelton, in his interesting work on "The Boarding-out System in Scotland" (published by Blackwood). In that part of the nation pauper children are brought up for less than £12 per annum each, whereas in English workhouses they cost about £15, and in District Schools from £26 to £30 each. Mr. Peck describes the workhouses as being "the last home of the drunkard whose drunkenness has brought him to premature decay; the refuge of the tramp who can tramp no longer, and of the abandoned woman, whose dissipation and disease have driven from the very streets—in a word, the cess-pool into which drains the dregs of our population." Is this a proper place to train the young and helpless wards of the State? Yet of the 45,000 pauper children in England and Wales only 5,600 are in the District Schools, and less than 3,000 are boarded out. Mr. Peck quotes from the description of workhouse life given by an habitual visitor of those establishments:—"The nurses are to be pitied, living in an atmosphere of disease day and night, doing work which they hated, for bare food and clothing, their only hope an occasional day out to get tipsy. The assortment of strange bedfellows in a workhouse ward is such as poverty and the Poor Law can alone bring together. Men in convict-looking clothing are sitting on the sides of the beds; faces are amongst them on which one dare not look again. Strong bad men are dying here after lives of sin and shame—wild animals tracked to their lair, dying savage to the last. Children are here. The little pale boy of ten years old has been two years in that bed. A burglar is in one bed. In the next is a boy of sixteen, with an innocent face. Is it any wonder, then, that so many of the children, trained amid such horrible associations, afterwards become ruined criminals? And then the State pays £30 for each in prison, or £19 in a reformatory. Whereas by a better training at an earlier period, and removal from adult paupers, these young persons might, at much less expense, have been rendered useful members of the community, especially by the Village Home and Boarding-out systems. As to the objection sometimes urged against the latter, that it is difficult to find—at least in England—suitable cottage homes for the children, or to secure effectual supervision for them, Mr. Peck remarks truly—"This objection has not been sustained by experience, which shows that wherever the system has been fairly tried, and wherever real efforts have been made to obtain them, both homes and proper supervision have been forthcoming."

"Chestnut" should always be spelt with a "t" in the middle, in honour of its derivation from Chataigne and Castanea—both from the city of Castanea, in Pontus, whence chestnuts first came into Europe, as cherries came from a neighbouring town, Cerasus, now Keresoun.

## THE SMITHFIELD CLUB SHOW.

In spite of the removal of the Metropolitan cordon by the Privy Council, the number of cattle at the present exhibition is a great falling off from that of last year, which was an unusually large show. Pigs again were fewer. On the other hand, the number of the sheep is considerably in excess of that of last year. The following table will show the number of entries for the various breeds of cattle, for sheep, and for pigs, for this year and the eight previous years.

	1869	1870	1871	1872	1873	1874	1875	1876	1877
Devons .....	41	33	40	33	46	33	31	45	30
Herefords.....	24	43	30	28	33	23	22	33	20
Shorthorns...	50	45	41	43	65	32	33	53	30
Sussex.....	23	26	28	21	33	32	27	36	31
Scots & other breeds.....	23	28	26	24	16	54	72	74	57
Sheep .....	172	182	149	167	188	177	161	153	172
Pigs .....	55	55	60	56	49	47	46	61	51
Total entry ..	446	474	444	426	486	398	392	455	391

Precisely as at Birmingham, there was a want of finish in the bulk of the entries in all the cattle classes, which was heightened by the presence of animals which would have been in their proper place at a market or sale-yard, but which have no legitimate claim to be exhibited at such meetings as those held in Biggley Hall or Islington. It may be that a certain class of exhibitors find it indirectly remunerative to send an ordinary animal to one of the great Shows, by adding to their local reputation, securing a fancy price from some obscure butcher, who is equally desirous of purchasing fame cheaply, and perchance, obtaining from some quarter or other favourable mention, but this class of exhibits—the percentage of which appears to be increasing—lowers the tone of a first-class Show, and cannot fail to be prejudicial, in the long run, to the finances of the Club by lessening the interest taken in the meetings by agriculturists and the general public. The success of a Show must depend financially on its attractions, and practically on its usefulness; the discrimination of the British public is such that mediocrity, even in a cattle Show, is quickly detected, whilst farmers and graziers require something more than ordinary excellence to keep up their interest in Shows. The demand of the present day is not for overfed animals, wastefully and hideously fat, like they used to be, and as the pigs often are now, but for well and judiciously bred beasts, which have been equally well and judiciously fed and ripened for Show, smallness of bone, lightness of offal, fulness of flesh evenly laid on, and perfect symmetry, are the desiderata to be striven for. People are tired of seeing animals which are unsightly alive, unprofitable to produce, and comparatively useless for food when dead; the fashion for them is, happily, fast dying out, except in breeding-stock Shows, where, of all places, they should not be. We have recently remarked how few really first-class animals we see in a fat stock Show: some there were at Birmingham, and some at Islington.

but their numbers were few in each case, and we looked in vain for a champion really deserving the highest honours as Mr. Kidner's Devon undoubtedly did last year. We see no reason why such animals should not be forthcoming every year. If an unostentatious local breed like the Devons can turn out a representative possessing such marked and indisputable excellence, surely the pretensions Shorthorn might be expected to do as much or more. But the Shorthorns are cosmopolitan. Their virtues are many; but, notwithstanding the fabulous value attached by some breeders—and many fanciers—to certain strains of blood; they are not dazzling. The animals can be adapted to all ordinary circumstances, and therefore deserve the greatest amount of attention; but when sometimes they come into a Showyard or into a fat-stock market they are inferior to some other breeds, and superior to but few. The Herefords are capable of better things than we have seen lately, and the Scotch breeds are coming well to the front. There is no reason, then, that we can discern—except that of general agricultural depression—why the quality of future Shows should not be raised from the mediocrity which has characterised those of 1877 to a higher standard of excellence than has yet been attained, either as a whole or in individual cases. That which has been done before can be done again, and we trust the time is not far distant when the average quality of our great Shows will be equal to that of the best exhibits of those which have just closed.

The Devons, as a whole, were not as well represented as we have seen them in former years, and in detail they do not work out at all favourably. In Class 1 for steers not exceeding 2 years and 6 months old, the animals were all of very moderate quality. The first prize beast, a smooth-coated Devon, belonging to Mr. Overman, was fairly good, handled well, and was quite a finished animal for a youngster; the second prize was taken by Mr. W. R. Fryer with a stylish beast of no great merit; and the third prize animal, belonging to Mr. Arnold, had a good chine, and handled fairly well. In the next class, for steers not exceeding 3 years and 3 months old, the Prince of Wales was fortunate to secure the first prize, the Breed Cup for the best Devon, and the Champion Cup for the best steer or ox in the Show. These were very high honours for an animal of second-rate excellence, which is all we could discover in him. The character of this animal was good and his style neat, his back, rib and rounds good, and quality undeniable, but he stood high, and was not particularly straight nor level—altogether, in every respect, a very long way behind Mr. Kidner's older ox, which stood in 1876 as the representative of his breed. It is worthy of comment that last year the judges passed this animal without notice when exhibited in the younger class. He was possibly the best Devon, but we failed to see that he was the best male animal in the Show, as we shall point out further on. Mr. Phikard's second-

prize beast was in some respects a better animal; full of flesh, with excellent loin, shoulder, and chine, lacking the style of the first-prize winner, but weighing over one cwt. more. Major Buller's third prize was a level, good-backed animal, but failed in his rump and quarters. The rest of the class were plain animals, and scarcely deserved passing notice. The older beasts were a better lot, but nothing extraordinary. Mr. Overman's first prize was a big beast for a Devon, his live weight being 17 cwt. 1 qr. 20 lb. His shoulders were rather plain, and his ribs a trifle flat, but he had great thickness through the heart, and an extraordinary flank. The Prince of Wales took second prize with an animal exhibited at Islington last year without even a commendation, the beast was of nice character, like the first prize in the previous class, and both animals were bred by Mr. William Shapland, from the stock of Mr. Geo. Shapland; the quality was good, but he was slack in his back, and not well-finished for an ox of his age, 4 years 1 month. Major Buller's third prize had good chine, back, ribs, and loin, but failing quarters. Mr. William Ham obtained a high commendation for a big ox of the South Hams type, being by 1 lb. the heaviest Devon in the Show.

Amongst the Heifers and Cows we could find but one really good animal, namely, the first prize 3 years and 9 months old heifer, exhibited by Mr. John Overman; this was of true Devon type, very neat, and of excellent quality. Mr. Walter was second, Mr. Turvill third, and Major Buller highly commended; in each case for ordinary animals. Of the two cows exhibited by Mr. Walter and Major Buller, obtaining first and second prizes respectively, the same remark will apply; commendation instead of prizes would have met the actual merits of the case. To sum up the *status quo* of the Devons at Islington, it will be correct to represent them as contrasting favourably when numbers are considered, with the other pure breeds but that is not saying more than that the breed was but indifferently represented.

The Herefords were numerically weak, and the quality indifferent, considering their capabilities; on the whole they were not as good as they were at Birmingham, where they were not so good as usual. The younger steers were particularly disappointing, though three out of the four entries were bred by two of the best men of the day, Mr. J. Price, of Pembridge, and Mr. William Taylor, of Ledbury, the latter taking second prize with his own animal, and the Earl of Powis first and third prizes with selections from the herd of the former. But neither of the entries were up to the mark. A plain beast from Her Majesty's Flemish Farm was highly commended, and another bullock from the same herd obtained a first prize in the next class for steers not exceeding 3 years and 3 months old, where there is but that one entry, and had there been ordinary competition it would probably have been passed over without notice. The older bullocks in the class for oxen above 2 years and 3 months, and not exceeding 4 years and 3 months, were certainly not as good as they were in the same class last year; they were

all past maturity, and evinced that tendency to exaggeration of detail which over-fed animals generally do. It must be remembered that the herds from which most of these animals were derived—those of Mr. Philip Turner, of Pembridge, Mr. John Price, of Pembridge, Mr. Low, of Bromfield, and others—are as highly bred from long descent, and as select and pure—if not more so—than the more vaunted Shorthorns, and that the breeding and early treatment of these animals is such as to ensure their early maturity when put into the feeder's hands. And thus it happens that, after being taken to various parts of the country to be stuffed for show, and exhibited a full year after they should have attained their perfect maturity and ripeness, they come to hand as good beasts spoiled. They lose their flesh, and get unevenly fat; a naturally good loin, rump, or brisket is developed into a monstrosity. There cannot be much common sense or utility in the performance, and some day or other we expect to see the oldest class in the pure breeds not exceeding three years and six months, which would be quite comprehensive enough for all useful purposes; it would save time, money, and food, and be far more satisfactory to the breeders. The first prize was taken by Mr. Page, of Walmer Court, for a four years and two months old bullock bred by Mr. Dearman Edwards, of Brinsop Court, which also obtained the £40 Breed Cup, for the best Hereford in the Show. This beast handled well, had a wonderful loin, back, and chine, which, perhaps, made him appear a little flat-sided; his forehead was excellent, and the thickness through the heart very great. But with all this he had not that wealth of flesh that characterised the first prize animal bred by Mr. Low and exhibited by Mr. Wortley last year in this class, nor even of the first prize four years seven months old Hereford ox bred by Mr. Bowen Jones and exhibited by Mr. Wortley this year at Birmingham. The second prize fell to Mr. Wortley for a grey bullock bred by Mr. Low, and the third prize also to Mr. Wortley, for an animal bred by Mr. Philip Turner, of Pembridge, weighing 22 cwt. 2 qrs. 16 lb., the heaviest Hereford in the Show; both of them having fed out indifferently, both were very uneven, and the latter did not handle particularly well. The Earl of Powis obtained a high commendation for an animal bred by Mr. John Price, and commendations were given to the Earl of Darnley and Mr. John Pritchard, for bullocks from the herds of Mr. Lewis, of Shehden, Leominster, and Mr. Samuel Jones, of Wenlock, respectively. The Hereford heifers were better as a class, and the individual merit was greater. Mr. John Pritchard, of Stanmore, took first prize with an animal bred by himself, of good quality, straight and level, with excellent rounds and twist, but a barely covered shoulder. The second prize fell to Mr. Rees Keene, and the third to Mr. James, in both cases for excellent Herefords bred outside the county. Mr. Darby, of Baschurch, was highly commended for a very pretty heifer, bred in Shropshire, which was not level enough to take the third place, though of better character and quality than the



one placed above her, and Mr. Peren, of South Petherton, was commended for a Somersetshire-bred heifer from his own herd. This class was a good one, though, unfortunately, very small; no doubt the exhibitors would rather have seen their respective entries in-calf at home, but there are usually barrens enough to be found to make up a larger class than this was. The four cows exhibited were very indifferent, and the awards will be found in the prize-list. Taking the Herefords as a whole, they were sparingly represented, the older oxen not as good as they used to be in slower-going times, and the young steers not in their usually good form; whilst the most important class of all, that for steers not exceeding three years and three months old, was virtually unrepresented—containing only one animal of no show merit. On these grounds we have a right to be disappointed with them.

The Shorthorns were about the most "mixed" lot we have ever seen at Islington. All the bad qualities and imperfections of this breed appeared in *basso-relievo*, whereas the excellencies and good points were *intaglio*. Bare shoulders, imperceptible neck-veins, narrow chine, flat ribs, bad rumps and rounds, coarse bone, thin flesh, and thick fat, all to be seen at the first fat stock Show in the world. In the class for Shorthorn steers, not exceeding 2 years and 6 months old, Sir John Swinburne, Bart., takes first prize with a promising beast, very level, but inclined to be coarse—had far too much daylight underneath him. Mr. Bult's second prize was a short, but stylish Shorthorn, of good quality; and the third prize fell to Mr. Beasley for a good-coated steer, handling well, but small behind his shoulders. The class was indifferent. The next class, for steers not exceeding 3 years and 3 months, contained only one entry—a plain-shouldered flat-sided, uneven bullock, with a good loin, belonging to the Prince of Wales, and to this animal the judges awarded the second prize, although it was difficult to see that even a bare commendation was deserved. The oxen above 3 years and 3 months, and not exceeding 4 years and 6 months, were not as creditable to the Shorthorn breed as the corresponding Herefords were to their breed—which is saying very little for them. Of the four exhibited there was not one good one. Mr. Bruce's ox, which took the first prize, handled well, and was a moderately good Shorthorn, with good quarters and flank, excellent rounds and twist, ribs not well sprung, flat sides, narrowish chine, and a plain shoulder—just about what moderate Shorthorns usually are. The second prize is taken by Sir R. C. Musgrave, Bart., with a big beast, 4 yrs. 2 months old, weighing 2½ cwt. 2 qrs., the heaviest animal in the Show. He stood high on his legs, but was not the coarsest beast of his breed, and was level and thick-fleshed. The heifers were a good class, the best of the Shorthorns independently of containing the winner of the Champion Plate of 100 guineas. Mr. Catchpole's white heifer, of his own breeding, 3 yrs. and 7 months old, was a really good Shorthorn, as we described her last week before the

prizes were awarded; and when her utmost merits have been allowed there is absolutely nothing more to say about her. Handsome and square, white, taking and attractive, and of decent quality, this animal was well-fitted to become *the* attraction of the Show; but we are inclined to think that there was at least one better animal there. One thing has been clearly proved again and again—that if there is the barest possibility of awarding the championship to the Shorthorn breed, the straining of a few points will not hinder it. On occasions like last year it could not be helped, but they are few and far between. This heifer is better than Mr. Stratton's heifer at Birmingham, which was a year younger, in respect of character, which is of the true Shorthorn type, and also with regard to her scale and wealth of flesh, her live weight being 18 cwt. 0 qr. 22 lb.; but as a champion plate winner she was not worthy of being mentioned in connexion with Mr. M'Combie's polled Scot some years ago, and Mr. Kidner's Devon of last year. The honours were great: the Champion Plate of 100 guineas as the best beast in the Show; £50 Champion Cup as the best heifer or cow; £40 Breed Cup as the best Shorthorn; and £20 as the winner of the first prize in her class—in all £210—for being a Shorthorn, and white and pretty into the bargain. The second prize fell to Lord Tredegar's heifer, which could boast a good loin, but nothing much beside, and Mr. St. John Aekers' third prize was plain in her shoulders and crops, very slight through the heart, and faulty in the rump, quite a common-place animal. Mr. Fox Beavan was highly commended for a particularly uneven heifer, very fat, and having an extraordinary back and loin. Mr. Joseph Stratton's heifer was also highly commended, and commendations were given to Mr. Rickett, Mr. Marsh, Sir J. Swinburne, and Lady Emily Pigot. This class was the best of the Shorthorns, and would have been a fairly good one had two animals been absent—one from Her Majesty's Shaw Farm, and the other belonging to Mr. Covell, of Pickhurst Green. The Cows were very plain, one of the worst classes, if not the worst, in all the Show. The first-prize animal, belonging to Mr. Burn Blyth, was a very firm-handling cow, but common-place to a degree not usually seen even in a local show. It is needless to describe the rest, except that the third prize was given to an animal exhibited by the Messrs. Franklin, of Ascott, Wallingford, which could boast a development of the "fools' catch" which exceeded anything common to old-fashioned Herefords "in the days when we wore straps." The Shorthorns, as a whole, were a very poor example of what this famous breed can do, on its own merits, in the way of producing first-class butchers' beasts.

The Sussex Cattle were numerically strong, but in very few instances were they really well-finished. Mr. Agate's first prize in the younger class was just a useful steer and nothing more. The second prize, belonging to Mr. Coote, was of nice quality, and the rest plain enough. Mr. Agate also took first prize in the next older class, and also the Breed Cup of £10 for the best Sussex

beast in the Show. This animal had many faults, but was a good firm handler. The oxen were a better lot, and Messrs. Icasman's first prize was a very useful butchers' beast, weighing 21 cwt. 0 qr. 2 lb. live weight.

There was nothing else of any consequence amongst these classes except a cow, bred and exhibited by Mr. Campion, which was the only entry in the class, and which was very justly awarded the first prize. This was a better cow than we could find amongst the Shorthorns by a long way, and, but for her want of firmness, might, perchance, have taken the Breed Cup instead of the ox.

The Norfolk and Suffolk Polled breed was not worthy of mention, and there was only one Welsh animal exhibited.

The Scotch breeds, though irregularly and sparingly represented, contained exhibits of great merit, surpassing in quality anything else in the Show. The West Highlanders were, as a class, poor, yet two of their number were extraordinarily good; the yellow dun belonging to Sir William Gordon Cumming, which took the first prize, was a 5 years and 9 months old animal, perfectly finished, not over-ripe, and full of the very best quality flesh possible—level and good all over. It is not easy to understand why this bullock, weighing 20 cwt., should not, on his merits, be accounted a better animal than the champion Devon, which is not worth as much in any one respect; yet so the award was placed. The Duke of Roxburgh's black was second, and was also a most capital bullock; these animals had not been forced in their youth, and had slowly grown into natural maturity under careful and judicious feeding, being worth more per pound consuming value than anything else in the Show excepting, perhaps, the Polled Scot heifer belonging to Sir W. Gordon Cumming, which, after some hesitation, was awarded the Breed Cup as the best Scot, in addition to the first prize in a small class of two. This was a beautiful animal, fine in quality, the least possible amount of offal, level and good all over, with a touch which could not well be surpassed. She was so unusually good in her round and twist that her rump looked a little defective in consequence, but we should like to have seen her take the honours which fell to the Shorthorn, and do not hesitate to pronounce her the better heifer of the two—a better butcher's beast, and a better Scot than the other is a Shorthorn. All the Polled Scots were good, though not all up to the mark; Mr. McCombie's animals, for instance, are not in their usual form—no doubt the Metropolitan market pays him better; they are always right enough there.

The Cross and Mixed-Bred Cattle were, of course, the most useful, and were good—in some instances very good—but we have seen them better, and that as recently as at Birmingham. No doubt these are the sort of animals to encourage at fat stock Shows. The entries afford useful study in the art of cross-breeding, and the results are very plainly in favour of a cross between a pure-bred Shorthorn bull and a polled Aberdeen or Galloway Cow; and where there are further crosses on the side of the cow the good effects of crossing are lessened. Thus we have

noticed that one cross of Shorthorn blood on the side of the dam is not as good as none at all, and that two crosses are worse than one, the blood of the sire having that much less power; this rule is also exemplified by the complete power of the pure-bred sire over an absolutely mongrel dam. There were no bad animals amongst the crosses at Islington, and yet there was lacking the excellence we have seen on former occasions. Lord Lovat took the first prize in the class for oxen with an animal weighing 22 cwt. 2 qrs. 3 lb., a very full-fleshed and excellent butchers' beast of the most approved cross, between a Shorthorn bull and Aberdeen cow, taking also the Breed Cup of £40 for the best cross-bred in the Show. A cross-bred heifer, by a Shorthorn bull out of a polled Galloway cow, exhibited by Sir Walter Calverley Trevelyan, Bart., which took the first prize in an excellent class, was one of the most evenly fed animals in the Show, beautiful rib, back, and loin, and remarkably level, as if cast in a mould—one of the best females. In this division was an American ox, exhibited by Messrs. John Bell and Sons, of Glasgow, and bred in Kentucky, which was awarded a second prize; this animal was a representative of the best "grade" Shorthorns which come to us in the form of dead meat from the United States, having the appearance of a second-rate Irish bullock.

To sum up the whole of the cattle classes, we have to notice a falling off in quality and finish, and to point out the fact that both in the Hereford and in the Shorthorn divisions, the most important class of all—that for Steers not exceeding 3 years and 3 months old—there was only one entry in each case, thus depriving the Show of what should be its chief feature so far as those two breeds are concerned. Another year we hope to see an alteration in this particular, and in other respects to see a better show of cattle.

The Sheep classes were well filled and the general quality of the exhibits was of a very high order. This section of the Show showed no signs of deterioration or flagging of interest, and some of the pens were of unusual excellence. The Southdowns were good throughout, each of the classes being commended by the judges. Amongst the wethers, under 23 months old, Lord Walsingham was victorious, taking both first and second prizes, and the Breed Cup of £20 for the best pen of Southdowns. It would be difficult to find six better sheep than these two pens contained; the character, style, and quality of the Merton flock is so well known that it is unnecessary to state more than that these wethers were turned out in the most excellent form, although we fancied they might have handled a trifle better. The weights of these pens were 6 cwt. 8 lb. and 6 cwt. 21 lb. respectively. The third prize was taken by Mr. Henry Humphrey, of Pulborough, with a pen of very useful sheep. Messrs. Emery, of Pulborough exhibited a pen of sheep possessing many good qualities, which secured for them a very high commendation; Mr. Penfold's sheep were also highly commended. The Sandringham flock was not at all well represented this year, and the same may be said of

Mr. Rigden's and the Duke of Richmond's. The Goodwood sheep seem to have gone wrong altogether of late, and we cannot but regret to see a flock, once so famous, losing its prestige. However, the sheep of these exhibitors, with others, were all good enough to call for a class commendation from the judges. The same with the ewes; Mr. Peufold's first prize pen handled to perfection, and Messrs. Emery's second prize ewes, though not so firm, were excellent sheep. The Prince of Wales showed a pen of capital ewes which were highly commended, as were the very pretty and fine quality sheep sent by Mr. Colman and bred from the flocks of Mr. Rigden and Lord Soules. The Earl of Suffolk was also highly commended for a pen of ewes bred from Sir W. Throckmorton's stock. The Duke of Richmond's ewes were very nice, but had no chance to win in such a class. The lambs were also commended by the judges. Messrs. Heasman, of Angmering, took first prize with a very excellent pen of lambs, with good backs and shoulders, capital legs of mutton, and very firm handlers—very useful, as the sheep from this flock always are. Another pen, exhibited by the Messrs. Heasman, was highly commended. Mr. Colman's pen, bred from the stocks of Mr. Rigden and Sir W. Throckmorton, took the second prize. Mr. Herington's lambs were highly commended. Altogether, the Southdowns—notwithstanding a few weak places—were a capital lot of sheep.

The Hampshire and Wiltshire Downs were in smaller force in the ewe and wether classes than last year, but there was an excellent show of lambs. All the classes were commended by the judges. The five entries of wethers were all good, Mr. Morrison, of Tisbury, taking first and second prizes, and the Breed Cup of £20, with very fine quality mutton. Mr. Lewis Loyd's third prize pen were square-made, good-character Hampshire sheep, and Mr. Thomas Dodd and Mr. Henry Lambert were both highly commended. For ewes Messrs. Palmer, of Cliddesden, Basingstoke, took first prize for very firm-handling sheep of the old style, and Mr. James Read, of Hornington, Salisbury, was second with excellent quality. The lambs were wonderfully good, and there were no less than 13 pens in competition. The first prize fell to Sir Edward Hulse for very stylish lambs, of good quality and fine proportion, yet scarcely so good under the hand as Mr. Twidell's second prize entry, which handled firm as wethers but were not quite so evenly matched as the first-prize lot. The live weights of the first and second prize pens were 5 cwt. 1 qr. 19 lb. and 5 cwt. 1 qr. 3 lb. respectively. Mr. Twidell was also highly commended for a second pen of the same sort, also full of flesh and wonderfully good for their ages, 9 months and 2 weeks. The Shropshires were few in number, and good in quality as usual, still, nothing out of the way for this excellent breed of sheep. Mr. Thomas Nock secured the first prize in the wether class and the Breed Cup of £20; Lord Chesham was second and third with wethers, and first with ewes. The one pen of lambs exhibited was not of sufficient merit to secure even a commendation. The

Oxfordshire Downs were very weak in numbers, there being only 8 entries; Mr. Brassey was first, and Mr. Nathaniel Stillgoe second and third for wethers of not more than ordinary show quality; but Mr. Druce's first prize pen of ewes was very excellent, securing the £20 Breed Cup. Mr. Druce also took second prize for another entry and Mr. Brassey was highly commended for ewes, taking also the first prize for a pen of lambs—the only entry.

Leicesters were fairly good, Mr. Painter, of Oakham, taking first prize in the wether class, Mrs. Perry Herrick second, and Mr. William Brown third, Messrs. Green and Sons' first prize pen of ewes securing the Breed Cup of £20. Two pens of lambs exhibited by the Earl of Lonsdale were only passable. For Cotswold wethers Mr. S. Smith obtained first prize and the Breed Cup, Mr. Jacobs being second and reserve. For ewes Mr. Russell Swanwick, of the Royal Agricultural College Farm, Cirencester, was first and second; Mr. Smith received honourable mention for two entries, one weighing 8 cwt. 3 qrs. 18 lb., and first prize for one of his two pens of lambs, which were the only entries. The Lincoln ewes were distinguished by furnishing the Champion pen of the Show, Mr. John Pears, of Mere, Lincoln, taking first prize, the Breed Cup of £20, and the £50 Champion Plate for the best pen of sheep in the Show. These were very high honours for any long-woolled breed to obtain, because, however good the sheep may be of their kind, the mutton is not of equal consuming value to that of the short-woolled breeds. But for all that, these ewes took the honours, and fairly deserved them; they were a very extraordinary pen of sheep, good all over, handling beyond all criticism, and weighing no less than 9 cwt. 1 qr. 14 lb. live weight. There could be no question as to the award, but we should like to see these sheep dressed and hung up by the side of Lord Walsingham's wethers, Mr. Morrison's wethers, or Mr. Peufold's ewes. It would seem that a carcass of mutton weighing probably something like 50 lb. per quarter could scarcely win from the consumer's point of view. They handled like firm flesh, but it is hard to believe that it was not fat after all. Mr. Aigernou Hack's second prize pen of ewes weighed 8 cwt. 2 qrs. 7 lb. live weight. Mr. Sell's first-prize wethers were fine sheep, as were also the second and third prize winners, exhibited by Mr. Hopkins and Mr. Gunnell respectively; Mr. Gunnell also received a first prize for his pen of lambs, the only entry in the class. The Kents were in very good form, Mr. Page, of Walmer, taking first prize and the Breed Cup for wethers, and Mr. de Chair Baker winning with ewes, Mr. Henry Rigden being second. Cheviots, Ryelands, Dorsets, Norfolks, and Mountain Sheep, were about as usual—just enough of each to form a sort of "variety column" in the programme of the Show. Seeing that Irish sheep contribute largely to our supply of mutton, especially to the Northern towns, a class for Roscomons, if introduced into the Birmingham and Islington fat stock Shows

might prove useful, and be more successful than the recent attempt made at the Royal at Liverpool to encourage the breed. The cross-bred sheep were interesting, and contained some very good entries. The first prize and Breed Cup of £20 was taken by Mr. Overman with a pen of 21-month wethers, bred from Southdown ewes by a long-wool ram. The quality was very good, and the animals were of the Down type, weighing 7 ewt. 2 qrs. 10 lb. The cross-bred lambs were fairly good. On the whole the sheep were highly creditable to the breeders and exhibitors—certainly the best section of the Show. It is worthy of remark that not only the Champion Plate, but three Breed Cups were taken by ewes, namely Lincolns, Leicesters, and Oxfordshires; but the Downs proper win in the wether class.

The Pigs were very well done, and not, as a rule, overdone. For the white breeds the Earl of Radnor and the Marchioness of Camden secured first honours, the former taking the Breed Cup of £15. Of Improved Dorsets there were but three entries, Mr. Coate, of Hammoon, taking two first prizes and the Breed Cup. Berkshires were, as usual, very good; Mr. Edwin Drew and Lord Chesham were first and second with pigs under 9 months old, Mr. C. L. Sutherland and Mr. Richard Fowler first and second with pigs not exceeding 12 months old, and Lord Chesham and Mr. Nathaniel Benjafield first and second with pigs not exceeding 18 months old; Lord Chesham taking the Breed Cup. Mr. John Coate, of Hammoon, took first prize for single pigs with a very handsome Improved Dorset, and the same fell to Lady A. Murray for a Berkshire. There were 19 entries in this class, and most of them were good animals. It is to be hoped that another year the committee of management will try "Sautas," or some less objectionable purifying agent than carbolic acid, at least for the piggeries; it may be highly effective, but its pungent odour when mixed with the effluvia of swine melting in their own fat is a most unhappy combination, producing an effect on the human system, and a sensation on the olfactory nerves, which is perfectly indescribable. An improvement in this respect would be highly desirable.

#### ROOTS, IMPLEMENTS, &c.

On entering the Hall, first to be visited were the stands of the great seedsmen, not only because these are always very interesting and attractive to inspect, but also because it is only early in the day that it is easy to see them, as they are always thronged with visitors as soon as the Hall begins to fill. Following the stands in their order according to their numbers, the first show of roots, seeds, &c., was that on the stand of Messrs. Dick, Radcliffe, and Co., on which we noticed specimens of field roots, field and garden seeds, garden tools, and a picturesque display of gourds of various shapes and colours. The next seedsmen's stand was that of Messrs. Thos Gibbs and Co., of Hammoon-street, Piccadilly. Here there was an excellent display of roots, all selected, we

were assured, from field crops. The Green Globe Turnips and Swedes were particularly good, and there was a creditable array of Mangels, Kohl Rabi, Cabbages, and other farm and garden produce. A little further on was the stand of Messrs. Webb and Co., of Wordsley. Here we especially noticed a capital lot of Webb's Imperial Swede, some very fine Colonel North Globe and Intermediate Mangels, and some capital Kohl Rabi. The Kinver Globe Mangels and the Turnips were also good, and altogether there was a great uniformity of excellence in the roots exhibited, with respect to both size and quality. The Long Red Mangels are the least creditable on this and all the other root-stands in the Show. Throughout the country this variety of mangels suffered from the prolonged drought of last summer, and are both smaller and more fangy than they have been since they were improved from the ugly old Long Red, narrow at the way up, to the broad-shouldered Mammoths of the present day. There is no such heavy cropper as the improved Long Red, called by various names by the different seed-growers, and its failure to maintain its position this year, in comparison with the best Globe varieties, should not prejudice farmers against it. Seed-growers will have some trouble in selecting a sufficient number of large and shapely Long Reds from which to grow their stock seed next season, and if they have enough seed of last summer's crop to hold over, it would perhaps be advisable to do without selection for one year. Messrs. George Gibbs and Co. had an attractive exhibition of roots, potatoes, and other varieties of field and garden produce. Twelve cabbages weighing 629 lb. were especially noticeable, and their Orange Jelly Turnips are very pretty roots, and possess, we have no doubt, a very high feeding value, although they cannot be heavy croppers. There were a hundred varieties of potatoes on this stand. Messrs. Raynbird and Co., of Basingstoke had a nice display of turnips and other roots, seed corn, grasses, &c. In passing on to the next root-stand, we noticed some very fine potatoes, hops, and corn on Messrs. Amies' stand, grown with the help of their Chemical Manure. A little further on was the large and striking display of Messrs. Carter and Co., of High Holborn. We recently gave a detailed report of the capital Root Show held by this enterprising firm in the Agricultural Hall, and we then had occasion to write in terms of admiration of the great display as a whole, and of a large proportion of the classes in particular. At the Smithfield Club Show Messrs. Carter had some of the best of their previous exhibits, and, as far as we remember, they have never had a more creditable stand. Taking the season into consideration, it was surprising to see the Warden and Intermediate Mangels so large, whilst in respect of quality and symmetry we have never seen them better. The Long Reds on this as on all other stands were inferior to the other varieties, and to the specimens of the sort shown at previous exhibitions. This is the fault of the season, and not of the stock. There was a grand display of Carter's Imperial Hardy Swede, the

roots being of great size and good quality. Still more remarkable were the other turnips—the Improved Purple Top Mammoth, Imperial Green Globe, Devonshire Grey Stone, and other varieties. Never before have we seen such a beautiful lot of turnips as there has been on this and other root-stands at the Smithfield and other Shows this season. The show of potatoes was a very good one, some beauties from Sandringham being amongst the rest. Of these, it was reported in a daily paper, the Prince of Wales, when inspecting Messrs. Carter's stand on Monday, remarked that he had not any so good reserved for his own table. The stand was further embellished with the usual specimens of their dried grasses. Next but one to the great stand just noticed was one of more modest pretensions, but by no means to be passed by hastily. Mr. J. H. King, of Coggeshall, is often to be found between the great stands of Messrs. Sutton and Carter—whether in order to separate those great rivals, or from his own choice, we are unable to determine. At any rate he has no reason to hide his exhibits, which are excellent in quality and shape, and of a goodly size His “Unrivalled” swedes, if not precisely unrivalled, were amongst the best, and his Orange Globe Mangels showed signs of careful selection in respect of form, quality, and freedom from fangs. There were also some very nice Essex Prize Yellow Globes, and some excellent Green and White Globe Turnips, Kohl-Rabi, and other roots; also samples of seeds. Messrs. Sutton and Sons, of Reading, always have a large stand admirably filled and arranged; but we do not remember ever to have seen on it a more splendid display of roots, vegetables, seeds, and grasses. We have seen larger mangels, but never any of finer quality or truer form than the Berkshire Prize, Intermediate, and Golden Tankard specimens. Even in point of size these roots were wonderful for the season, and we did not expect to see them so large. Their usually broad-shouldered Mammoth Long Reds did not show their type to perfection. Like other long red mangels this year they had no pretence to beauty, but they were the only exceptions to the general excellence of the exhibits. The well-known Champion Swedes were excellent, being very large and well-shaped, and the Purple Top, Pomeranian White, Grey Stone, and Green Globe Turnips were remarkably fine in size, true in form, and excellent in quality. The show of potatoes on this stand was very good, Sutton's Magnum Bonum and other choice varieties attracting special attention. The Snowflake and other American varieties, grown by Mr. McKinlay, were perfect beauties, as we had occasion to describe them when referring to their appearance at Birmingham. The Cabbages, White Belgian Carrots, and other field and garden vegetables were also good. We recently criticised all the varieties of Messrs. Sutton's exhibits when reporting their great Root Show at Reading, and at the Agricultural Hall there was a selection of all that we saw at Reading. The stand was further set off with specimens of grasses, samples of seeds, and other articles too numerous to men-

tion here. One thing, however, we have forgotten that should not go unnoticed, and that is the very fine show of onions. Messrs. Harrison and Sons, of Leicester, had a good show of roots and other vegetables, amongst which we noticed some of their Normanton Globes Mangels, very fine in quality and of fair size, some excellent Defiance Swedes, and White and Green Globe Turnips.

By the time that our inspection of the seedsmen's stands was completed, the galleries had become so crowded with visitors that it was hardly possible to make certain of seeing all that called for attention in this part of the show, still less of inquiring of the exhibitors or their representatives if they had anything new to show. Consequently it is probable that many objects of interest deserving of comment escaped our attention. Of course, the vast majority of the exhibits have been often seen and described before, and to attempt to mention all the stands would be tedious to writer and readers alike, especially as our list published last week briefly mentioned the principal articles shown by each exhibitor. Near the root stands we noticed one that chiefly attracted the attention of visitors from the display of some magnificent silver cups and plates. This was the stand of Messrs. James Gibbs and Co., of Mark-lane, the well-known manufacturers of the “Pure Feeding Cake” and manures. Samples of the cake were shown, and above them were a Hundred Guinea Silver Cup for the best beast in the Smithfield Club Show, 1878, another Hundred Guinea Cup for the best beast in the Birmingham Show next year, a Fifty Guinea Cup for the best pen of sheep at the Smithfield Club Show, and a piece of plate of the same value for the best pen at Birmingham. It will be remembered that Messrs. James Gibbs and Co. gave some liberal prizes at Birmingham this year. These prizes are offered in a liberal and sensible manner—not after the fashion of a challenge cup, which must be taken in two following years, or three times altogether by the same exhibitor before it is won. Mr. Thos. Bigg showed his sheep-dipping apparatus and composition; Messrs. Day, Son, and Hewitt, of Dorset-street, London, their well-known cattle medicines and chemical compounds; and Messrs. Day and Sons, of Crewe, their cattle medicines. Mr. W. H. Hale exhibited samples of manures for all kinds of agricultural produce. Messrs. Matthews, Son, and Co., of Driffield, had samples of their famous cake, “Driffield Special” Linseed and Corn Cakes, nitro-phosphate, and other manures; and Messrs. Oilendorf and Co., of Leadenhall-street, showed Peruvian guano, both raw as it comes direct from Peru, and dissolved, with guaranteed analysis.

There was a large show of implements, in many of which there were improvements in detail too numerous to mention in our necessarily limited report, but not many striking novelties. In the galleries Messrs. Barford and Perkins, of Peterborough, showed their steam ploughs, grinding mills, cake-crushers, rollers, and other machines; Mr. Boby, of Buŷy St. Edmunds, his well known corn-screen, dressing machine, haymaker, and horse-rake; Mr. Brenton, of Pothallic, St. Germans, the mowers and

reapers which we have often had occasion to mention together with lifting-jacks, sheep-racks, &c.; Messrs. Burney and Co, farm cisterns, tanks, cattle-troughs, and corn-bins; Messrs. Colcman and Morton, of Chelmsford, their famous cultivators, corn-screens, liquid manurecarts, &c.; Messrs. Corbett and Son, of Wellington, grinding-mills, root pulpers and strippers, and cake-breakers; Messrs. Harrison, McGregor, and Co., of Leigh, Lancashire, showed their "Albion" mowers, which were successful at several trials last summer, and their equally well-known reapers; Messrs. Hunt and Tawell, of Earls Colne, showed horse and pony gear, chaff-cutters, dressing machines cake-breakers, &c.; Messrs. Hughes and Co., of the Borough S.E., exhibited millstones, corn measures, sack-barrows, and other requisites of the mill and the barn; Messrs. Lowcock and Barr, of Shrewsbury, a mower, horse hoe, chaff-cutters, sack-barrows, &c. and Messrs. Picksley, Sims, and Co., of Leigh, Lancashire, chaff-cutters, mills, root pulpers, and slicers, &c. Messrs. Rollins and Co., London Bridge showed their "Hollingsworth" horse-rake, the teeth of which are made of steel, tempered in oil, seed-sowers forks, pumps, hoes, and other tools. On Messrs. Samuelson and Co.'s stand there was a self raking reaping machine, the "Imperial," fitted with six rakes, any one of which may be used as dummy at the will of the driver, with a new arrangement of gearing, and made light in draught to suit hilly districts and the Continent. In other respects the machine differs from the well-known "Omnium" reaper which was also shown, as well as the "Eclipse" reaper, the "Gem" mower, and a combined machine. The well-known Gardner's turnip cutters were also exhibited by Messrs. Samuelson. Messrs. Vipan and Headly, of Leicester, had a good show of ploughs, horse-hoes, pulpers, corn-crushers and other machines. Mr. Walter A. Wood, of Worship-street, London, showed his well-known reaping and mowing machines. His famous self-binder is now widely known, and we fully described it in our notices of its successful trial last autumn; his other reapers and his mowers have also been frequently described in these columns. Messrs. Burgess and Key also exhibited their excellent reapers and mowers, some of which are especially adapted for the Colonies. A new cutter bar for mowers has been recently introduced by this firm, the new arrangement being one by means of which the cutting edges of the fingers can be taken out with the knife to be sharpened when requisite. Messrs. Stidolph and Aggio, Woodbridge, showed their seed and grain cleaners to which we have on previous occasions called attention. Mr. Le Butt, of Bury St. Edmund's, exhibited his corn and malt screens, haymaking machines, plough, and harrow; Messrs. Waite, Burnell, and Co., of London, a New England "Tiger" horse rake; Mr. Bamlett, of Thirsk, and Mr. W. Anson Wood, of Upper Thames-street, reapers and mowers, and Messrs. Woolnough and Co., horse hoes and drills. For other exhibits in the galleries we must refer our readers to the list which we gave last week.

On the ground floor Messrs. Robey and Co., of Lincoln, occupied Staud No. 1, with their traction and vertical engines, the wheels of the traction engine being fitted with inner tires of india-rubber. Robey's patent Tubulous Boiler is fitted to all engines if required. Messrs. Wallis and Steevens, of Basingstoke, showed a thrashing machine, corn elevator, and a new traction engine. They manufacture Petzold's Patent Spark Extinguisher, which they fit to any engine if desired, but did not exhibit one at the Show. This ingenious apparatus can be fitted to any engine, new or old. It consists of an inner perforated case fitted into the base of the chimney, and a tube, by means of which steam from the exhaust pipe is brought to the chimney base and forced through the perforations so as effectually to extinguish all sparks as they rise. Messrs. Garrett and Sons, of Saxmundham, showed their thrashing machine, engine, drills, and horsehoes. Messrs. Iloruby and Sons had a large show of their famous reapers, mowers, single and double-furrow ploughs, thrashing machine, engine, &c. We did not notice any alteration in the construction of the reapers or mowers since we noticed them at the summer Shows. The stand was draped with black cloth, the lamentable occasion of which—the sudden death of the head of the firm, Mr. Richard Hornsby—is probably known to all our readers. Messrs. Barrows and Stewart, of Banbury, showed an engine and thrashing machine of their manufacture. Messrs. Tasker and Sons, Andover, and Messrs. Tuxford and Sons, of Boston, exhibited engines and thrashing machines. Messrs. John Fowler and Co., of Leeds, showed a 6-horse power traction engine for agricultural purposes, fitted with a patent hauling drum and 50 yards of rope, especially designed for driving a thrashing machine and straw elevator, and for hauling them on ordinary roads, up steep inclines, or on otherwise difficult ground, without complicating the wearing parts of the engine. Messrs. Fowler also had a 14-horse power steam cultivating engine, an 8-horse power traction engine for agricultural purposes, a 5-furrow plough, with patent adjustable skifes, a 9-tined cultivator, a model of Deucaville's Patent Portable Tramway, and a model of a discer intended to cultivate newly reclaimed land after it has been ploughed once. In all Messrs. Fowler's engines, they informed us, the crank shaft, intermediate shaft, and hind axle bearings are accurately fitted or let into the wrought iron plates of the boiler and bar, so that all strains are taken by the plates instead of by the bolts, which are only used to keep the bearings in their places. Messrs. Clayton and Shuttleworth showed traction, portable, horizontal, and vertical engines, and a thrashing machine fitted with Wilder's Patent Drum Guard. Messrs. Burrell and Co., of Thetford, have fitted one of their patent winding drums on to the hind axle of their 6-horse agricultural locomotive engine, which is also fitted with two speeds, and with differential motion for turning sharp curves. They also exhibited an 8-horse power combined ploughing and traction engine, fitted

with two speeds, their Patent Winding Drum, and compensating gear. This engine is intended to be used as one of a pair for ploughing on the double engine system; but it can also be used singly for other purposes by taking down the ploughing drum and reversing the fore-carriage. Messrs. McLaren, of Leeds, showed an 8-horse power agricultural locomotive engine, similar in design to the 6-horse power engine which we described in our report of the Liverpool Show. The specialties of the engine have stood the test of further trial, and are adhered to by the makers. All the gearings are of steel, and all engines are made with duplicate speeds, the alteration being effected by means of two levers working in a catch plate in such a manner as to render it impossible for both pinions to be put in gear at the same time. A long-stroke pump and other improvements have been adopted. Messrs. Davey, Paxman, and Co. had, besides their excellent engines, an improved form of Pamphilon's Patent Farm-yard Manure Spreader. We gave a description of this machine as Delf's Manure Spreader about a year ago, Captain Delf, of Bentley, Essex, having it then in his hands, and at work on his farm, with the object of improving it. It did its work very well when we saw it, but with Captain Delf's assistance Messrs. Paxman and Co. have introduced some important improvements. One of these is a semi-circular slide in the side of the frame, by means of which the helical agitator, which distributes the manure, can be brought closer to or removed further from the travelling web which carries the manure round from the board on which it is dragged or thrown from the cart; the other is a spiral spring which allows the feed-board to recede when a large or hard substance presses against it, thus preventing injury to the feed-board. The machine can with great ease be attached to or detached from the cart with which it is used. The machine is calculated to effect a great saving in labour as well as in doing away with the waste that is unavoidable when manure is laid, and often left a long time in heaps on the field. Its price is moderate, and we anticipate its success as soon as it becomes widely known. Messrs. Howard and Co., Bedford, had their usual large stand, on which they exhibited their Farmers' Engine, a four-furrow steam plough, their new triple plough, double and convertible plough, single plough, harrows, haymakers, reapers, mowers, and hoserakes. The "Simplex" reaper has been improved by the introduction of an arrangement which enables the main wheel to be taken off in a couple of minutes, and the spindles of the main and spur wheels examined. The "Simplex" mower has a new heel-guard which allows of the knife being taken out by hand, without the use of a spanner, and which is so fixed that it cannot rise when the machine is in work. The haymaker has a seat, very strong and simple, adapted to it. Messrs. Howard also exhibited a new American pattern horse rake on high wrought-iron wheels, fitted with their patent self-acting arrangement, and with separate hand lever—a light and yet strong rake, and a marvel of cheapness, well

suited to compete with the American rakes on their own ground. Messrs. Holmes and Sons, of Norwich, exhibited their well-known seed sheller, drills and thrashing machine. Messrs. Aveling and Porter, of Rochester, showed their engines; Messrs. Jeffery and Blackstone, engines, chaff cutters, and drills; and Messrs. Turner, of Ipswich, mills of various kinds. Messrs. Ransomes, Sims, and Head, of Ipswich, had a good show of their famous steam engines, thrashing machine, single and double furrow ploughs, horse rakes, and haymakers. Messrs. Ransomes' new traction engine was fully described in our report of the Liverpool Show, when several improvements which they have recently introduced in the construction of their engines were detailed. Their steam-jacketed cylinders effect a great economy in fuel, and their fire boxes are constructed to burn either coal or wood, and can be adapted for any description of fuel. The engines can be fitted with expansion gear, or the new Patent Automatic Governor, and in many other respects they are now manufactured in a greatly improved form. Messrs. Eddington and Co., Chelmsford, exhibited traction, portable and stationary engines, and steam cultivating and ploughing apparatus. Messrs. Woods, Cocksedge and Co., of Stowmarket, had a number of their well-known mills, carts, vertical engines, &c. Messrs. Ruston, Proctor, and Co., Lincoln, showed traction and portable engines fitted with new governors, brackets, and other patented improvements; also a horizontal engine with wrought-iron stays, which can be drawn out with great facility, and other advantages. A very compact form of fixed engine, the "Soho," was shown by Messrs. Taggry Brothers and Holman, of Queen Victoria-street. The design is quite a new one. A newly-arranged agricultural traction engine was shown by the Reading Iron Works Company, a horizontal engine, with patent "Nozzle" vertical boiler, Mackie's patent spring pulley, &c. Messrs. Marshall, Sons, and Co., of Gainsborough, exhibited thrashing machines, a portable engine, with new wrought-iron under-gearing; an overhead traction engine; also a horizontal fixed slow speed-engine, with automatic expansion gear, very compact, simple, and strong. Messrs. Foster and Co., of Lincoln exhibited portable, vertical, and horizontal fixed engines, thrashing machine, saw benches and mills. Mr. Everitt, of Ryburgh, Norfolk, showed a hay and corn loader; Messrs. Crosskill and Beverley, agricultural carriages; Messrs. Brown and May, Devices, portable steam engines; Messrs. Nalder and Nalder, Wantage, a thrashing machine, engine, &c.; and Mr. Savage, of King's Lynn, steam ploughing tackle. Messrs. Gibbons, of Wantage, and Mr. Allchin, of Northampton, were also exhibitors.

Mr. T. C. Darby, of Chelmsford, has brought out a striking novelty, called the "Pedestrian Broadside Digger," a working model of which was exhibited. An eight-horse power engine boiler is supported partly on transverse wheels and partly upon feet, which rise and fall with a set of diggers or spades, the machine shifting sideways, with a motion similar to walking—whence its name.

The diggers are set in motion by means of levers and eccentrics connected with a horizontal shaft situated alongside the engine. The machine thus travels along on the solid land, digging up the land on one side as it goes. Five acres of heavy land have been dug by it in a day to the depth of 10 inches. Almost the entire weight of the implement is utilised in digging, and only one man and a boy are required to work it.

### LIST OF JUDGES CATTLE.

Devons, Herefords, Sussex.

Levi Groves, Bingham, Melcombe, Dorchester.  
Geo. Napper, Orfold, Wisborough-green, near Billingshurst.  
Jas. Treuaine, Polsue House, Grampound, Cornwall.

Shorthorns, and Cross or Mixed.

Thos. C. Booth, Warlaby, Northallerton.  
Edward Bowly, Siddington House, Cirencester.  
William Cappe, Waddington, Lincoln.

Norfolk or Suffolk Polled, Scotch, (all classes), and Welsh.

Henry Overman, Weasenham, Brandon, Norfolk.  
Andrew Mitchell, The Walk House, Alloa, N.B.  
James Bruce, Ruthwell, Annan.

SHEEP.

Leicesters, Cotswold, Lincolns, Kentish or Romney Marsh.

Thos. Brown, Marham Hall, Downham Market, Norfolk.  
H. Mackinder, Langton Grange, by Spilsby, Lincolnshire.  
Thos. Potter, Yellowford, Thorverton, Devon.

South Downs, Hampshire or Wiltshire Downs, Cheviot, Ryeland, Dorset, etc., and Moutain.

E. Baunton, West Knighton, Dorchester.  
W. F. Bennett, Chilmark, Salisbury.  
Geo. Rae, Middleton House, Alwick.

Shropshire, Oxfordshire, and Cross Bred.

Thos. Fulcher, Elmham, Dereham, Norfolk.  
John Treadwell, Upper Winchendon, Aylesbury.  
Chas. Randell, Chadbury, near Evesham.

FIGS.

Alfred Ashworth, Egerton Hall, Bolton-le-Moors.  
Henry Garland, Wargate, Wareham, Dorset.  
John Risdon, Golsencott, Washford, Taunton.

### PRIZE LIST. CATTLE.

DEVONS.

Steers not exceeding 2 years and 6 months old.

First prize, £25, to J. R. Overman, Burnham Sutton, Norfolk.  
Second, £15, to W. R. Fryer, Poole, Dorset.  
Third, £10, to W. Arnold, Blandford, Dorset.  
Highly Commended.—H.R.H. Prince of Wales, Sandringham.

Steers not exceeding 3 years and 3 months old.

First prize, £25, to H.R.H. Prince of Wales.

Second, £15, to G. H. Puckard, Godalming, Surrey.

Third, £10, Major Buller, Crediton, Devon.

Highly Commended.—J. Ham, Broadclyst, Devon.

Steers or Oxen above 3 years and 3 months, and not exceeding 4 years and 6 months old.

First prize, £25, to J. Overman, Burnham Sutton, Norfolk.

Second, £15, to H. R. H. Prince of Wales.

Third, £10, to Major Buller, Crediton.

Highly Commended.—W. Ham, Collumpton, Devon.

Commended.—J. Coate, Blandford, Dorset.

Heifers not exceeding 4 years old.

First prize, £20, to J. Overman, Norfolk (Violet).

Second, £10, J. Walter, Wokingham, Berks.

Third, £5, to J. Turvill, Alton, Hants (Very Pretty).

Highly commended.—M. Buller, Crediton, Devon.

Cows above four years old.

First prize, £20, J. Walter, Wokingham.

Second, £10, Major Buller, Crediton.

HEREFORDS.

Not exceeding 2 years and 6 months old.

First prize, £25, to Lord Powis, Lydbury North, Shropshire.

Second, £15, to W. Taylor, Ledbury.

Third, £10, to Lord Powis.

Highly commended.—H.M. the Queen, Flemish Farm, Windsor.

Steers, not exceeding 3 years and 3 months old.

First prize, £25, to H.M. the Queen, Flemish Farm, Windsor.

Steers or Oxen, above 3 years and 3 months and not exceeding 4 years and 6 months old.

First prize, £25, to H. Page, Walmer, Kent.

Second, £15, to R. Wortley, Aylsham, Norfolk.

Third, £10, to R. Wortley.

Highly commended.—Lord Powis.

Commended.—J. Pritchard, Stanmore, Bridgenorth, Salop.

Heifers, not exceeding 4 years old.

First prize, £20, J. Pritchard (Lady Jane).

Second, £10, to R. Keene, Caerleon, Monmouth (Rose).

Third, £5, to J. W. James, Mappowder Court, Dorset (Matchless).

Cows, above 4 years old.

First prize, £20, to J. D. Allen, Fisbury, Salisbury (Madame Rachel).

Second, £10, to H. Kelsey, East Grinstead (Diadem).

SHORTHORNS.

Steers not exceeding 2 years and 6 months old.

First prize, £25, Sir John Swinburn, Newcastle-on-Tyne.

Second, £15, J. S. Bult, Kingston, Taunton.

Third, £10, J. N. Beasley, Northampton.

Reserve and highly commended.—D. M'Intosh, Romford, Essex.

Steers not exceeding 3 years and 3 months old.

Second prize, £15, H.R.H. the Prince of Wales, Sandringham.



Steer or Oxen above 3 years and 3 months and not exceeding 4 years and 6 months old.

First prize, £25, J. Bruce, Longside, Aberdeen.  
Second, £15, Sir R. C. Musgrave, Penrith, Cumberland.

Heifers not exceeding 4 years old.

First prize, £20 to N. Catchpole, Ipswich (Pride of Thorndale 2nd).

Second, £10, to Lord Tredegar, Newport, Mon. (Lady-love.)

Third, £5, to B. St. J. Ackers, Painswick (Baroness Pawlett).

Reserved and highly commended.—J. Stratton, Marlborough, Wilts (Rosamond).

Highly commended.—W. F. Beaven, Marlborough (Cow-slip).

Commended.—Sir J. Swinburn (Lady Blanche 4th); R. Marsh, Little Olfley, Hitchin (Moss Rose); Lady Pigot (Platterer).

Cows above 4 years old.

First prize £20, to R. B. Blyth, Reading.

Second, £10, to Lord Spencer, Northampton (Fancy).

Third £5, to W. T. and T. Franklin, Wallingford.

SUSSEX.

Steers not exceeding 2 years and 6 months old.

First prize, £20, to A. Agate, Horsham, Sussex.

Second, £10, to G. C. Coote, Arundel, Sussex.

Third, £5, E. and A. Stanford, Ashurst, Steyning.

Highly commended, J. Braby, Rudgwick, Sussex.

Steers or Oxen above 3 years and three months and not exceeding 4 years and 6 months old

First prize, £20, to J. and A. Heasman, Augmering, Arundel.

Second, £10, to C. T. Lucas, Horsham, Sussex.

Third, £5, to G. C. Coote, Arundel.

Highly Commended, J. M. Montefiore, Crawley, Sussex; Mrs. Mary Coote, Littlehampton, Sussex.

Commended.—J. Neale, Pulborough, Sussex.

Steers, not exceeding three years and three months.

First prize, £20, to A. Agate, Horsham.

Second, £10, to J. Neale, Coldwaltham.

Third, £5, to J. Turvill, Alton.

Highly Commended.—J. and A. Heasman, Augmering; C. Child, Slinfold.

Heifers not exceeding 4 years old.

First prize, £20, to E. Neame, Faversham.

Second, £10, to J. Braby, Rudgwick, Sussex (Heiress).

Third, W. Wood, Crawley, Sussex.

Highly Commended.—J. and C. L. Steere, Dorking.

Cows above 4 years old.

First prize, £20, to W. H. Campion, Hurstpierpoint (Bolney).

NORFOLK OR SUFFOLK POLLS.

Steers or Oxen of any age.

First prize, £15, to J. J. Colman, Norwich.

Second, £10, to R. E. Loft, Bury St. Edmunds.

Reserve and commended.—C. Le Neve, Norwich.

Heifers or Cows.

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

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

SCOTCH HIGHLANDERS.

Steers or Oxen of any age.

First prize, £25, to Sir W. G. G. Cumming, Forres, Elgin.

Second, £15, to Duke of Roxburghe, Kelso.

Third, £10, to Duke of Sutherland, Golspie.

Reserved and highly commended.—Mrs. Gerard Leigh Luton Beds.

Heifers or Cows.

First prize, £20, to Sir W. C. Trevelyan, Newcastle-on-Tyne.

Second, £10, to Duke of Sutherland.

SCOTCH POLLS.

Steers or Oxen, of any age.

First prize, £25, to R. Jardine, Lockerbie, Dumfries.

Second, £15, to J. J. Colman, Norwich.

Third, £10, to W. McCombie, Tillyfour, Aberdeen.

Reserved and highly commended.—J. S. Postle, Smallburgh, Norfolk.

Heifers or Cows.

First prize, £20, to Sir W. G. G. Cumming (May Flower of Altyre).

Reserved and highly commended.—W. McCombie, Aberdeen.

WELSH.

Steers or Oxen (Runts) of any age.

First prize, £15, to J. S. Postle, Smallburgh, Norfolk.

CROSSES OR MIXED-BREEDS.

Steers not exceeding 3 years old.

First prize, £25, to R. H. Harris, Forres, Moray.

Second, £15, to Sir J. Swinburne, Newcastle-on-Tyne.

Third, £10, to A. Longmore, Banff.

Highly commended.—J. and W. Martin, Aberdeen; Z W. Stilgoe, Oxford.

Steers or Oxen, above 3 years and not exceeding 4 years and 6 months old.

First prize, £25, to Lord Lovat, Inverness.

Second, £15, to R. H. Harris, Forres, Moray.

Third, £10, to J. and W. Martin.

Highly commended.—T. Elliott, Jedburgh.

Heifers not exceeding 4 years old.

First prize, £20, to Sir W. C. Trevelyan, Newcastle-on-Tyne.

Second, £10, to C. W. Schroeter, Billingshurst (Patsie).

Third, £5, to W. Cranfield, Huntingdon (Miss Parsons).

Highly Commended.—J. and W. Martin, Aberdeen.

Commended.—R. Jardine, Lockerbie, Dumfries.

ANY BREEDS.

(NOT QUALIFIED FOR THE OTHER CLASSES.)

Steers or Oxen, not exceeding four years and six months.

First prize, £20, to Earl of Darnley, Gosham Hall.

Second, £10, to J. Bell and Sons, Glasgow.

Heifers or Cows.

First prize, £20, to Her Majesty the Queen.

Second, £10, J. Wilson, Morpeth.

Highly Commended.—J. Overman, Burnham Sutton.

Commended.—Earl of Spencer, K.G., Althorpe Park.

## S H E E P.

## LEICESTERS.

Wethers, 1 year old (under 23 months).

First prize, £20, to B. Painter, Oakham, Rutland.  
Second, £15, to Mrs. P. Herrick, Loughborough.  
Third, £5, to W. Brown, Holme-on-Spalding-Moor.  
Commended.—W. Brown; B. Painter.

Ewes above 3 years old.

First prize, £10, to J. Green and Son, Silsden, Yorks.  
Second, £5, to T. Marris, Ulceby, Lincolnshire.  
Highly commended.—Mrs. P. Herrick.  
Commended.—Lord Lonsdale, Oakham.

Wether Lambs born in the year 1877.

First prize, £8, to Lord Lonsdale.

## COTSWOLDS.

Wethers 1 year old, (under 23 months).

First prize, £20, to S. Smith, Deddington, Oxon.  
Second, £15, to R. Jacobs, Burford, Oxon.  
Reserved.—R. Jacobs.

Ewes above 3 years old.

First prize, £10, to R. Swanwick, College Farm, Cirencester.  
Second, £5, to R. Swanwick.  
Highly Commended.—S. Smith, Deddington, Oxon.  
Commended.—S. Smith.

Wether Lambs born in the year 1877.

First prize, £8, to S. Smith.

## LINCOLNS.

Wethers 1 year old (under 23 months).

First prize, £20, to C. Sell, Bassingbourne, Royston.  
Second, £15, to H. J. Hopkins, North Guilsborough.  
Third, £5, to T. Gunnell, Milton, Cambridge.

Ewes above 3 years old.

First prize, £10, to J. Pears, Lincoln.  
Second, £5, to A. Hack, Grantham.  
Commended.—R. C. Catling.

Wether Lambs, born in the year 1877.

First prize, £8, to T. Gunnell, Milton, Cambridge.

## KENTISH OR ROMNEY-MARSH

Wethers 1 year old (under 23 months).

First prize, £20, to H. Page, Walmer, Kent.  
Second, £15, to W. de C. Baker, Canterbury.  
Third, £5, to B. W. Tassell, Canterbury.

Ewes above 3 years old.

First prize, £10, to W. de C. Baker.  
Second, £5, to H. Rigden, Hythe, Kent.  
Highly commended.—J. S. S. Godwin, Hadlow, Tonbridge.  
Commended.—J. S. S. Godwin.

## SOUTH DOWNS.

Wethers 1 year old (under 23 months).

First prize, £20, to Lord Walsingham.  
Second, £15, to Lord Walsingham.  
Third, £5, to H. Humphrey, Pulbore.  
Very highly commended.—E. C. and R. C. Emery, Storrington.

Highly commended.—H. H. Penfold, Chichester.

The class commended.

Ewes above 3 years old.

First prize, £10, to H. H. Penfold, Chichester.  
Second, £5, to E. C. and R. C. Emery, Storrington, Sussex.

Highly commended, Earl of Suffolk; H.R.H. Prince of Wales; Earl of Suffolk and Berks, Malmesbury; J. J. Colman, Norwich.

The class commended.

Wether Lambs born in the year 1877.

First prize, £8, to J. and A. Heasman, Arundel.  
Second, £4, to J. J. Colman, Norwich.

Highly commended, J. and A. Heasman; E. Herington, Chichester.

The class commended.

## HAMPSHIRE OR WILTSHIRE DOWNS.

Wethers, 1 year old (under 23 months).

First prize, £20, to A. Morrison, Tisbury, Wilts.  
Second, £15, to A. Morrison.  
Third, £5, to L. Lloyd, Addington, Surrey.

Highly commended.—H. Lambert, Great Abington, Cambridge.

Commended.—T. Dodd, Wallingford, Berks.

Ewes above 3 years old.

First prize, £10, to J. A. and T. Palmer, Basingtoke.  
Second, £5, to J. Read, Salisbury.

The class commended.

Wether Lambs born in the year 1877.

First prize, £8, to Sir E. Hulse, Salisbury.  
Second, £4, to W. T. Twidell, Henley-on-Thames.  
Highly commended.—W. T. Twidell.

## SHROPSHIRE.

Wethers 1 year old (under 23 months).

First prize, £20, to T. Nock, Saifnal.  
Second, £15, to Lord Chesham.  
Third, £5, to Lord Chesham.  
Commended.—G. Cooke, Linton.

Ewes above 3 years old.

First prize, £10, to Lord Chesham.  
Second, £5, to J. Coxon, Lichfield, Stafford.  
Reserved.—G. Cooke.

Wether Lambs, born in the year 1877.

[No merit.]

## OXFORDSHIRES.

Wethers 1 year old (under 23 months).

First prize, £20, to A. Brassey, Chipping Norton.  
Second, £15, to N. Stilgoe, Adderbury, Oxford.  
Third, £5, to Z. W. Stilgoe, Adderbury, Oxford.

Ewes above 3 years old.

First prize, £10, to A. F. M. Druce, Eynsham, Oxford.  
Second, £5, to A. F. M. Druce.  
Highly commended.—A. Brassey.

Wether Lambs born in the year 1877.

First prize, £8, to A. Brassey.

CHEVIOTS.

Wethers of any age.

First prize, £15, to Duke of Roxburghe, Kelso.  
Second, £10, to A. Brassey, Chipping Norton.  
Commended.—Duke of Roxburghe.

KENTISH, CHEVIOT, RYELAND, DORSET,  
OR ANY OTHER PURE BREED NOT BEFORE SPECIFIED.

Wethers 1 year old (under 23 months).

First prize, £20, to H. Farthing.  
Second, £15, to H. Farthing.  
Third, £5, to J. S. Tucker, Liskeard.

Ewes above 3 years old.

First prize, £10, to H. Farthing, Nether Stowey, Bridgwater.

Second, £5, to H. Farthing.

Commended.—J. I. Watts, Devizes.

Wether lambs born in the year, 1877.

First prize, £8, to H. Farthing.  
Second, £4, J. S. Tucker, Liskeard.  
Commended.—Mrs. Grigg, Liskeard.

MOUNTAINS (NOT BEING CHEVIOTS).

Weathers, White-faced of any age.

First prize, £15, to R. J. Stranger, North Molton.  
Second, £10, to Lord Poltimore, Exeter.

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

First prize, £15, to C. S. Plummer, Selkirk.  
Second, £10, to C. S. Plummer.

Commended.—J. and W. Martin, Aberdeen.

CROSS-BREDS.

Wethers 1 year old (under 23 months).

First prize, £20, to J. Overman.  
Second, £15, to C. Crawshay, Attleboro'.  
Third, £10, to C. Crawshay.  
Fourth, £5, to H. Lambert.  
Commended.—J. Overman; H. Lambert.

Wether Lambs, born in the year 1877.

First prize, £8, to H. Lambert.  
Second, £4, F. Battcock.  
Highly commended.—Major-Gen. Sir M. Fitzwigram.  
Commended.—F. Battcock.

P I G S.

WHITE.

Not exceeding 9 months old.

First prize, £10, Marchioness of Camden, Lamberhurst, Kent.

Second, £5, Lord Radnor, Highworth, Wilts.  
Reserve and highly commended.—C. Charlwood, Reading

Above 9 and not exceeding 12 months old.

First prize, £10, Lord Radnor.  
Second, £5, Sir H. Verney, Winslow, Bucks.  
Highly commended.—E. C. Tisdall, Kensington.

Above 12 and not exceeding 18 months old.

First prize, £10, Lord Radnor.

BLACK.

Not exceeding 9 months old.

[No entry.]

Above 9 and not exceeding 12 months old.

First prize, £10, to J. Coate, Blandford, Dorset.

Above 12 and not exceeding 18 months old.

First prize, £10, to J. Coate.

BERKSHIRES.

Not exceeding 9 months old.

First prize, £10, to E. Drew, Blandford, Dorset.  
Second, £5, to Lord Chesham.

Above 9 and not exceeding 12 months old.

First prize, £10, to C. L. Sutherland, Croydon.  
Second, £5, R. Fowler, Aylesbury.

Above 12 and not exceeding 18 months old.

First prize, £10, to Lord Chesham.  
Second, £5, to N. Benjafield, Motcombe.  
Highly Commended.—H. S. Woodcock, Wigan.

OTHER BREEDS.

Not exceeding 9 months old.

First prize, £10, to J. Saunders, Castle Carey, Somerset.  
Above 9 and not exceeding 12 months old.

First prize, £10, to Mr. E. C. Tisdall, Kensington.

Above 12 and not exceeding 11 months old.

[No entry.]

Single pigs, of any breed or age.

First prize, £8, to J. Coate, Blandford, Dorset.  
Second, £4, to Lady A. Murray, Leamington.  
Highly commended.—J. Saunders, Castle Carey.  
Commended.—E. C. Tisdall, Kensington.

B R E E D C U P S.

CATTLE.

Silver Cup value £40, for the best Devon Beast, to H.R.H. Prince of Wales. Reserve: J. Overman.

Silver Cup value £40, for the best Hereford Beast, to H. Page, Walmer, Kent. Reserve: J. Pritchard (Lady Jane),

Silver Cup value £40, for the best Shorthorn Beast, to N. Catchpole, Ipswich (Pride of Thorndale 2nd). Reserve: Sir J. Swinburn, Newcastle-on-Tyne.

Silver Cup value £40, for the best Scotch Beast, to Sir W. G. G. Cumming, Forres (May Flower of Altyre). Reserve: Sir W. G. G. Cumming

Silver Cup value £40, for the best Cross-bred Beast, of any other breed not before specified, to Lord Lovat, Inverness.

SHEEP.

Silver Cup, value £40, for the best Sussex beast.—A Agate, Horham.

Silver Cup value £20, for the best pen of Leicester Sheep, to J. Green and Son, Silsden.

Silver Cup value £20, for the best pen of Cotswold Sheep, to S. Smith, Deddington.

Silver Cup value £20, for the best pen of Lincoln Sheep, to J. Pears, Lincoln.

Silver Cup value £20, for the best pen of Southdown Sheep, to Lord Walsingham.

Silver Cup, value £20, for the best pen of Hampshire or Wiltshire Sheep, to A. Morrison, Tisbury.

Silver Cup, value £20, for the best pen of Shropshire Sheep, to T. Nock, Sutton Maddock, Shifnal,

Silver Cup, value £30, for the best pen of Oxfordshire Sheep, to A. F. Milton Druce, Eynsham.

Silver Cup value £20, for the best pen of Cross Bred Sheep of any kind, to J. Overman, Burham Sutton, Norfolk.

Silver Cup value £20, for the best Kentish, Ryeland Dorset, or any other pure bred Sheep, not before specified, to H. Page, Walmer.

#### PIGS.

Silver Cup value £15, for the best pen of Pigs of any White breed, to Lord Radnor, Highworth, Wilts.

Silver Cup value £15, for the best pen of Pigs of any Black breed, to J. Coate, Blandford, Dorset.

Silver Cup, value £15, for the best pen of Pigs of the Berkshire breed, to Lord Chesham.

Silver Cup, value £15, for the best pen of Pigs of any other breed, to J. Saunders, Castle Carey.

### SILVER CUPS.

#### STEER OR OX.

Silver Cup, value £50, to the Exhibitor, for the best Steer or Ox in any of classes (except in Class 31—"Any Breed") to H.R.H. Prince of Wales (Devon).

#### HEIFER OR COW.

Silver Cup, value £50, to the Exhibitor, for the best Heifer or Cow in any of the classes (except in Class 31—"Any Breed,") to N. Catchpole, Ipswich (Pride of Thorndale, 2nd).

### CHAMPION PLATES.

#### FOR THE BEST BEAST IN THE SHOW.

A piece of plate value £100, to the Exhibitor of the best Beast in the Show, to N. Catchpole, Ipswich (Pride of Thorndale 2nd).

A Piece of Plate, value £50, to the exhibitor of the best pen of three in the show.—J. Pears, Mere, Lincoln.

### INDEX TO NAMES OF EXHIBITORS OF MACHINERY, AGRICULTURAL IMPLEMENTS, &c., IN THE LARGE HALL.

Stands No. 1 to 35 on the Ground Floor of Hall. Stands No. 36 to 255 in the Galleries.

#### Stand. ON THE GROUND FLOOR.

- 13—Allechin, W., Northampton, engineer.
- 17—Aveling and Porter, Rochester, ag. engineers.
- 5—Barrows and Stewart, Banbury, ag. implement makers.
- 23—Beverley Waggon Co., Yorkshire, engineers, etc.
- 32—Brown and May, Devizes, engineers, etc.
- 11—Burrell, C., and Sons, Norfolk, engineers, etc.
- 9—Clayton and Shuttleworth, Lincoln, engineers, etc.
- 33—Crosskill, W. and Sons, Beverley, ag. carts, and wgs.
- 15—Davey, Paxman and Co., Colchester, engineers.
- 20—Eddington, W. and S. and Co., Chelmsford, eng. etc.
- 35—Everitt, Percival, Norfolk, hay and corn loader.
- 34—Foster, W., and Co., Lincoln, ag. engineers.
- 8—Fowler, John, and Co., Leeds, steam plough engineers.
- 3—Garrett, Rd., and Sons, Suffolk, gen. implement makers.
- 31—Gibbons, P., and H. P., Wantage, ag. implement makers.

#### Stand.

- 18—Holmes and Son, Norwich, ag. engineers.
- 4—Hornsby, Rd., and Sons, Grantham, ag. eng'neers.
- 16—Howard, J. and F., Bedford, ag. engineers.
- 10—Humphries, E., Worcester, thrashing machine maker.
- 24—Jeffery and Blackstone, Stamford, ag. engineers.
- 14—M'Laren, J. and H., Leeds, engineers.
- 29—Marshall, Sons, and Co., Gainsborough, engineers.
- 30—Nalder and Nalder, Berks, thrashing machine maker.
- 21—Ransomes, Sims, and Head, Ipswich, plough makers.
- 28—Reading Iron Works, Berks, engineers.
- 1—Robey and Co., Lincoln, engineers, etc.
- 26—Ruston, Proctor, and Co. Lincoln, engineers, etc.
- 12—Savage, F., King's Lynn, ploughing and traction en.
- 27.—Tangye and Holman, Lawrence Pountney-ls., eng. etc.
- 6.—Tasker, W. and Sons, Andover, ag. engineers.
- 23—Turner, E. R. and F., Ipswich, ag. engineers.
- 7—Tuxford and Sons, Boston, ag. engineers.
- 2—Wallis and Stevens, Basingstoke, ag. implement makers
- 19—Willsher and Co., Gracechurch-street. E.C. ag. eng.
- 25—Woods, Cocksedge, and Co., Stowmarket, ag. eng.

#### IN THE GALLERIES.

- 140—Agricultural Association, Westminster, seeds, manures.
- 162—Albion Iron Works, Rugeley, chaff cutters, horse rakes.
- 54—Alexanders & Loveridge, Leominster, sheep troughs, &c.
- 84—Alway & Sons, Pentonville, churns and dairy utensils.
- 50—Amies' Chemical Manure Co., Mark-lane, manures.
- 70—Anderson, Abbott, & Anderson, Q. Victoria-st., bands, &c.
- 71—Arnold & Sons, Smithfield, agricultural instruments.
- 72—Atmospheric Churn Co., New Bond-street, churns.
- 79—Ayres, Chambers, and Ayre, Hull, feeding oil cakes.
- 253—Baker, J., Wisbeach, corn dressing machines.
- 206—Baker, J. L. and Co., Kimbolton, horse hoes, &c.
- 238—Baker, T., Compton, corn dressing machines.
- 106—Baker, W. P., King's Lynn, Norfolk, horse rakes.
- 248—Ball, G., North Kilworth, near Rugby, carts.
- 231—Ball & Son, Rothwell, Kettering, waggons, &c.
- 230—Bamlett, A. C., Thirsk, Yorks, reaping machines.
- 145—Barford & Perkins, Peterborough, steam ploughs, &c.
- 179—Barnard & Lake, Braintree, Essex, horse hoes, &c.
- 73—Barr, P. W. & Co., Liverpool, cattle food.
- 105—Beach, J. & Co., Dudley, cattle food, &c.
- 110—Bell & Co., Oxford-street, churns, chaff cutters.
- 98—Bellamy, John, Milwall, water cisterns, corn bins.
- 164—Bentall and Co., Maldon, Essex, chaff cutters.
- 153—Bigg, Thomas, Great Dover-street, dipping apparatus.
- 173—Boby, R., Bury St. Edmunds, haymakers, horse rakes.
- 107—Bone, W., Framlingham, seed and grain cleaners.
- 161—Boulton & Paul, Norwich, manure carts, &c.
- 255—Bradford and Co., High Holborn, churns, &c.
- 149—Brenton, W., St. Germans, mowers and reapers.
- 240—Bristol Waggon Co., Bristol, agricultural carts.
- 56—Brown, B. & J. & Co., Blackfriars, oil feeders.
- 148—Brown, G. & Son, Leighton Buzzard, drills.
- 51—Bunyard, Harry, Tooley-street, rick cloths.
- 146—Burgess & Key, Holborn Viaduct, self-raker reapers.
- 109—Burney and Co., Millwall Docks, farm cisterns, tanks.
- 255—Cambridge & Parham, Bristol, engines and boilers.
- 93—Campbell & Co., Thrapstone, steam engines & boilers.
- 116—Cannings, J. S. & G., Hordean, water carts.
- 67—Carbon Fertilizer Co., Palmerston-bdgs., manures.
- 216—Carson and Toone, Warminster, chaff cutters.

- Stand.
- 52—Carter & Co., High Holborn, seeds, roots, &c.
- 52—Chappell, H., Hackney-road, weighing machines.
- 82—Chemical Manufctg. Co., Fenchurch street, manures.
- 131—Clay, C., Wakefield, cultivators, horse hoes.
- 251—Coleman & Morton, Chelmsford, cultivators, screens.
- 81—Compton, & Co., Bermondsey, leather machine bands
- 153—Cooch, H., Northampton, corn-dressing machines.
- 127—Cooke, J., Lincoln, furrow ploughs.
- 178—Corbett, S. & Son, Wellington, Salop, grinding mills.
- 181—Corbett & Peete, Shrewsbury, winnowers, corn-dressing.
- 182—Cottis, W., and Sons, Epping, Essex, chaff-cutters.
- 125—Coults, J., Grantham, corn and seed drills.
- 120—Craig & Clark, Aberdeen, grubbers and scarifiers.
- 100—Croggan & Co., Upper Thames-st., cattle troughs.
- 204—Crowley, J., and Co., Sheffield, chaff-cutters.
- 103—Cullingford, Forest-gate, sheep folding and other nets.
- 144—Dames, C. R., Chigwell, Essex, manures, &c.
- 80—Darby, T. C., Chelmsford, horse hoes, steam diggers.
- 184—Davey, Sleep, & Co., Cornwall, turn-wrest ploughs.
- 74—Day & Sons, Crewe, oils, drinks, powders for cattle.
- 68—Day & Hewitt, London, medicines for horses, cattle.
- 41—Delano & Co., Cheapside, sheep shears, turnip cutters.
- 199—Dening, C. & Co., Chard, Somerset, Archimedian drills.
- 132—Denton, H., Wolverhampton, chainharrows, horse hoes.
- 246—Dodman, Alfd., Kings Lynn, steam engines & boilers.
- 69—Driffield & East Riding Cake Co, Driffield, linseed cakes.
- 78—Duffield, H., Regent's-park, dairy utensils.
- 55—Duffield, J., son, Oxford-st., dairy utensils.
- 75—Eagles, J. G., Bath, champion cakes.
- 139—Eagles, T. D., Fenchurch-st., vertical engines & boilers.
- 96—Edgington, B., Duke-st., London-bridge, rick cloths.
- 85—Edgington, F., & Co., Old Kent-rd., waggon cloths.
- 119—Elliman, Sons & Co., Slough, Bucks, cattle embrocation.
- 176—Field, & Co., Liverpool reaping machines, drills, plough.
- 223—Fisken & Co., (Lim.), Leeds, windlasses for tackle &c.
- 229—Gatward, J., Herts., corn and seed drills.
- 45—Gibbs, G., & Co., Piccadilly, seeds, roots, &c.
- 76—Gibbs, J., & Co., Mark-lane, feeding cakes & materials.
- 39—Gibbs, T., and Co., Piccadilly, seeds, roots, &c.
- 126—Gilbert, W., Abingdon, corn drills.
- 133—Gower, A. W., and Sons, Winchfield, corndrills.
- 57—Hale, W. H. Rotherhithe, manures.
- 113—Hall, A. and Son, Wilts., roots and seeds.
- 108—Hancock, J. L., London, churns, root washers.
- 99—Hancock, F. & C., Dudley, mills for grinding condiment.
- 243—Handyside & Co., Derby, reaping & mowing machine.
- 104—Harbord, H., Tooley-st., leather bands, mill bands.
- 97—Harrison and Sons, Leicester, seeds, roots.
- 245—Harrison and Co., Luncashire, mowers and reapers.
- 143—Harrison, W. J., Waterloo-rd., London, dairy utensils.
- 201—Hart, David, & Co., City-road, weighing machines.
- 196—Hathaway, Chippenham, Wilts, churns.
- 150—Haughton and Thompson, Carlisle, horse rakes.
- 218—Hayes and Son, Stamford, carts, waggons.
- 200—Hempstead & Co., Grantham, steam engines, &c.
- 89—Hepburn & Gale, Southwark, leather driving bands, &c.
- 207—Herbert and Son, Gray's-inn-rd., weighing machines.
- 177—Hill & Smith, Briery Hill, Staffordshire, troughs.
- 157—Hindley, E. S., Dorset, steam engines and boilers.
- 47—Holgate & Co., Gt. Dover-st., S.E., machine bands.
- 133—Hollings Brothers, Wilts, Canadian corn drills.
- 90—Hope, W. A., & Sons, Ag. Hall, London, cattle food.
- 210—Hopkinson, C., Retford, Notts, grinding mills.
- 58—Howard, James, Chesham, butter prints.
- Stand.
- 53—Hughes, Jas., & Sons, Borough, S. E., mill stones, &c.
- 36—Hunt & Tawell, Essex, horse gear, chaff cutters.
- 221—Hunter, T., Ayrshire, turnip-topping machine, &c.
- 226—Johnstone Harvester Co., Chiswell-st., harvesters, &c.
- 49—Jones, J. M., Gloucester, specific for foot-rot.
- 249—Kearsley, G., Ripon, mowing & reaping machines.
- 222—Keyworth, J. H., & Co., Liverpool, mowers & reapers.
- 233—Kiddle, J., Salisbury, waggons.
- 88—King, J. K., Coggeshall, Essex, roots, seeds, &c.
- 214—Kittner, B., Louth, Lincolnshire, blowing machine.
- 128—Lane, J. J., Old Ford-rd., E., steam engines & boilers.
- 239—Larkworthy, J. L., Worcester, drags, &c.
- 165—Lawrence & Co., St. Mary Axe, refrigerators.
- 219—Le Butt, J., Bury St. Edmunds, corn screens.
- 134—Lewis, G., & Son, Kettering, horse hoes, sack lifters.
- 174—Lloyd, Thos., & Sons, Shoreditch, London, corn mills.
- 167—Lowcock & Barr, Shrewsbury, mowers, horse hoes.
- 59—Lyon, D., John's-sq., Clerkenwell, E.C., grindstones.
- 220—Maldon Iron Works Co., Essex, chaff cutters, kibblers.
- 111—Markt & Co., Upper Thames-st., horse rakes.
- 142—Mason, F., Ipswich, steam engines and boilers.
- 60—Matthews, F. C., Son, and Co., Yorkshire, cakes.
- 241—Mattison, F. and H., Yorks, mowers, turnip cutters.
- 166—Maynard Robert, Cambridge, steam engines.
- 203—Milburn & Co., Commercial-rd., E., desiccated grains.
- 117—Morton, F., Liverpool, galvanised corrugated iron.
- 160—Murray, G. W., & Co., Banff, N.B., ploughs, &c.
- 232—Murton & Turner, Norfolk, corn and seed drills.
- 63—Newton, J. & Co., Rotherhithe, superphosphates.
- 152—Nicholson, W. N. & Son, Newark, oil cake breakers.
- 36—Norris, S. E. & Co., Shadwell, E., machine bands, &c.
- 64—Ohlendorff & Co., Leadenhall-st., E.C., Peruvian gnano.
- 197—Orme, F., Holborn Viaduct, farmyard pumps.
- 244—Osborne, D. M. & Co., Liverpool, horse mowers, &c.
- 237—Page, E. & Co., Bedford, pipe and tile machines.
- 193—Parry W. & Co., Old-st., E.C., weighing machine.
- 121—Peirce, A. E., Oxford-st., cattle troughs and churns.
- 38—Penny & Co., Lincoln, corn screens, sack lifters, &c.
- 194—Perkins, Paternoster, & Co. Hitchin, sack lifters.
- 190—Phoenix Oil Mill Co., Liverpool, feeding cakes, &c.
- 112—Pick & Baker, Bedford, harrows and ploughs.
- 247—Picksley, Sims, & Co., Leigh, Lancashire, chaff cutters.
- 195—Pinfold, J. D., Rugby, engines and boilers.
- 102—Plambeck & Darkin, Qn Vic-st., E.C., steam engines.
- 65—Pouppard, T. J., Tooley-st., S.E., rick covers.
- 87—Powell, G. D., Hornsey, Rise, London, waggon covers.
- 252—Powis, C. & Co.—Gracechurch-st., EC, steam engines.
- 87—Radcliffe, Dick, & Co., H. Holborn, seeds, roots, &c.
- 129—Rainforth, W. & Sons, Lincoln, drills and corn screens.
- 171—Ray, Mead, & Co., Upper Thames-st., steam engines.
- 48—Raynbird & Co., Basingstoke, roots, seeds, & manures.
- 211—Reeves, R. & J. & Son, Westbury, Wilts, drills & carts.
- 183—Reid, Ben, & Co., Aberdeen, drills, thrashing machines.
- 42—Reynolds, F. W., Southwark st, London, steamengines.
- 217—Riches & Wattf, Norwich, grist mills, chaff cutters, &c.
- 250—Richmond & Chandler, Salford, chaff cutters, &c.
- 212—Roberts E. & H., Bucks, mills, chaff cutters, &c.
- 169—Robinson, J. W. & Co., Belle-st, Lpl, potato planters.
- 213—Robinson & Richardson, Kendal, barrel churns.
- 234—Rollins, J. G. & Co., Old Swau Wharf, hay rakes, &c.
- 83—Russell, C. & Co., Old Kent-rd., S.E., engines & boilers
- 137—Sainty, J. & B., Wisbech, Cambs, corn-dressing machs
- 155—Samuelson & Co., Banbury, reaping & mowing machs
- 170—Saville-st, Foundry, Sheffield, bone mills, gn. elevators

- Stand.  
 191—Sawney & Co., Boverley, carts, steam, and elevators.  
 141—Seekings & Ellery, Gloucester, steam engines & boilers.  
 44—Savin, C., Fenchurch-st., London, nutmeal and oil cake.  
 114—Shanks, A. & Son, Lendenhall-st., steam engines, &c.  
 159—Sheath Brothers, City-road, E.C., gutta percha bands.  
 135—Sinkwell, G., Dunstable, sacklifting machines, &c.  
 118—Smith, T. & Co., Ipswich, horse rakes, cultivators.  
 151—Smith, W., Kettering, horse hoes, turnip thinner, &c.  
 254—Smith & Grace, Northampton, horse hoes, grist mills.  
 123—Spear and Jackson, Sheffield, forks, spades, shovels.  
 209—Stacey and Sons, Uxbridge, chaff-cutters, seed drills.  
 185—Stevens, Pellatt, & Co., Tooley-st., leather m. bands.  
 192—Stidolph and Aggio, Woodbridge, barley screens.  
 94—Sutton and Sons, Reading, Berks, seeds, roots, &c.  
 168—Taylor and Co., London Bridge, chaff engines.  
 205—Thomas and Taylor, Stockport, churas, dairy utensils.  
 66—Thorley, J., Caledonian-road, London, cattle food.  
 175—Thorley's, Cattle Food Co., Worship-street, cattle food  
 61—Tipper, B., Birmingham, Tripper's Medicated Mystery.  
 62—Tipper and Son, Birmingham, cattle and sheep cakes.  
 186—Tooley and Co., Dunstable, horse rakes.  
 189—Turner, St. Albans, liquid manure and other pumps.  
 215—Underhill, W. S., Newport, steam engines and ploughs.  
 46—Unite, J., E4gware-road, rick cloths, corn sacks.  
 156—Vipan and Ieady, Leicester, ploughs, horse hoes.  
 147—Waide, Wm., Leeds, barrel churas.  
 101—Waite, Burnell, Huggins, U. Thames-st. manure forks.  
 202—Watson and Haig, Andover, bone crushing mill  
 227—Waygood, R., & Co., Great Dover-st., engines & boilers.  
 187—Weatherhogg & Co., Oxford-street, steam engines.  
 43—Webb, E., and Sons, Wordsley, seed, roots.  
 224—Wedlake & Co., Hornchurch, steam e., chaff m. &c.  
 198—Weighell, Pickering, g. mills, h. gear, thrashing m.  
 77—White, Joseph, and Co., Trinity-square, oil feeders.  
 172—Whiting Manufacturing Co., Liver., Canadian hay forks.  
 124—Whitmee & Co., St. Johns-street, corn crushers.  
 208—Wholey, Alford, Lincoln, drag harrow & pulveriser.  
 122—Wilder, Reading, chaff-cutters.  
 95—Wigzell, Halsey, & Co., Mark-lane, steam e. & boilers.  
 188—Wilkerson, jun., Bassingbourne, Royston, horse rakes.  
 130—Williams & Son, Rhuddlan, N. W., chaff-cutters, pulp.  
 92—Wilson, Grange Walk, Bermondsey, disintegrators.  
 235—Wood, Walter A., Worship-street, reapers and mowers.  
 242—Wood, W. A., Upper Thames-street, reapers & mowers.  
 163—Woolnough & Co., Kingston-on-Thames, horse h., drl.

### THE SMITHFIELD CLUB ANNUAL MEETING.

The annual meeting of the members of the Smithfield Club was held on Tuesday Dec. 11th, at the Agricultural Hall, the President, Lord Walsingham, in the chair. The attendance was numerous, and included the Marquis of Exeter, Lord Chesham, Lord Feversham, Mr. C. S. Read, M.P., Mr. W. Phipps, M.P., Mr. Little, Mr. C. Howard, Mr. Joseph Druce, Mr. B. E. Bennett, Mr. H. Trethewey, Mr. Ellerman, Mr. Street, Mr. Masfen, Mr. Wilmore, Mr. J. Overman, Mr. S. Sidney, Mr. T. Horley, juror, &c.

After the usual preliminaries,

The Hon. Sec., MR. BRANDRETH GIBBS, read the Report of the Council, which was as follows:—

The Council begs to lay before the General Meeting the

Annual Report of its proceedings during the past year. Three meetings have been held, all of which have, as usual, been well attended. In addition to the ordinary routine business of the Club, and the matters connected with the last Show, the following subjects have had the careful consideration of the Council:—

I. The preparation of the prize sheet for this year's Show. It was resolved: That the special rules hitherto enacted enforcing precautions against contagious and infectious diseases be continued. That no second prize be awarded in any class unless at least three animals (cattle) or three pens of animals (sheep and pigs) be exhibited, and no third prize unless there be at least five animals or pens of animals, except on the special recommendation of the Judges. That in the heifer class (which has been substituted for the extra stock) the restriction requiring heifers over four years old should have had a live calf be abolished. The prizes for Ryeland and Dorset sheep have been increased, and fresh classes instituted for the Berkshire breed of pigs. Four cups have been offered for pigs, viz., one for the best pen in each of the respective divisions in the prize sheet. In accordance with the wish of the Agricultural Hall Company, it was resolved that the Champion Cup which is given by the Company (under their agreement with the Club) should be offered in plate and not in money. Also that the system introduced last year of three judges being selected to adjudicate the Champion Prize be abandoned, and that the old system of all the nine judges adjudicating it be reverted to. In consequence of the difficulties arising from the absolute disqualification of pigs if the state of the dentition should indicate that their ages do not agree with the certificate, it has been determined to return to the rule in force some years back, and that in any such cases the Stewards shall call upon the exhibitor to prove to their satisfaction the correctness of his certificate. In consequence of the great difficulties found to exist in ascertaining the live weights of all the pigs exhibited, the Council has resolved to discontinue the weighing, which was done last year for the first time as an experiment, and also to discontinue the collection and publication of the dead weights of the animals exhibited.

II. The Council has, in accordance with the bye-laws, prepared the House List of sixteen members of the Club, from whom it recommends eight for election on the Council, to succeed the eight who retire by rotation, and are not re-eligible for one year. The scrutineers' report of those elected will be presented before the close of the General Meeting.

III. The Council lays before the Meeting the usual printed balance-sheet up to December 1st inst., showing balances in hand amounting to £3,001 19s. 9½d.; of this, however, £661 10s. belongs to the Life Composition Account. In addition to the above balances the Club has to receive £1,355 from the Agricultural Hall Company for this year's Exhibition. Against these amounts there will be, as usual, the payment of prize and other expenses connected with the present Show. The total amount offered in prizes and cups is as follows:—

Cattle .....	£1,275
Sheep.....	728
Pigs.....	192
Champion and other plate .....	735
Total .....	£2,930

The invested capital standing in the names of the Trustees in the Three per Cent. Consols amounts to £4,357 9s. 9d.; of



Carried forward .....	2,850	12	5	
Received (by Hon. Secretary and Assistant Secretary) —				
Of the Agricultural Hall Co. for Show, 1876 ..	1,555	0	0	
Life Compositions during the year .....	236	6	0	
Annual Subscriptions.				
1 for year 1874 .....	1	1	0	
3 " 1875 .....	3	3	0	
37 " 1876 .....	38	17	0	
289 " 1877 .....	271	19	0	
18 " 1878 .....	18	18	0	
		333	18	0
Fines, Non-Exhibition of Live Stock at Show, 1876 .....	3	0	0	
Extra payment on account of Impement space, 1876 (paid after December 1st, 1876) .....	17	14	0	
Payments for Impement Stands at Show, 1877 .....	1,852	13	0	
Non-Members' Fees, Live Stock, at Show, 1877 .....	182	14	0	
		2,056	1	0
		£6,861	19	2

EXPENDITURE.					
Prizes awarded at Show, 1876 .....	2,102	0	0		
Silver Cups (taken in plate, £165; taken in money, £570) .....	735	0	0		
Medals .....	33	12	0		
Rewards to Feeders of First Prize Animals .....	71	0	0		
		2,941	12	0	
Steward's Fees .....	80	0	0		
Judges .....	147	0	0		
Veterinary Inspectors & Assistants ..	42	0	0		
Inspector of Impement Galleries ..	8	8	0		
Weighing Clerks and Superintendent ..	4	19	3		
Special Doorkeepers, &c. ....	5	15	6		
Inspector of Sanitary Certificates ..	2	2	0		
Superintendent and Assistants delivering Stock after Show, 1876 ..	10	10	0		
Bills, &c. —			300	14	9
Printing (Burnett — Balance) Show, 1876 .....	133	0	6		
Stationery (Mason) .....	15	10	9		
Advertising—Mark Lane Express ..	4	14	0		
Bell's Messenger .....	6	4	6		
Agricultural Gazette .....	5	11	6		
Chamber of Agriculture Journal ..	5	0	6		
Field .....	7	4	0		
Farmer .....	6	9	6		
Ridgway, Farmer's Almanac ..	3	3	0		
North British Agriculturist ..	6	18	8		
Weighing Machine and Attendants, Hart & Co. ....	10	10	10		
Ingredients for Disinfecting Carts Labour, and Inspector, &c., Agricultural Hall Co. ....	13	0	0		
Cartage of Club's Goods, Holmes ..	0	9	0		
Rosettes for Prize Animals .....	5	18	9		
Plaques for Show-yard Paraman Diplomas, Feeders, 1st prize Animals, Brooks & Co. ....	25	3	16		
Wood Cases for do., Bishop & Co. ..	6	9	0		
Carriage of do., Sutton, Carriers ..	4	10	0		
Xmas. Boxes, P.O. Clerks and Postmen .....	1	0	0		
Lodgings and Expenses, Assistant Secretary and two Clerks ..	10	19	8		
Preparation of Agreement with Agricultural Hall Company, Kinsey & Ade .....	44	0	6		
Drawing New Rules and Conditions, &c. ....	4	12	10		
Illuminating Vote of Thanks, Waterlow & Co. ....	11	11	0		
Case for do. Leuchars & Co. ....	25	10	0		
Stamped Cheque Books, Bankers Show, 1877 .....	1	10	0		
		376	4	5	
Printing (Burnett, on account) Show, 1877 .....			46	14	0
Assistant Secretary's Salary 1 Year up to Michaelmas, 1877 ..	105	0	0		
Clerks' Time as per time book, to Dec. 1st, 1877 .....	66	4	4		
Postage and Receipt Stamps, during the year (as per Postage Book) up to Dec. 1st, 1877 ..	27	5	6½		
Bankers' Commission on Country Cheques .....	0	2	4		
Entry Fee, Live Stock, Returned ..	2	2	0		
		194	14	2½	
Total Expenditure .....	£3,859	19	4½		

Carried forward .....	3,859	19	4½	
Balance at Bankers, including Life Compositions £661 10s, Dec. 1st 1877 .....	2,995	9	3	
Balance in hands of Hon. Secretary, Dec. 1st, 1877 .....	6	10	6½	
		3,001	19	9½

INVESTMENT ACCOUNT.

1877: December 1st. Amount of Stock standing in 3 per cent. Consols in the names of the Trustees .....

£4,357 9 9  
N.B.—This includes £2,000 Balance of surplus Annual Income, invested till wanted for current expenses.  
Examined and found correct.

(Signed) WALTER FARTHING.  
HUGH GORRINGE.

Dec. 7th, 1877.  
Some new members having then been elected,  
LORD FEVERSHAM said: I have great pleasure in proposing a vote of thanks to Lord Walsingham for his able conduct as President of that Club during the past year. (Cheers.) I can only express a hope that all future Presidents of the Club will discharge their duties in the same efficient manner as my noble friend has done. (Cheers.)

Mr. T. HOREY, JUNR.: I have much pleasure in seconding the motion. I am sure we must all feel greatly obliged Lord Walsingham for the attention which he has given to the affairs of the Club during his year of office.

The motion having been carried by acclamation,  
LORD WALSINGHAM said: I am grateful to you, gentlemen, for this kind expression of your feelings. All I can say is that I have endeavoured to perform the duties of President to the best of my humble ability, and I shall always look back to the year of my presidency of this Club with the greatest possible pleasure and satisfaction. It has served to increase the interest which I have ever felt in the prosperity of the Smithfield Club, and which I may say was an hereditary sentiment, beginning long before I was a member of the Club. (Cheers.)

Mr. H. TRETHER said he thought that before it separated the meeting would be glad to have an opportunity of tendering their thanks to their Hon. Secretary, Mr. Brandreth Gibbs, for the manner in which he had conducted the business of the Club during the past year.

Mr. FOKES, in seconding the motion, remarked that the Club would never have Mr. Gibbs's equal as long as it existed. (Cheers.)

This motion was agreed to unanimously.

Mr. F. STREET said there was one question of importance which he wished to bring before the meeting, relating to the International Exhibition to be held at Paris next summer. He observed that the entries of stock were to be closed on the 20th of this month, and it appeared as if the prize sheet had been prepared without any communication with the corresponding secretary of the Club, or the Secretary of the Royal Agricultural Society of England. As the prize sheet now stood, under the head of long-wool sheep there were Lincoln, Leicesters, Kentish, and Romney Marsh sheep all grouped together, whilst there was a separate prize for Cotswolds, and another for Cheviots. For the short-wools also, Shropshire, Oxfordshire, Hampshire, and other Down sheep were in like manner grouped together. That was perhaps hardly the proper time for bringing that matter forward, but he thought that an expression of opinion in the Club, followed by a communication from its Hon. Secretary to the Secretary of the Paris Exhibition might tend to the mutual interest of Englishmen and foreigners.

Mr. BRANDRETH GIBBS: His Royal Highness the Prince of Wales has done me the honour of entrusting me with the



management of the Agricultural Division of the Paris Exhibition and I shall not fail to make a representation to the proper authorities on the subject. (Cheers.)

The MARQUIS OF EXETER: As the subject of the Paris Exhibition has been mentioned, I may observe that a doubt seems to prevail as to what the term "Shorthorn" means as used in the prize list. They are there described as "Shorthorns of the Parham Breed." The term "Darhorm" I understand as applying to all Shorthorns; but as "Shorthorns of the Parham Breed" has been inserted in the prize list, some

people are under the impression that it must mean some special breed of Shorthorns different from the ordinary breed.

Mr. BRANFORTH GIBBS: In all our prize sheets some years ago the Shorthorns used to stand as Darhorns, but it was always clearly understood that they were the ordinary Shorthorns that compete in the classes of the Royal Agricultural Society. (Hear, hear.)

The meeting then separated.

## THE YORKSHIRE FAT STOCK SHOW

The annual exhibition of the Yorkshire Fat Stock Society commenced on December 11, and concluded on the 13th, under favourable conditions of success, as far as regards weather and the absence of all cattle disease in the county. One circumstance alone threw a gloom over sanguine anticipations, and this arose from the fact that this Society had commenced war *a la Courance* with an equally powerful body, viz., the Leeds Smithfield Club, by fixing the date of the meeting at the same time as that of the Leeds Society. The impolicy of this practice must be self-evident as each Society can only receive the support of a section of the county. There being only in that extensive district, and even in all England, a fixed number of animals on the move for the special purpose of exhibition at the Christmas Fat Stock Shows, these animals must be divided, and the Societies can only maintain their usual quantity of exhibits by two modes. The first is by giving such large prizes that they tempt most of the best animals, and more than their share of the others by offering great prizes. The other mode is by working their committee and extending their local interest in a great many centres. The former mode has been adopted by the Leeds Committee, who give £16, £8, and £4 in 7 classes, and £12, £6, and £3 in three classes, while the York one only offers three prizes in four classes of £10, £5, and £2, two prizes of £8 and £4, three prizes of £7, £4, and £2, two prizes of £5 and £3, and one of £5. This cause has operated this year, and has brought to Leeds more than its share of animals of the very highest order that have already taken firsts, at Birmingham, Hull, Sleaford, &c. Amongst these we must mention Mr. Sadler's champion cow, Mr. R. Stratton's celebrated Isolia, the two years and ten months old heifer, which took the 100 guinea champion cup at Birmingham, as well as all her class prizes, Mr. R. Wortley's Hereford ox, Mr. Bruce's Birmingham Polled Scot, and two other first prize animals, as well as Mr. Colman's Norwich heifer, the Staud Stud Company's majestic cow, in addition to Mr. Robert Wright's Shorthorn ox, four years old, winner of the first prize in his class, and Mr. Joseph Henry Stephenson's Hull ox, second to Mr. Wright's animal here. Whether the York Committee have adopted the second mode of extending its local influence or not, certainly it is clear that the Show is not suffering from a decrease of entries, the numbers being worked up in

the four classes of cattle to quite an average figure. We fear, however, that they will be slightly less than last year. The following are a few animals of first-class rank which we must not omit to notice, as they have done the Society the honour to show for smaller prizes than they would have competed for at Leeds. The third prize animal at Hull, belonging to the Earl of Ellesmere, takes the first prize in the absence of the first and second winners at Hull, who took a similar position at Leeds. Mr. Wallbank showed a beautiful thick-fleshed 2 years 7 months old ox, and obtained first prize in the class of young oxen. This was a capital class, consisting of sixteen entries, twelve of which put in an appearance. Four cows only were entered, and the three prizes all went to the Bedale and Catterick district, Mr. Willis's magnificent white cow, 5 years old, taking first prize; Mr. Earle's cow, of Bolton, just beat Mr. J. B. Booth's, Killeby, 7 years 6 months old Shorthorn. The latter was grand in her quality and figure, but owing to her age was somewhat unlevel in her beef. The three year old heifers were seven in number, and the three year old oxen were a magnificent show of fourteen out of seventeen entries. Sir Walter Trevelyan, Bart., won both prize and ex-Sheriff's plate, Mr. J. Reid coming second, the Duke of Northumberland being highly commended, along with Mr. T. Wait. In the district tenant farmers' class a Mr. J. H. Stephenson, of Brough, scored for Shorthorn ox and for Shorthorn cow, while F. Jordan's executors, Driffild, took first for ox of any other breed and for cow or heifer of any other breed, these two animals being excessively beefy. Of the Scotch breeds only ten animals were exhibited in four classes. Her Majesty's Devon ox and heifer, which brought laurels from Birmingham, were entered as extra stock. A large class of young bulls between the ages of 6 and 15 months was exhibited and farmed as usual by Mr. W. Liuton, of Sheriff Hutton, with Irwin Fitz Ingram.

The Sheep numbered forty-five entries in seven classes. Mr. Rickell, Pocklington, took the first for three Leicester wethers under 22 months old, Mr. J. Brown, of Tollingham, coming second with Leicesters of far purer type and quality. However, this is of no avail with cattle-jobber judges. The Earl of Zetland's Southdown wethers were of special excellence.

Of Pigs there were seven classes, making sixty-one entries. They were a fair show, and the competition in

the Berkshire blacks was very superior and highly creditable to the breed, which it appears has taken root in the North of England. The pork pigs cut a very poor figure compared with the same class at Leeds.

There was a good show of Roots, Butter, and Poultry.

#### PRIZE LIST.

JUDGES.—CATTLE: J. Kemp, Brunswick-terrace, Spring Bank, Hull; R. Fisher, Leconfield, Beverley; T. Barber, Sproatley Rise, Hull.—SHEEP: T. Pickering, Garforth, Leeds; R. Foxon, Welburn, Kirbymoorside.—PIGS and ROOTS: T. Dodds, Mount Pleasant, Wakefield; H. Taylor Grange Farm, Wetherby.

#### CATTLE.

##### SHORTHORNS.

Ox not exceeding four years old.—First prize and cup, value £25, the Earl of Ellesmere, Worsley Hall, Manchester; second, D. Wright, Beal, Northumberland; third, R. Tasker, Naburn, York.

Ox not exceeding three years old.—First prize, J. Wallbank, Berwick-on-Tweed; second, W. T. Wells, Withern Hall, Alford, Lincolnshire; third, J. Reid, Greystone, Alford, N.B.

Cow of any age.—First prize, T. Willis, jun., Manor House, Carperby, Bedale; second, T. I. Earle, Bolton, Catterick; third, J. B. Booth, Killerby, Catterick.

Heifer not exceeding four years old.—First prize, J. Reid Greystone, Alford, N.B.; second, H. Briggs, Son, and Co., Whitwood Collieries, Normanton; third, J. G. Wilson, Cliffe Hall, Darlington.

##### BULLS.

Best Shorthorn bull, between the ages of 6 and 15 months—First prize and a piece of plate, value £12 12s, W. Linton, Sheriff Hutton, York; second, T. and S. Beard, Roall Hall, Whiteley Bridge, Pontefract; third, Lord Stourton, Stourton Park, Knaresbro'.

##### CROSS BREEDS.

Ox not exceeding four years old.—First prize and piece of plate, value £10, Sir W. C. Trevelyan, Bart., Wallington, Newcastle; second, J. Reid, Greystone, Alford, N.B. Highly commended: the Duke of Northumberland, Alwick Castle, Northumberland; and P. Wait, Hope Farm, Berwick-on-Tweed.

Cow of any age, or heifer not exceeding four years old.—First and second prizes, Sir W. C. Trevelyan, Bart.

##### DISTRICT TENANT FARMERS' CLASSES.

Shorthorn ox of any age.—First prize, J. H. Stephenson, Sancton Grange, Brough; second, F. Barrowby, Dishforth, Thirsk; third, T. Francis, Skipton-on-Swale, Thirsk.

Shorthorn cow of any age, or heifer not exceeding four years old.—First prize and piece of plate, value £10, J. H. Stephenson, Sancton Grange, Brough; second, J. Radcliffe, Stearsby, Easingwold.

Ox of any other breed or cross, of any age.—First prize, F. Jordan's Executors, Eastburn, Driffield; second, T. Woodward, High Dunsforth, Ouseburn, York; third, F. Carr, Cannon House, Evington.

Cow or heifer of any other breed or cross; the cow of any age, and the heifer not exceeding four years old.—First prize and cup, value £10, F. Jordan's Executors, Eastburn, Driffield; second, M. and W. Boville, Osmotherley, Northallerton; third, G. Allan, Copnanthorpe, York.

#### SCOTCH BREEDS.

Polled ox.—First prize and cup, value £20, J. and W. Martin, New Market, Aberdeen; second, J. Wallbank, Berwick-on-Tweed.

Polled cow or heifer.—First prize, J. Reid, Greystone, Alford, N.B.; second, G. Bruce, Keig, Whitehouse, Aberdeenshire.

Horned Highland ox.—First prize, T. Gray, Spital Hall Morpeth; second, J. and W. Martin, New Market, Aberdeen.

Horned Highland cow or heifer.—Prize, Sir W. C. Trevelyan, Bart., Wallington, Newcastle-on-Tyne.

#### SHEEP.

Pen of three Leicester wethers, under 22 months old.—First prize, F. Rickell, Warter, Pocklington; second, J. Erown, Tellingham, Holme-on-Spalding Moor. Commended: T. Heugh, Romanby Farm, Northallerton.

Pen of three South or other Down wethers, under 22 months old.—First prize and piece of plate, value £5, the Earl of Zetland, Aske, Richmond; second, the Earl of Zetland.

Pen of three horned Scotch or mountain wethers, of any age.—First prize, J. G. Wilson, Cliffe Hall, Darlington; second, W. Taylor, Nether Poppleton, York.

Pen of three wethers, whitefaced or Down cross, under 22 months old.—First prize and piece of plate, value £5, J. H. Graves, Sutton-on-the-Forest; second, R. Daniel, Oilstoo, Easingwold. Highly commended: J. D. Gowland, Widdington Manor.

Pen of three wethers, of any Scotch or mountain cross, under 22 months old.—First and second prizes, J. D. Gowland, Widdington Manor, Nun Monkton, York. Commended: W. G. Jarrett, Stamford Bridge.

Sheep, Leicester or longwool, any age, not a ram.—First and second prizes, G. Wright, Broughton, Malton. Commended: J. Brown, Tellingham, Holme-on-Spalding Moor.

Sheep, any other breed or cross, any age, not a ram.—First prize, J. D. Gowland; second, R. Daniel, Oulston, Easingwold. Commended: W. G. Jarrett.

#### PIGS.

Large breed, of any age.—First prize, T. Nicholson, Groves York; second, R. E. Duckering, Northorpe, Kirtou Lindsey; third, W. Cotton, Heslington, York.

Small breed, exceeding 12 months old.—First prize and cup, value £5, as best pig, R. E. Duckering, Kirton Lindsey; second, T. Daker, Stockton-on-Forest, York; third, W. H. Garforth, Gilling Castle, York.

Small breed, not exceeding 12 months old.—First prize, T. Nicholson, York; second, J. Mollett, jun., Appleton Roebuck, Tadcaster; third, R. E. Duckering.

Middle breed, exceeding 12 months old.—First prize, G. Crowther, Groves, York; second, Capt. L. Barstow, Hazelbush, York; third, J. Snowball, Stockton-on-the-Forest, York.

Middle breed, not exceeding 12 months old.—First prize, T. Nicholson, York; second, T. Strickland, Thirsk Junction; third, J. Mollett, jun., Appleton Roebuck.

Black or Berkshire breed, any age.—First prize, J. Rensson, Wholsea Grange; second, H. Falkingham, Barker Hill, York; H. Briggs, Son, and Co., Whitwood Collieries, Normanton, extra prize awarded.

Pen of pork pigs, under 20 weeks old.—First prize, T. Nicholson, York; second, W. Cooper, Heslington, York.

## ROOTS.

Six specimens of long mangel wurzle, any variety.—First prize, J. Illingworth, Haxby; second, J. Ellis, Gillygate, York.

Six specimens of globe mangel wurzle, any variety.—First and second prizes, Hon. E. Lascelles, Middlethorpe Manor, York.

Six specimens of swede turnips, any variety.—First prize, T. Mortimer, Dunnington; second, F. F. Curtis, Pocklington.

Six specimens of common turnips.—First prize, T. Baler-

son, Beilby, Everingham; second, F. Dickson, Heslington, York.

Twelve specimens of carrots, white or red.—First and second prizes, F. Tuompson, Poppleton Hall.

Twenty specimens of round potatoes.—First prize, C. Tarbotton, Cawton, Gilling, York; second, C. H. Hudson, Upper Helmsley, York.

Twenty specimens of kidney potatoes.—First prize, C. Tarbotton, Cawton, Gilling, York; second, W. Holtby, Ruston.

## ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, Wednesday, Dec. 12th, 1877.

Present: Colonel Kingscote, C.P., M.P., President, in the chair, Earl Cathcart, the Earl of Feversham, Lord Chesham, Lord Skelmersdale, Lord Vernon, Sir A. K. Macdonald, Bart., Sir M. W. Ridley, Bart., M.P., Sir W. Earle Welby-Gregory, Bart., M.P., Mr. Arkwright, Mr. Aveling, Mr. Aylmer, Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Druce, Mr. Frankish, Mr. Brandreth Gibbs, Mr. Hemsley, Mr. T. Horley, jun., Mr. Howard, Mr. Bowen Jones, Mr. Lawes, Mr. Leeds, Mr. Martin, Mr. Masfen, Mr. Pain, Mr. Chandos-Pole-Gell, Mr. Randell, Mr. Ransome, Mr. Russell, Mr. Sanday, Mr. Shuttleworth, Mr. Stratton Lieut.-Col. Turberville, Mr. Whitehead, Mr. Jacob Wilson, Professor Brown, Professor Simonds, and Dr. Voeleker.

The following new members were elected:—

Brogden, James Garstang, of Kent's Road, Grange-over-Sands, Carnforth.

Cartwright, Frederick Fox, of 8, Windsor Terrace, Clifton, Bristol.

Cassavetti, Alexander, of 6, Addison Road, W.

Cornes, John, of New Farm, Hurlston, Nantwich.

Deakin, Joseph, of Eller How, Lindale Grange, Lancashire.

Durant, H. W., of North Tawton, Devon.

Ford, Thomas, of Shinchiffe, Durham.

Fowler, John Arthur, of Inverbroom, Garve, Ross-shire.

Hill, Herbert, of Landbeach, Cambridge.

Heatley, Thomas, of High Hatton, Shawbury, Salop.

Herbert, J. O., of Llanarth Court, Raglan, Monmouthshire.

Holland-Hibbert, Arthur Henry, of Munden House, Watford, Herts.

Howorth, James, of Victoria Works, Farnworth, Lancashire.

Kettlewell, W. W., of East Harptree, Bristol.

King, Edmund, of Ashby Hall, Newmarket.

Kinsy, Timothy, of Old Hall, Kerry, Newtown, Montgomeryshire.

Lightfoot, William, of Bishopton Road, Stockton-on-Tees.

Musson, Joseph, of Holt Hill House, Whiston, Prescott.

Nelson, Edward Moatague, of Hauger Hill House, Ealing, Middlesex.

Neville, Robert, of Butleigh Court, Glastonbury.

Part, Charles Thos., of 3, King's Bench Walk, Temple, E.C.

Rowe, Alfred, of Dinglefield, Liverpool.

Shuttleworth, Sir U. Kay, Bart., of Gawthorpe Hall, Burnley.

Waterhouse, John Thomas, of Braithwell Manor, Rotherham.

Winder, G. A., of Tonge Moor, Bolton.

FINANCES.—Mr. Randell 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 £1,610 19s. 6d.

The Committee had met nine times, and made nine reports; they did not recommend any change in the constitution of the Committee. This report was adopted.

JOURNAL.—Mr. WHITEHEAD reported that the papers for the Memoir on British Agriculture, for the Congress in connection with the Paris Exhibition next year were nearly completed. The Committee recommended that a silver medal be presented to Professor Alvoid for his paper upon the "American Cattle Trade" in the last number of the *Journal*. The Committee had met eight times, and made eight reports. They recommended that the following constitute the Committee for the ensuing year:—Earl Cathcart, Lord Vernon, Sir W. E. Welby-Gregory, Sir M. W. Ridley, Bart., M.P., Mr. Dent, Mr. Frankish, Mr. Hemsley, Mr. Bowen Jones, Col. Kingscote, M.P., Mr. Milward, Mr. Chandos-Pole-Gell, Mr. Ransome, Lieut.-Col. Turberville, Mr. Wells, and Mr. Whitehead. This report was adopted.

CHEMICAL.—LORD VERNON reported that Dr. Voeleker's annual report had been received, and that the Committee recommended it for publication in the *Journal*. The report of Mr. Lawes and Dr. Voeleker on the Woburn experiments had been read, and ordered to be printed for the use of members of the Committee at the February meeting. Mr. R. A. Warren had attended and submitted accounts of the expenses of experimental farms at Woburn and Crawley, and a letter accompanying them, and the Committee had resolved to have the same printed for their own use. Dr. Voeleker's quarterly report had been received, and ordered to be printed for consideration, as usual. The Committee recommended that Lord Vernon, Mr. Aveling, Mr. Howard, and Mr. Bowen Jones be appointed a sub-committee to consult with Mr. Lawes and Dr. Voeleker as to the best and most effectual means of relieving those gentlemen of the responsibility attaching to the arrangement of those parts of farming operations which are subservient to the carrying out of the scientific experiments under their

especial charge; that the sub-committee be requested to arrange for a monthly report of the farming operations to be submitted to the Chemical Committee, and for the balance-sheet for the year to be made up, in future, to the 31st March, and that Mr. Warren be invited to serve on the Chemical Committee. The Committee had met eight times, and made eight reports. They recommended that the following constitute the Committee: Duke of Bedford, Earl of Lichfield, Lord Vernon, Sir W. G. Welby-Gregory, Mr. Atkwright, Mr. Aveling, Mr. Carruthers, Mr. Dent, Mr. Edmonds, Mr. Howard, Mr. Hensley, Mr. Bowen Jones, Mr. Lawes, Lieut.-Col. Turbevill, Dr. Voelcker, Mr. Warren, Mr. Wakefield, Mr. Wells, Mr. Whitehead, and Mr. Jacob Wilson.

LORD VERNON, in presenting this report, referred to the illness of the Chairman of the Committee (Mr. Wells), and illustrated the loss which the Committee had sustained by his absence, as he had devoted so much personal care and attention to the subjects which came before them for examination. He then stated that the Committee had paid a visit to the experimental farm at Woburn, and had examined both the experimental field and the auxiliary farm at Crawley. They were glad to be able to express their conviction that what had been done on the experimental plots appeared to have been very successfully accomplished, and that they were still going on satisfactorily; but the same could not be said with regard to the Crawley farm. The Committee had, therefore, deemed it desirable to arrive at a proper definition of the responsibility resting upon Mr. Lawes and Dr. Voelcker, with regard to the experimental field, and to relieve them as much as possible from any responsibility in reference to the auxiliary farm at Crawley. They had, therefore, referred this question to a sub-Committee, and trusted that in future any dissatisfaction which might have been felt in consequence of the foul condition in which the Crawley farm was when taken over by the Council, and its imperfect cleansing in consequence of the nature of the past season, would be removed.

MR. CHARLES HOWARD expressed his satisfaction that the Chemical Committee had paid a visit to the farms at Woburn. He felt certain that the Committee had not been aware how these experiments were being carried out. His own impression was that the reason why the experiments had been undertaken was that valuers should be enabled to determine the value of unexhausted improvements, but it appeared to him that hitherto they had been attempting to illustrate the cost of the deterioration of property.

MR. AVELING moved the following resolution:—

That it be referred to the Chemical Committee to consider at what cheaper rate than at present analyses (of manures, feeding stuffs, and other substances used in agriculture) could be made by the consulting chemist for the bona-fide and sole use of members of the Society, if the Society provided the chemist with a laboratory and staff entirely devoted to that purpose, and what additional cost such a plan would be to the Society, and that the Chemical Committee be requested to

present a detailed report on this subject to the Council, at least one month before they move that it be adopted.

MR. BANDELL, in seconding the motion, expressed his conviction that the greatest check upon adulteration would be the encouragement to farmers to send samples of their manures and feeding stuffs to the Society's chemist for analysis. In no way could this be done so well as by reducing the cost of each analysis, and in no way could the Society be of more benefit to its members.

The resolution was then carried unanimously, and the Report of the Committee adopted.

BOTANICAL.—MR. WHITEHEAD (chairman) presented the following Report of the Consulting Botanist for the past year:—

“The number of applications by members of the Society has considerably increased during the past year, having exceeded sixty.

“The samples of seed for crops which have passed through my hands have been generally satisfactory, and no case has occurred to me this year in which either killed or spurious seeds have been foisted upon the purchaser. The samples that I have had to condemn have been defective either through the presence of worthless or injurious weeds, or through bad or careless harvesting, so that too large a proportion of unripe grains were collected, or the grains were injured in thrashing or in other subsequent treatment.

“It is satisfactory that, as far as my experience goes, the members of the Society have not been imposed upon by the killed and coloured seeds which recent prosecutions have shown to be again found in the market. The extent to which killed or dead seeds are present in any sample may easily be determined by the purchaser, and no farmer should sow low-priced seed, or seed in any way suspicious without experimenting himself in germinating a fair sample, or submitting it for examination. I believe no danger is to be feared from the trade generally, but unprincipled dealers in large towns are now known to systematically increase their profits through adulteration. The worthless article is chiefly imposed on general dealers who supply seed but have no practical knowledge of this department of their business, and who retail in good faith what they have purchased in the lowest market as good seed.

“The reflection in the Annual Report of last year on the inferior character of seed supplied to a member of the Society by a Farmers' Association led to a remonstrance from a firm supplying seed to such an Association, which I placed before the Committee, and which, in their opinion, fully justified the condemnation which was printed in the Report.

“In the course of the year the Committee resolved to make arrangements for supplying information as to the insect dangers of the farm. This was intimated to the members of the Society. The great alarm caused by the threatened appearance of the Colorado beetle directed much attention to insects which appeared among the crops; and every strange or unknown insect was too often

supposed to be a stage of the life of the dreaded beetle. The Society, by the distribution of coloured illustrations of the Beetle amongst all its members, supplied them with the means of recognising it in any of its forms. But, happily, no authenticated case has yet been reported of its appearance in Britain, except as specimens supplied to naturalists for scientific purposes. Eight applications have been made in regard to insects, and the members have received satisfactory information from the experienced entomologist who has undertaken to answer these inquiries. The insects sent were well-known, and, with one exception, were innocent creatures.—W. CARRUTHERS, F.R.S.”

The Committee had had under their serious consideration the startling disclosures made during the recent prosecutions of the vendors of adulterated, coloured, and killed seeds, and they recommended that the Council give them similar power to that which is possessed by the Chemical Committee, to present quarterly reports on the cases of adulterated, killed, coloured, and inferior seeds brought under the notice of the consulting botanist for publication, together with the names of the vendors (subject to the approval of the Council) in the agricultural newspapers. The Committee also recommended that it should be styled for the future “The Seeds and Plant-Diseases Committee,” and that the following be the list of its members for the ensuing year :—

Lord Vernon, Sir W. E. Welby-Gregory, Sir M. W. Ridley, Mr. Carruthers, Mr. Frankish, Mr. Brandreth Gibbs, Mr. Bowen Jones, Lieut.-Col. Turberville, Mr Whitehead, and Dr. Voelcker.

The Committee had met three times, and made three reports.

Mr. WHITEHEAD, in moving the adoption of this report, strongly recommended that the Society should take action against the adulterators, colourers, and killers of seeds. The Committee had been asked to prosecute those persons, but they had not felt that it was the function of the Society to act in that manner. The recent transactions at the Mansion House showed that the doctoring of seeds was a special business. Kilns were erected for the purpose, and trained persons were employed to conduct the process, as it appeared to be a difficult and troublesome one in many cases. Rapeseed of comparatively little value was scientifically killed for the purpose of mixing with swede and other valuable seeds; and even a more disastrous kind of adulteration was practised upon cloverseed. The Committee therefore recommended that they should have power to take the same course as the Chemical Committee had taken for some years, with a very beneficial deterrent effect upon people who were disposed to act dishonestly. He trusted that the members of the Society would send samples of seeds to the Consulting Botanist, and thus enable him to bring reports of offending seedsmen before the Committee and the Council. In that way members of the Society would, in course of time, become anxious to obtain the botanist's opinion, and thus to screen themselves from the possibility of sowing

worthless seed. The reason why the Committee had suggested a change in the name was that they had recently enlarged its scope, and, while, wishing to give it as simple a name as possible, they desired that its name should convey some idea of the area of its work. The report was then adopted.

HOUSE.—Mr. CANTRELL reported certain recommendations of the Committee as to repairs to the Society's house. The Committee had met twice, and made two reports, and they recommended that the following be the Committee for the ensuing year :—The President, the Chairman of the Finance Committee, Viscount Bridport, Mr. Cantrell, and Mr. Brandreth Gibbs. This report was adopted.

IMPLEMENT.—Mr. HEMSLEY (chairman) reported that the Committee had arranged the following list of prizes for dairy appliances. The amount of these prizes exceeded by £30 the £100 granted at the last Council meeting, and the Committee recommended that this addition to the grant be made by the Council :—

- |  |      |
|--|------|
| 1. For the best Milk-can, suitable for conveying milk long distances by road or rail without injury .....  | £ 10 |
| 2. For the best Churn for churning a sufficient quantity of milk to produce not more than 20lb. of butter. . . . .   | 10   |
| 3. For the best Churn for churning a sufficient quantity of cream to produce not more than 20lb. of butter . . . . .   | 10   |
| 4. For the best mechanical or automatic Butter-worker, suitable for large dairies and for factories .....  | 10   |
| 5. For the best mechanical or automatic Butter-worker, suitable for small dairies; price to be specially considered .....  | 10   |
| 6. For the best Cheese-tub; economy of labour to be specially considered .....   | 10   |
| 7. For the best Curd-knife.....  |      |
| 8. For the best Curd-mill .....  | 5    |
| 9. For the best Cheese-turning apparatus.....  | 10   |
| 10. For the best mechanical means of cleaning churns and other dairy utensils .....  | 10   |
| 11. For the best automatic means of preventing the rising of cream.....  | 10   |
| 12. For the best Milk-cooler .....   | 10   |
| 13. For the best method of keeping a large quantity of Milk at a temperature under 40 deg. Fahr., for a period of not less than 12 hours, sufficiently economical for practical purposes ..... | 20   |

The Committee further recommended that a prize of £50 be offered for the best machine for milking cows, to be tested during six consecutive months of the spring and summer of 1879, the date and conditions of entry to be fixed at the next meeting of the Committee. This report was adopted.

STOCK PRIZES.—Mr. T. C. BOOTH reported that the Committee had revised the Stock Prize Sheet for the Bristol meeting. The former had met five times, and

made five reports. They recommended that the following constitute the Committee for the ensuing year:—Viscount Bridport, Sir M. W. Ridley, Mr. Arkwright, Mr. Aylmer, Mr. Booth, Mr. Bowley, Mr. Evans. Mr. Frankish, Mr. Brandreth Gibbs, Mr. Howard, Mr. Helmsley, Mr. Horley, Mr. McIntosh, Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Chandos-Pole-Gell, Mr. Rigden, Mr. Sanday, Mr. Stratton, Mr. Torr, Mr. Wakefield, Mr. Jacob Wilson, and the stewards of live stock. This report was adopted.

VETERINARY.—MR. C. T. BOOTH reported that during the past year the members of the Society had used their veterinary privileges as follows:—Six consultations by letter, three *post mortem* examinations, and two consultations requiring visits from the Inspector. The Committee moved for renewal of the veterinary grant of £250 for 1878. The Committee had met five times, and made five reports. They recommended that the following constitute the Committee for the ensuing year:—Viscount Bridport, Sir M. W. Ridley, Mr. Arkwright, Mr. Booth, Dr. Carpenter, Mr. Duguid, Hon. W. Egerton, Mr. Brandreth Gibbs, Mr. Harpley, Mr. Howard, Colonel Kingscote, Mr. Milward, Mr. Chandos-Pole-Gell, Dr. Quain, Mr. Sanday, Dr. Sanderson, Professor Simonds, Mr. Wakefield, Mr. Wells, Mr. Jacob Wilson. This report was adopted.

GENERAL—BRISTOL.—LORD SKELMERSDALE (Chairman), reported that they had received a letter from the Society's contractors, which had been referred to the Local Committee, with a request that they obtain the necessary consent for an extension of time to enable the contractors to finish the Show-yard in time. The Committee had met ten times, and made ten reports, and they recommended the following to be the Committee for the ensuing year:—Viscount Bridport, Lord Chesham, Lord Skelmersdale, Sir Massey Lopes, Bart., M.P., Sir R. C. Musgrave, Bart., Mr. Aveling, Mr. Aylmer, Mr. Booth, Mr. Bowley, High Sheriff of Bristol, Mayor of Bristol, Mr. Cantrell, Mr. T. Dyke, Hon. W. Egerton, M.P., Mr. Frankish, Mr. Brandreth Gibbs, Mr. Helmsley, Mr. Horley, Mr. Bowen Jones, Mr. J. A. Jones, Mr. Martin, Mr. Masfen, Mr. Milward, Mr. George Nichols, Mr. Pole-Gell, Mr. Randell, Mr. Rawlence, Mr. Ransome, Mr. Sanday, Mr. Shuttleworth, Mr. W. Smith, Mr. Stratton, Mr. Thomas, Mr. W. Thompson, Lieut.-Colonel Turberville, Mr. George Turner, Mr. Jabez Turner, Mr. Wakefield, Mr. Wells, Mr. Whitehead, and Mr. Jacob Wilson. This report was adopted.

SHOWYARD CONTRACTS.—MR. JACOB WILSON (Chairman) reported that the Committee had met nine times, and made nine reports. They recommended that the present Committee be re-appointed, with the addition of Mr. Pole-Gell. A preliminary plan of the Bristol show-yard had been approved, subject to certain modifications. A complete plan will be submitted in February. This report was adopted.

EDUCATION.—LIEUT.-COL. PIETON TURBERVILLE reported the following to be the result of the last Junior Examination:—

Schools.	Candidates.	Ages					Remarks.
		Agriculture 20, Pass 75.	Chemistry 20, Pass 75.	Mechanics 20, Pass 75.	Land Surveying 100, Pass 40.	Totals, Pass No. 350.	
Surrey County	Wyles, F.	16	120	100	152	73	1st
"	Budd, A.	17	106	102	16	70	2nd
"	Caldecott, C.	16	95	110	132	59	3rd
Bedford County	Walker, G.	17	125	104	109	58	3rd
Devon County	Chope, R.P.	15	90	73	141	83	5th
Glasnevin Col.	Golding, J.	17	125	92	53	90	6th
Surrey County	Waghorn, A.J.	17	95	105	122	43	6th
							Equal

The Committee recommended that the thanks of the Council and the usual honorarium be forwarded to the Examiners; and that the successful candidates for the Junior Scholarships be granted certificates of their having passed, and this rule be made retrospective. The Committee also recommended that the Senior Examination be held as usual after Easter in 1878: and that the junior scholarships gained last year be now paid. The Committee moved for the renewal of the education grant of £500 for 1878. The Committee had met five times, and made five reports. They recommended that the following constitute the Committee for the ensuing year:—Duke of Bedford, Mr. Aveling, Mr. Carruthers, Mr. Dent, Mr. Bowen Jones, Colonel Kingscote, Lieut.-Colonel Pieton Turberville, Dr. Voelcker, Mr. Wells, and Mr. Whitehead. This report was adopted.

SELECTION.—MR. T. C. BOOTH reported the recommendation of the Committee that Mr. Jacob Wilson be reappointed Steward of General Arrangements for the next three years. The Committee had met four times, and made four reports. They recommended that the following constitute the Committee for the ensuing year:—

Viscount Bridport, Mr. Booth, Hon. W. Egerton, Mr. Milward, Mr. Chandos Pole-Gell, Mr. Jacob Wilson, and the Chairmen of Standing Committees.

This report was adopted.

THE PRESIDENT announced the death of Mr. Richard Hornsby, of Spittlegate, Grantham, a member of the Council of the Society.

MR. STRATTON then moved the following resolutions, of which he had given notice, viz., the abolition of the following rule relating to pigs. "19. If a litter of pigs be sent with a breeding sow, the young pigs must be the produce of the sow, and must not exceed two months old." Also the following paragraph of rule 18:—"All pigs exhibited at the country meetings of the Society shall be subjected to an examination of their mouths by the Veterinary Inspector of the Society; and should the state of dentition in any pig indicate that the age of the

animal has not been correctly returned in the certificate of entry, the stewards shall have power to disqualify such pig, and shall report the circumstance to the Council at its ensuing monthly meeting." Also in rule of adjudication No. 6, to strike out the first paragraph—viz.: "The attention of the stewards and judges is particularly called to the conditions applying to pigs. The senior steward of live stock is requested to report any malpractices on the part of exhibitors, and any person found guilty will not be allowed to exhibit at future meetings of the Society." Adding the following:—"Any person objecting to an entry on the score of age, or on the ground of such entry being made otherwise than in accordance with the Society's rules, shall make his objection in writing to the secretary of the Society, not later than 5 p.m. on the second day of the show, and shall at the same time deposit the sum of £5, which shall be forfeited to the Society in the event of the objection being considered frivolous by the Council. Every objection will be carefully inquired into by the stewards and Council, and any person found guilty of malpractices will never again be permitted to exhibit at the Society's shows." Mr. Stratton referred to the disqualifications of pigs which had been made for several years past, and which of late years had become so numerous. Last year, at Birmingham, no fewer than 17 pens had been disqualified, and some of them had been exhibited by noblemen and gentlemen bearing the best names in England. Dentition had been accepted as a standard to judge of the age of pigs, and he had no doubt that the Society's veterinary surgeons had applied that accepted standard, but he thought that mistakes might occasionally occur. He judged that it was for this reason that the Birmingham Exhibition Society had abolished a similar rule, and that the Smithfield Club had relaxed its provisions. All breeders of farm stock would admit that occasional exceptions would occur; and he held it to be wrong that one innocent man should be punished to enable the Society to capture a number of guilty ones. The Society, moreover, said that they did not deem the exhibitors of disqualified pigs, guilty, but only negligent, but he thought that the public would regard those men who were disqualified as a set of rogues. In his opinion, under the present circumstances, the guilty were not punished, but the innocent were. The Society itself could have no confidence in its own system, or it would be much more stringent in enforcing its provisions, and in dealing with those who transgressed them.

Professor BROWN observed that so far as Mr. Stratton's point of view was concerned, he had very fairly stated his case. The advocates of the dentition test had never claimed infallibility, and it could not be expected that any animal would carry in its mouth an authentic certificate of the date of its birth. It was well-known, however, that the dentition of pigs undergo very remarkable changes at certain ages of the animal, viz., at six, nine, twelve, fifteen, and eighteen months old. This had been thoroughly described by Professor Simonds many years ago in the Society's *Journal*. The pig was, however,

differently constituted from other animals of the farm. The dentition of cattle frequently exhibited remarkable divergences in reference to age, and so also did that of sheep. An exhibitor of pigs, who had been disqualified on account of dentition, might be regarded as having gone very far beyond a certain limit; and many exhibitors openly state that if they show pigs honestly they have very little or no chance of obtaining prizes, but that as a general rule they keep pretty close to the actual ages. Veterinary surgeons did not pretend to be able to tell the age of a pig to a day or a week, but there are certain indications as to dentition which never occur until definite time preceding each of the ages just mentioned; and it is only within this limit that the Veterinary Inspector can be cheated. It is possible that an innocent person may occasionally suffer, but he denied that this should be any reason that the Society should not prevent a large number of other exhibitors from being more guilty than they now are.

Mr. MASFEN referred to the fact that the Bath and West of England Society had altered their rule so as to put it in the power of the judges to call in the aid of the Veterinary Inspector if they wished it. He thought that this Society's rules might be altered in the same sense, and he gave instances, derived from his own experience, of the large amount of variation there is in the development of the dentition in sheep.

Mr. JACOB WILSON expressed his conviction that many exhibitors forget the conditions attached to their entry of pigs. He would remind such exhibitors that they certified not only that the pigs entered are of a certain age, but that their dentition shows it. He would not relinquish the efforts of the Society to prevent fraudulent exhibiting; and he would further make it a rule that two years' consecutive disqualifications should entail a prohibition upon that exhibitor from again exhibiting at the Society's shows. He was also of opinion that if other Societies had the same rule as the Royal no complaints would be made.

Professor SIMONDS stated that the existing system had its origin at his suggestion twenty-five years ago, in consequence of the gross frauds which prevailed at that time. Before these rules were drawn up he had taken enormous pains to ascertain whether the dentition of pigs presented better indications of the age of the animals than did the teeth of sheep, cattle, or horses, and at the time he was surprised to find that there were great regularities at certain well-marked periods in the life of the pig. He had studied this subject exhaustively, in slaughterhouses as well as elsewhere, and had tabulated the dentition of more than 500 pigs, and classified them according to their ages and their dentition. The important changes which had been referred to by Professor Brown were well known to take place at definite intervals of three months, until the pig became eighteen months old, and as their "classes" were now constituted, pigs above that age were not brought into competition. He could recollect that before these rules were drawn up, and soon after they were first brought into operation, pigs of eighteen months old and

upwards were frequently exhibited as under a year old; and as the present system had been in operation at the Society's Shows for twenty-five years, and had been universally accepted by veterinary authorities in this country and on the Continent for nearly as long a period, he trusted that the Society would not lightly abolish it.

The PRESIDENT suggested that the existing rules might be made somewhat less stringent, and that the Stock Prize Committee should confer with the veterinary authorities with that view.

Mr. BRANDRETH GIBBS suggested that the state of dentition required in each "class" of pigs should be described in the prize sheet.

After some explanatory remarks from Mr. STRATTON, he withdrew his resolution.

A letter on the same subject was read from Mr. Richard Fowler.

A letter of thanks was read from Professor Stockhardt for his election as an honorary member.

A letter from Messrs. Vipan and Heady was read asking to have their prize cards reprinted, and the Secretary was instructed to provide them with new cards, at their expense, on their returning the old ones.

A letter was read from Mr. Culliffe Owen, enclosing a copy of the schedule respecting the exhibition of live stock to be held at the Paris Universal Exhibition of 1878; and

Mr. CHARLES HOWARD took occasion to call attention to the fact that the last day for receiving applications for permission to exhibit being the 20th of December many English exhibitors would be prevented from showing; and he also observed that the classification of sheep was unsatisfactory to English breeders.

Mr. BRANDRETH GIBBS thereupon explained that both these subjects were under consideration, and he thought it most likely that some concession would be made as to the date of entry, and very probably also as to the other point mentioned by Mr. Howard.

The following letters were read:—From Mr. W. Smith, of Woolston, on steam cultivation; from Mr. John Loit, on the cultivation of the potato; from M. Trepayne, asking for contributions to a provincial museum in France.

A copy of the new volume of the "Shorthorn Herd Book," presented by the Shorthorn Society, was received by the Council, and their thanks ordered to be forwarded to the proper quarter.

The Report from the Council to the general meeting of members was prepared.

The usual holidays having been granted to the Secretary and clerks, the Council adjourned over the Christmas recess until Wednesday, February 6, 1878.

### THE ANNUAL MEETING.

The annual meeting of this Society was held on December 13th, in Hanover-square. The chair was taken at noon by the President, Colonel KINGSCOTE, M.P., and

among those present were the Earl of Lichfield, Lord Vernon, Lord Chesham, Mr. C. S. Read, M.P., Major Pictou Turbeville, Dr. Voelcker, Mr. James Howard, Professor Symonds, Mr. H. Neild, Mr. Bell, Mr. Hugh Aylmer, Mr. Arkwright, Mr. Jacob Wilson, Mr. R. Stratton, Mr. Bell, Mr. John Helmsley.

The Report, which was read by the SECRETARY, Mr. Jenkins, was as follows:—

The Council have to report that during the year 1877 the number of Governors and Members has been increased by the election of 1 Governor and 412 Members, and diminished by the death of 4 Governors and 107 Members, the resignation of 127 Members, and the removal of 50 Members by order of the Council. The Society now consists of:—

81 Life Governors,  
74 Annual Governors,  
2,280 Life Members,  
4,182 Annual Members,  
17 Honorary Members,

making a total of 6,634, and showing an increase of 124 Members during the current year. The half-yearly statement of accounts to the 30th June last 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*. Since then the funded capital has been increased by the investment of £4,000 in the New Three per Cents.—chiefly the surplus receipts of the Liverpool Meeting. The funded property of the Society is now £26,511 11s. 5d. New Three per Cents., and the balance in the hands of the Bankers on the 1st inst. was £1,610 19s. 6d. The Liverpool Meeting was one of the largest and most successful which the Society has ever held, and the attendance on the first three days even equalled that at the Manchester meeting. Unfortunately the wet weather on the two closing days prevented many thousands of people from visiting the show, but notwithstanding this drawback the total number registered by the turnstiles has been exceeded only three times in the history of the Society—namely at Leeds in 1861, at Manchester in 1869, and at Birmingham in 1876, while the money receipts were second only to those at Manchester. The Local Committee and the authorities at Liverpool made every exertion to render the Meeting successful. Besides their remarkably handsome additions to the Society's prize-list, the Local Committee organised a parade of more than 300 Liverpool cart-horses in the Show-yard on the Saturday afternoon, and it was generally admitted that this was a most instructive and attractive as well as a novel exhibition. The Mayor and Corporation and the merchants and manufacturers of Liverpool invited the members of the Society to inspect the buildings and processes over which they had control, and many Members of the Society availed themselves of this opportunity to acquaint themselves with the extensive docks, public buildings, factories, and warehouses for which Liverpool is famous. In every respect the country-meeting of 1877 will long be remembered as one of the largest and most useful of those which the Society has held. The competition for the Society's Gold Medal offered for an efficient sheaf-binder, took place at harvest-time on Mr. Scotson's farm, at Aigburth, near Liverpool. Only three machines, all of American make, were brought to trial, and although the Judges were of opinion that these labour-saving appliances had not yet been made sufficiently perfect to justify them in awarding the Gold Medal,



they were of opinion that great credit was due to the three inventions, and they recommended that a silver medal, in recognition of progress, should be given to Mr. W. A. Wood, and a high commendation bestowed on the binding mechanism employed by D. M. Osborne and Co. The Judges also suggested a renewal of the offer of the Gold Medal next year, and the Stewards having reported favourably of this course, the Council have acted in accordance with their recommendation. The competition for the numerous prizes offered by the Local Committee for the best-managed Dairy (or Stock) and Arable Farms in the counties of Lancaster, Chester, Denbigh, and Flint, and in the Isle of Man was very keen; and the striking reports on the two sections of the competition written by Mr. J. C. Morton and Mr. S. D. Shirriff, respectively, and published in the last number of the *Journal*, are well worthy of careful study. The Country-meeting for the ensuing year will be held at Bristol; and the Council are glad to announce that the Local Committee have obtained the use of a most eligible site for the Show-yard on Durdham Down. The Bristol Local Committee have offered the following Prizes for best-managed farms in the county of Gloucester, the eastern division of Somerset, and the northern division of Wilts:—

SECTION I.—Arable Farms with at least two-thirds of their area under rotation of cropping:—Class 1. Farms of 200 acres and upwards; first prize, £50; second, £25. Class 2, Farms above 80 and less than 200 acres; first prize, £30; second, £15.

SECTION II.—Dairy or Stock Farms, where the course of cultivation is chiefly directed to the production of Cheese, Butter, or Animal Food:—Class 1. Farm of not less than 200 acres; first prize, £50; second, £25. Class 2. Farms of not less than 80 and under 200 acres; first prize, £30; second, £15.

In addition to the renewed offer of the Society's Gold Medal for an efficient Sheaf-binder, the Council have decided to offer for competition at the Bristol Meeting prizes for improved Dairy appliances; and the Local Committee will offer prizes for several classes of Dairy Produce. It is hoped that by these means the most improved methods and the best results of cheese and butter making may be illustrated in the Bristol Show-yard. Following the precedent of the last two years, the Council have decided that the Bristol Meeting shall commence on Wednesday, July 10th, and that the Implement-yard shall be open to the public on the preceding day. The Council have added the following new rules to the Implement Prize-sheet:—

1. In the catalogue there shall be no statement of any prize awarded to an implement except such as may have been awarded by the Royal Agricultural Society. 2. No placard or other statement shall be attached to any machine, implement, or other article in the Society's Show-yard, referring to any prize, except such as may have been awarded to it by the Royal Agricultural Society. 3. In the Show-yard exhibitors must use smokeless coal, which, for their convenience, will be provided and sold at a fixed price by the Society, or by an agent duly appointed by it. 4. Shafting, belts, gearing, high-speed machinery, and any other exhibits likely to prove dangerous to the public, shall be securely fenced and protected to the satisfaction of the Society's stewards or engineers; but such approval by the stewards or engineers shall not relieve the exhibitor from his liability under other Clauses. 5. Emery wheels and similar grinding machinery driven at high-

speeds will not be allowed to be exhibited in motion; and the decision of the Society's stewards or engineers in reference to such machinery shall in all cases be final and of immediate effect. 6. Engine-drivers in charge of boilers under steam and of steam-engines when running, shall not absent themselves from their posts without leaving their machinery in charge of competent persons.

The Committee appointed by the Council to ascertain what sites within the Metropolitan area may be available and suitable for the Society's Show in 1879 are continuing their investigations, and it is hoped that they may be eventually successful; but up to the present time no definite conclusion has been arrived at. The health of the Live Stock of the Farm has been the most prominent subject which the Council have had to consider during the past year. At the Annual Meeting in May, when it was still uncertain whether the Liverpool Meeting could be held, they reported that they had watched with the greatest anxiety and alarm the progress of the outbreaks of cattle-plague in London and Hull; that, in addition to suggesting certain measures for the purpose of dealing with the immediate emergency, they had represented to the Lord President of the Council the necessity of protecting English herds from this and other foreign contagious diseases, by prohibiting for the future the importation of Live Stock from European ports, and by enforcing uniform and compulsory measures for the suppression of contagious diseases amongst farm stock throughout the kingdom. The result of these representations was the appointment of a Select Committee of the House of Commons to inquire into the whole subject of Cattle Plague and the Importation of Live Stock. The Council secured the examination of practical and scientific witnesses, both agricultural and otherwise; and they believe that the evidence given was felt to be of a most useful and representative character. Although the recommendations made by the Select Committee did not go so far as the resolutions of the Council which had led to its appointment, either with regard to foreign or to home stock, the Council felt it necessary to urge upon the Government the desirability of taking, as soon as possible, the necessary steps to carry those recommendations into effect. At their request the Prime Minister received a deputation on the subject on the 23rd of last month, when they had the satisfaction of learning that it is the intention of the Government to legislate upon the subject as early as possible next session. A report of what took place at this interview has been sent to every Member of the Society, and the Council venture to express the hope that the Members generally will use their influence in their several districts to obtain that general effort to stamp out the contagious diseases of farm stock to which the Prime Minister so pointedly referred. The recent large importations of American meat into Great Britain have proved that the prohibition of importations of live stock need not enhance the price of meat to the consumer, as similar appliances to those used by American exporters could be adapted to the requirements of the Continental trade. The Council have therefore thought it desirable to place the Members of the Society in possession of the fullest information on this subject, and with this view have published two exhaustive articles by Professor Sheldon, of Cirencester, and Professor Alvord, of Massachusetts, U.S., in the last number of the *Journal*. The experiments upon pleuro pneumonia and foot-and-mouth disease have been continued during the year at the Brown Institution, under the superintendence of Dr. Burdon Sanderson. Valuable indications have been obtained, and described in the reports already published in the *Journal*

and in the agricultural newspapers; but before these can be accepted as final they will require careful confirmation. The Council have renewed the grant for these investigations, the scope of which will next year be extended to Quarter-evil and diseases of a similar nature. The last Quarterly Report of the Chemical Committee shows that the use of caution in purchasing artificial manures and feeding stuffs still continues. The Council therefore take this opportunity of once more repeating their advice that these substances should be bought by guaranteed analysis, and that their quality should be checked by sending a sample from the bulk to a qualified chemist for examination. The Chemical Committee have lately visited the experimental farm at Woburn, and have reported that as regards the experimental field of 26 acres, the various plots sown for the second year's experiments are in a satisfactory state of progress. Owing to the original condition of the Crawley Farm of 90 acres, which is not experimental but only auxiliary, some time must elapse before the land is thoroughly clean and the Farm generally has been brought into a condition which will accord with the result of good farming. Mr. Lawes and Dr. Voelcker have submitted to the Chemical Committee the results of the first year's experiments, and this report is at present under their consideration. A Sub-Committee has been appointed to confer with Mr. Lawes and Dr. Voelcker with the view of relieving them if possible of the responsibility of farming operations, in order that their undivided attention may be given to the various experiments in progress. The Council have had under their careful consideration the threatened importation of the Colorado Beetle, and have made certain suggestions to the Government with the view of reducing the danger to a minimum. They have also issued to each member of the Society figures of the beetle in all its stages, and a statement of the means for its destruction, which have been found most efficacious in America. This new danger has again drawn the attention of the Council to the desirability of placing within the reach of members of the Society competent advice on injuries caused by insects to farm crops; and they have arranged with Mr. Carruthers, the Consulting Botanist, to obtain such information and advice for the members at a small rate. A copy of these additional privileges has been sent to each member of the Society, together with instructions as to the methods of conveying information in regard to any injuries which their crops may suffer from insects or other causes. In consequence of the revelations made at the recent trials at the Mansion House, as to the adulteration, colouring, and killing of seeds, and of information laid before the Botanical Committee showing the great extent of this practice, the Council have authorised the Botanical Committee to publish the names of the persons who have sold to the members of the Society seeds which have been determined by the Consulting Botanist to have been killed, coloured, or adulterated. The Council hope that such publication may tend to suppress the traffic in worthless seeds, and that the members of the Society will avail themselves largely of the services of the Consulting Botanist in the determination of the quality and germinating power of seeds. Thirty-two candidates were entered for examination for the Society's Junior Scholarships from the following Schools:—Bedford County School (2), Devon County School (1), Dorset County School (2), Glasnevin College (5), Sandbach Grammar School (3), Surrey County School (19). The following candidates, arranged in order of merit, have gained Scholarships:—

	1st. F. Wyles	} Surrey County School.
	2nd. A. Budd,	
Equal	3rd. C. Caldecott,	
	1 3rd. Charles Walker, Bedford County School.	
	5th. Richard Pearce Chope, Devon County School.	
	6th. John Golding, Glasnevin College.	
	7th. A. J. Waghorn, Surrey County School.	

Twelve candidates were eligible to compete for the Society's medals and prizes offered to veterinary surgeons of not more than fifteen months' standing for proficiency in Cattle Pathology. Of these six have entered, and the examination will be held at the Royal College of Veterinary Surgeons in the course of the current month.

By order of the Council,

H. M. JENKINS, Secretary.

Mr. C. S. READ, M.P., said: Sir, I very readily accede to the request which has been made to me that I would move the adoption of the Report. I do not think that for years, perhaps not at any period in the history of the Society, the Council has had to record more useful practical work than has been done in the last year. It seems as though four or five years ago this Society woke to a sense of its responsibility and its duties, and considered that as a great national Society it had something to do besides holding annual shows and publishing two volumes of the *Journal* every year. From the time when the Society attacked the perpetrators of those adulterations which have ruined many farmers and injured a great many more, it has received more support from the tenant-farmers and occupiers of land in this kingdom than it ever received before, and I am quite sure that at no previous period of its existence was it as popular as it is now (cheers). If during the present year it had done nothing more than attend to the great absorbing question of cattle disease, it would have earned our grateful thanks (hear, hear). I was surprised to see it stated in a daily paper this morning that the Committee which sat to consider that subject was mainly composed of agricultural and Conservative members. Well, now, the exact contrary is the fact (hear, hear). When the Government had proposed that Committee I greatly objected to it in the first instance, because the agricultural interest was so poorly represented, and because there was such a great preponderance of borough members; and when it was suggested that a certain addition should be made from Ireland and Scotland, the House departed from the rules usually followed in the formation of committees, and the only Conservative that was added to the Committee was a Home Ruler. We are as farmers greatly indebted to Mr. Booth and Mr. Jacob Wilson for the excellent evidence which they gave before that Committee, and the zeal, patience, and assiduity which you, Sir, displayed while serving on that Committee we shall ever remember with gratitude (cheers). Among the subjects mentioned in the Report is that of the adulteration of seeds. A few years ago, as the meeting will remember, a Bill was passed by Parliament to prevent the adulteration of seeds. There can be no doubt that actually to kill seeds is a statutable offence, but it appears that colouring seeds so as to make them appear what they are not, which is considerably

worse even than the killing of seeds, is not now punishable by law. I do hope that in the next Session of Parliament the Act will be so amended that anyone who colours seeds for the purpose of deception will be brought within its scope. Another sign that this Society is advancing, is the establishment of an experimental farm at Woburn. It is nice to see the old name of Woburn brought up again in connection with agriculture after it had slept, as it were, for a great number of years. In my boyhood farmers used to look to Woburn and Holkham for improvements connected with agriculture, and I am glad to see that farm conducted with such liberality on the part of the noble Duke, and with the authority, as it were, of this Society. I do think it is necessary that some explanation should be given as a result of the union of practice and science with regard to the value of farm-yard manure. It seems to me that chemical analysis has in some cases put a rather extravagant value upon some of the artificial fertilisers, and if our best farm-yard manures are, as has been calculated, worth only 15s. per ton, some of us may be paying rather dearly for our whistle. I am very glad that this Society has recently taken more notice than it did of smaller but kindred societies (Hear, hear). The Society has been rather too high and mighty, as it were—too much inclined to act by itself; in fact, rather too aristocratic. I am very glad that it now condescends to notice such unimportant institutions as the Chamber of Agriculture, the Farmers' Club, and the different agricultural societies throughout the kingdom (cheers). I can assure the Members of the Council that we look upon this Society with a great deal of affectionate regard, and consider it the parent Society of the kingdom. Agriculture cannot afford to be disunited, especially among agricultural societies. We want a head, Sir, and we have got one here; and now that you have been good and gracious enough to take notice of some of your offspring, the agricultural interest will, I trust, be stronger and more united than it has ever been before (cheers).

Mr. H. NEILD, in seconding the motion, said he wished, as a Lancashire man, to express his satisfaction at the result of the Liverpool meeting. Allusion was made, in the Report just presented, to the reports of the judges in connection with the farm prizes. He would advise every one who had not done so already to read what was said on that subject in the *Journal*, more especially as regarded farms which had not taken prizes; and he would point every one to the enormous results of proper management in Lancashire. He was glad to see what attention was to be given to dairy farming at the Bristol meeting. In Lancashire, Cheshire, and other counties in the north the churning of milk had, contrary to the practice in the south, been extensively carried out, and the result was that the butter-milk was three or four times greater in quantity, and was used very much in the rearing of young stock. That was a matter of considerable interest to farmers generally. In order to guard against injury from adulterated seeds it had been

his practice to test seeds by first sowing only a small quantity at a particular spot, and by pursuing that course his brother farmers would avoid a great deal of loss and vexation. They should not take any one's *ipse dixit* with respect to the quality of seeds, but be guided by their own experience. As to the Report, he had no doubt it would meet with cordial acceptance throughout the length and breadth of the kingdom.

The Report was then adopted.

On the motion of Mr. Coleman, seconded by Mr. Finlay Dun, thanks were voted to the auditors—Messrs. Cantrell, Sherborne, and Johnson, and they were re-elected.

The business having thus terminated, the Chairman invited remarks and suggestions for the consideration of the Council.

After some observations of a congratulatory character from Mr. W. Botley,

Mr. GEORGE WHALLEY said it appeared to him, as a very old member of the Society, that there still prevailed among farmers great ignorance with regard to farming implements and the proper management of land. If the land were not made more fertile it would be impossible for occupiers to meet the difficulties of the times. Many farmers seemed to him to need instruction in the principles and practice of agriculture, and he would venture to call the attention of the Council whether that Society could in any way be made a centre of light, which would radiate to all parts of the kingdom, any way in which it could distribute the stores of knowledge which were deposited there, so as to bring them home to the minds of working farmers. If the Council employed an intelligent man to go among farmers, and give them lectures which would infuse into their minds a spirit of real improvement, and instruct them in the economy of labour and the proper management of land, that would in his opinion produce very beneficial results. On many farms the land was not even kept clean, and hence it could only produce poor crops.

Mr. BOWICK expressed his gratitude to the Council for what had been done in the Botanical Department. He thought the growth of corn required much more attention from them than it had received hitherto. As regarded general production he did not think any gentleman would consider Mr. Lawes's estimate of eight and twenty bushels all round at all too low (Hear, hear). He knew a farm on which the amount was certainly not more than 7½ bushels. In fact, he had himself paid as an incoming tenant upon that estimate, and he knew it was not far out. He hoped that by means of the Botanical and Chemical Department something would be done to stimulate the improved production of the three British cereals, barley, oats, and wheat. Their friends on the Continent took more pains to secure improvement in that kind of cultivation than English farmers, as was shown by the visits of French and Belgian agriculturists during the harvest-time.

Mr. H. NEILD suggested that in future "aged" stallions should be placed by themselves in the prize list, and that there should be a separate prize for stallions between two and four years old.

Mr. J. HOWARD said he rose with great pleasure to propose a vote of thanks to the President (cheers). When it was announced that the choice of the Council had fallen upon Col. Kingscote, that fact gave universal satisfaction, and the manner in which he had presided over the proceedings of the Society, and the urbanity which he had uniformly displayed proved the wisdom of the choice (cheers). Whilst he was on his legs he would express a hope that the Council would not depart from the policy which it had recently pursued of holding the Annual Meetings at one or the other great centres of population (Hear, hear). The holding of a meeting at such a place as Taunton was not only attended with loss to the Society but entailed an enormous amount of loss and inconvenience to the exhibitors. He hoped the time was not far distant when the Annual Show of that Society would be held in London or the immediate vicinity. He believed that a larger number of farmers would come to the Metropolis than to any other great centre of population, and in support of that view he might refer to the fact that such a vast number of farmers come annually to the Smithfield Show. He had been at some pains to ascertain the opinion of exhibitors on that point, and he had found a universal concurrence of opinion amongst men of experience that a much larger number of farmers were drawn every year to the Smithfield Show than had ever attended a country meeting of the Royal Agricultural Society, and the greater number of farmers the Society could attract to its Shows the better would it answer the purpose for which it was founded (Hear, hear).

Lord VERNON, in seconding the motion, said if the appointment of Colonel Kingscote as president gave universal satisfaction to the agricultural world, it did not give less satisfaction to the members of the Council, which had for fourteen or fifteen years observed his assiduous and his high-minded demeanour as a member of their body; and noticed the earnestness which he performed the duties that devolved upon him (cheers.) Up to the moment when he became president, the Chairman was more particularly engaged on the Finance Committee, and it was no slight testimony to his skill in that department that at the present time the Society had a funded property of £26,000, and a balance of £1,600 (Hear, hear). The expenses of the Show were increasing every year, and the Council had to depend very much on the Chairman of the Finance Committee. Col. Kingscote took a very active part in the introduction of the deputation to the Prime Minister with regard to the control of the importation of live stock. Differences of opinion might exist as to the extent with which the State should go in exercising such control, but no one could doubt that it was necessary for the public welfare. One gentleman had remarked that that Society should be more of a centre of light as regarded agricultural progress in this

country. On that point they had to judge by results. He must say it would have been more satisfactory if they had had a much larger increase in the number of members. He wondered that that had not been the case; because he did not know any other Society in England which offered so many advantages, direct and indirect, to its members. Among the direct advantages was that of having two numbers of the *Journal*, which was edited with so much skill by their worthy Secretary. One of the indirect advantages was the protection which the farmer constantly enjoyed with regard to the quality of artificial manures and feeding stuffs, and another was that the manufacturers of pure manures and feeding stuffs were guided by the Society's chemist in reference to the way in which they should prepare their articles for sale to the agricultural public. 500 copies of the *Journal* were now sold in addition to those which were issued to the members. As to the addition of 124 members in the past year, the increase ought, in his opinion, to be numbered by thousands (Hear, hear).

The motion was then put by Mr. JAMES HOWARD, and carried by acclamation.

The CHAIRMAN said: I beg to thank Mr. Howard and Lord Vernon for the very flattering terms in which they respectively proposed and seconded the vote of thanks, and also to thank the meeting for the manner in which it received the proposal. I can only assure you that any small service I can render to the Society is given most cheerfully and heartily, and if I can only be of any use, through this Society, to the farming community of this kingdom I shall only be very thankful that such is the case. It has afforded me the greatest pleasure to watch the growing usefulness of this Society in its three chief branches during the last few years. Like Lord Vernon, I am surprised that such a Society has not more members; but I trust that next year there will be a much larger increase than 124. The Council always feel greatly indebted to gentlemen who take pains in canvassing for new members, and there is one gentleman now in the room who has recently sent up from Shropshire over 100 names. I myself once succeeded, by taking a little trouble, in increasing the number of Governors, and a little more canvassing would help the Society very materially. I may fairly say that the funds of the Society are spent in a manner which is beneficial to farmers as a body. I quite agree with Mr. Read that although it cost a large sum, no money was ever better expended than that which was spent in defending the action connected with the adulteration of manures—(cheers)—and though I hope the good sense of the seed merchants will prevent them from adulterating in future, in the contrary event we shall not shrink from risking having to pay the expenses of an action arising from exposure. I am glad that the Council have determined to offer prizes to veterinary surgeons for proficiency in the science of cattle pathology—a branch of study which has hitherto been much neglected by the veterinary profession. As regards the suggestion that the Council should send some one to

lecture to farmers, it appears to me to be open to two objections—first, that we should not be able to get many farmers to attend lectures; and secondly, that those who did attend might think there was not a sufficient union of practice with science (laughter). We show the combination of the two in the farm experiments at Woburn. We must not, however, lay too much stress on any experi-

ments, for we all know that variations of climate and other causes of the same kind render it impossible for any hard and fast line to be safely laid down by science. (Hear, hear.) Gentlemen, I hope that this Society will continue to prosper, and no effort on my part which can tend to promote its prosperity will be wanting (cheers).

The meeting then separated.

## THE BRITISH DAIRY FARMERS ASSOCIATION.

### ADJOURNED ANNUAL MEETING.

The adjourned annual meeting of this Society was held on Dec. 11, at the rooms of the Chamber of Trade, 448, Strand, under the presidency of Mr. E. C. Tisdall. After the minutes of the last meeting had been read and signed, the hon. secretary (Mr. Henry F. Moore) reported that he had received letters of apology for non-attendance from Mr. J. G. Crompton, the president of the association; Lord Richard Howe Browne, Mr. G. F. Jackson, Mr. W. Livesey, Professor Sheldon, and Mr. James Odams. He further reported that the association had now 202 members, and that it had the sum of £17 10s. in hand. The medals of the association awarded at the Dairy Show had not been yet awarded, as it took some time to get the design—which Mr. Harrison Weir had kindly given them—and die.

On the motion of Mr. Whittaker, seconded by Mr. Barham it was decided to request Lord Chesham to be the president for 1878, and that the following be the officers and committee:—  
Vice-Presidents.—Same as in 1877.

Committee.—Lord Richard Howe Browne, 29, Orchard-street, W.; Professor J. P. Sheldon, Royal Agricultural College, Cirencester; Messrs. Joseph Aston, Tarporley, Cheshire; G. Barham, College Farm, Church End, Finchley; W. E. Bear, Thorpe, Colchester; J. G. Crompton, The Lillies, Derby; John Coleman, Park Nook, Derby; Stephen Holmes Pegler, Montague House, Etwell; G. F. Jackson, Hatton Chester; Robert Leeds, Keswick Old Hall, Norfolk; W. Livesey, 13, Bank Parade, Preston; T. Nuttall, Manor House, Beeby, Leicestershire; John H. Raffety, Agricultural Hall, London, N.; E. C. Tisdall, Helland Park Farm, Kensington; Matthew Walker, Chaddesden, Derby; J. Welford, 4, Warwick-place, Maida Vale, London, W.; and John Whittaker St. Albans-vi las, Highgate,

Treasurer.—Mr. James Odams, The Grange, Bishop Stortford.

Honorary Secretary.—Mr. Henry F. Moore, 13, Salisbury-square, Fleet-street, London, E.C.

Mr. H. F. Moore moved, and Mr. Raffety seconded, the following resolution, which was carried:—

“That the best thanks of the association be given to Mr. J. G. Crompton for his services as president during the past year; and that he be requested to become a member of the committee during the coming year.”

Messrs. E. C. Tisdall and Henry F. Crump, of White-cross street, Union-street, Borough, were appointed auditors.

Mr. E. C. TISDALL then read the following very able paper on “Dairy Cattle.”

The Committee of the British Dairy Farmers' Association have thought that the attention of the members would be wisely directed to an inquiry into the best breed of dairy

cattle, with a view to their improvement, and have requested me to introduce the subject to you this evening. I should have preferred that some one “older in practice, abler than myself” should have had this task allotted him. Believing, however, it matters little who sets this ball rolling—it is sure to gather substance in its way—I have accepted the office.

If we may judge by the numerous signs about us, dairy farming appears at last likely to attract some of the attention its great and growing importance deserves. The use of milk, butter, and cheese has largely increased during the past ten years, beyond the ratio of our population—giving employment to an amount of enterprise and capital but little suspected by those unacquainted with the subject—the community receiving in return, according to the highest medical authorities, “a larger amount of flesh and muscle forming food from its outlay in dairy produce than from an equivalent spent in any other article of diet.” An idea has also been spreading in the agricultural mind (not generally a rapid seed-bed) that on a given amount of food an animal will make a larger return at the dairy than in the shambles. Our American cousins knew this long since, and with their usual acuteness acted upon it. In the last report of the American Dairymen's Association comparisons are instituted—the deduction being “that the same amount of food produced twice the result when fed to a milch cow as when fed to a steer for beef.” Another conviction has been felt by many practical men—that milk producers and beef makers need not of necessity be different animals—that both qualities may be combined if only judicious selection be exercised.

We are perfectly aware that Mr. Culley (“Observations on Live Stock”) considers it as an impossibility to unite good milkers with good feeders; for, he says, whenever we attempt both we are sure to get neither in perfection—“In proportion as we gain the one in the same proportion we lose the other. The more milk, the less beef; and the more we pursue beef the less milk we get. In truth, they seem to be two different varieties of the same kind for very different uses; and if so they ought most certainly to be differently pursued by those who employ them. If the dairyman wants milk let him pursue the milking tribe; let him have both bull and cows of the best and greatest milking family he can find. On the contrary, he that wants feeding or grazing cattle, let him procure a bull and cows of that sort which feed the quickest, wherever they are to be found. By pursuing too many objects at once we are apt to lose sight of the principal, and by aiming at too much we often lose all. Let us only keep to distinct sorts, and we shall obtain the prize in due time. It apprehend it has been much owing to the mixing of breeds and improper crossings that has kept us so long from distinguishing the most valuable kinds.”

I should not have quoted an opinion given in 1877 if it had not prevailed so extensively at the present day. Judging by results, one would almost be led to infer that most breeders not only agree with Mr. Culley that it is "impossible to unite good milkers with good feeders," but that the latter are alone worth their attention. On the other hand, many gentlemen worthy of all credit affirm after a lifetime spent in the pursuit that the qualities in question are in certain kinds united in great perfection. Which of these parties are right, and how much truth there may be on both sides it is for us to inquire. Perhaps, if we here define more precisely what we are in search of it will assist in the solution of the problem before us.

As dairy produce then is becoming daily in greater request and, therefore, of more value, and the cow yields so much more food in proportion than the steer, we will give her priority. In addition to a compact frame, good temper, the cow should have great secreting powers to enable her vascular system to supply continuously for a lengthened period a large quantity of milk of such quality as to satisfy either the butcher or the cheesemaker, and to do this simply—these powers being indicated by thin neck, fine chap and cheek bone—upon a liberal but not extravagant diet; she should breed a calf annually, and when not further required to propagate or milk, should possess such an aptitude to lay on fat as quickly to fit her for the butcher. Such qualities in the females would, "when well-matched," ensure equal powers of secretion and assimilation in their offspring, and so enable us to produce a race of animals giving the largest return of meat and milk from a relative amount of food.

If this valuable combination can be found associated in any one race of animals, it appears manifestly to be the interest of both dairyman and grazier to secure and perpetuate it, aiming at the reproduction of both qualities, for if breeders be tempted to develop one at the expense of the other, they may leave out of their calculation a factor, which may alone cause the difference between profit and loss; and further, knowing how easily hereditary goodness may disappear, they, by inattention to either of the points in question, may be gradually destroying the usefulness, and even sapping the vitality of their much-prized herds.

These being our requirements, is there any breed that nearly fulfils them? Our answer must be somewhat a conditional one. There is a species of cattle extant, which, if the records of their early historians are correct, has possessed these properties in a marked degree, and probably at this time, they and their nearly allied relatives approach most closely to the standard we have set up. You will have anticipated that I allude to the "Improved Shorthorn." In reading the recitals of all tale-bearers as to the great doings of their favourites one must be somewhat chary of belief, knowing how easily in story "eleven buck-ram men grew out of two" so, when that Sunday evening's visit is related at Barmpton, of Chas. Collin and Thos. Bates, at the instance of the dairymaid, to witness the measurement of one meal's milk of an extraordinary cow—which was said to be 26½ qts.—the question suggests itself, when was that cow milked previously?

In another relation, one person tells another person that "her cow fills two cans (which together contained 19½ qrs.) regularly morning and night while on grass," our credulity is somewhat taxed. There are, however, too many instances given with every detail of time and place, of the measurement and weight of produce of cattle of this tribe, for us to resist

the belief that the early Shorthorns were both great milkers and good graziers. One of the earliest reliable cases, cited both by Mr. Whittaker of Burley, and by Mr. Bell in his "History of Shorthorns," is that of the ancestress of Hubback. Mr. Wastell's Barforth (dam of Hubback's grandsire), who gave 36 quarts of milk daily, from which was produced 24lb. of butter within the week—two successive weeks. In Mr. Whittaker's sale catalogue of 1833 (kindly lent me with others by Mr. Thornton) are two notable cases. (1) Lady Milda (bred by Mr. Charge) by Eclipse (238) grandam Aurora by Comet (155), 16 lbs 1 oz. butter within the week while in Mr. Wastell's possession. (2.) Chiltona (bred by Mr. Mason) by St. Albans (1412), grandam, Cato cow of 1820 by Cato (119), great grandam by Jupiter (342), 16 lb. 7 oz. butter in one week in November. "Mr. Whittaker was a man whose sound judgment and modest opinions entitle his observations to the most sincere respect."—John Thornton. He was an extensive breeder, and Mr. Wetherell speaks of his herd "as cows of great character and blood, combining what is of the greatest possible importance to Shorthorns, good feeders with good milkers, Mr. Whittaker having for upwards of 30 years perseveringly and successfully united these two great essentials."

#### FROM BELL'S HISTORY OF SHORTHORNS.

- (1.) Match'em (dam of Oxford Premium, cow), never gave less than 12 qrs. per meal when on grass after calving.
- (2.) First Duchess (Mr. Bates's), by Daisy Bull, gave 28 quarts milk daily at pasture—when churned 18 lb. 6 oz. butter weekly for some time.
- (3.) Bright Eyes (R. Colling's), dam of Marske bull, gave 15 quarts each time of milking.
- (4.) Alexander Hall's cow (by Masterman's bull), whose descendants he sold to R. and C. Colling's, gave 18 quarts, each meal—36 quarts daily.
- (5.) Dixon's cow (of Ingoe) gave very large quantities of milk and beef, often breeding calves that were all good graziers, was fed at the age of 17 years, and made a very fat and handsome cow. Mr. Bates remembered her.
- (6.) Daisy, cow by Favourite (Mr. Hustlers, of Acclam), gave 16 quarts, matched against Appleton's (his tenant's) cow, which gave 15½ quarts on fog in autumn.
- (7.) Bates' herd of 30 cows: I believe many Duchesses, yielded 16½ dozen lb. butter weekly—besides the calves' allowance.

In Carr's "History of the Booth Herds" was mentioned—(Broughton, by Jerry)—as a cow of more than average milking capacity.

Bliss, by Leonard (young Broughton's daughter), a very heavy milker and regular breeder.

Blithe (Bliss's daughter), a great milker, and when dry got quickly fat.

Bonnet (by Buckingham), a great milker, with great substance, and when sold had a remarkably fine coat of long silky hair.

Toy (by Argus), neat cow, with a magnificent udder. Her milking capabilities were the boast of the Kellerby dairymaids, and were transmitted to her famous twins Necklace (only beaten by Duchess 34th) and Bracelet.

Satin (by Buckingham), dam Lady Stanley, grandam Broughton, was all a dairyman could desire. In the full flush of her milk she was wont to suckle two calves and require milking dry after them.

Of Christon's Tribe (by Priam).

Caroline (by Fitz-Leonard), was a prodigious milker, giving, it is credibly affirmed, when in her prime, four average pail-fuls of milk in the day.

It has been a remarkable feature in Mr. Lakin's system of farming, his registry of milk showing the annual quantities given by each cow, enabling him thereby to select his rearing calves from the best milkers. Very valuable and interesting are the data afforded by Mr. Lakin's Registry of Beauchamp Court, Worcestershire. The following are extracts:—

	Milk.	
	gals.	years.
1836. Stella (by Powyke Patriot 4746) gave an average of ...	980	for 5
1830. Star (Stella's dam by F. Wharfdale 4748) ... ..	809	„ 9
1826. Old Strawberry (Star's dam, best milker Mr. Lakin ever possessed). Equal to 14 quarts per day for 10 months in each of the 15 years ...	1,050	„ 15
1840. Norma (by Powyke 4743)	170	„ 8
1836. Novice (Norma's dam, by Patriot 4746) ... ..	1,040	„ 5
	<hr/>	
Cows, 5	4,740	„ 35
Average each,	948	„ 7
Or daily each cow. Quarts.	1,004	„ 7

Tables of this character, recounting the history of every animal during 15 years, are invaluable, and bear favourable comparison with more modern instances carried out with all the knowledge and experience which those who are last in the field ought to enjoy.

In ordinary dairy districts the yearly average quantity of milk given by each cow fed in the usual way is from 600 to 700 gals., and more often the former than the latter. There are a few cases on record exceeding that amount, among which are:—

	Gals.
Messrs. Lavington, Wiltshire (half-bred) ... ..	765
„ Wright, Surrey (Yorkshire) ... ..	810
„ Crawley, Cheshire (Yorkshire) ... ..	866

In all these herds a very liberal style of feeding was adopted—the cows being well pastured in summer, hay, roots, grains, cake and corn in winter. Even under these favourable conditions not one of them equals the old herds we have named. There are also records of other breeds, but excepting the Channel Islands and Ayrshire races, none approach the Short horns in productive power and general utility. Both these kinds possess great milking propensities, as the following figures indicate:—

FROM THE 12TH REPORT OF THE AGRICULTURAL DAIRY ASSOCIATION.  
Ayrshires.

- Lady Kilburnie, Mr. Sturtevant, gave 863 gals. in 1 year.
- Georgie, Mr. Sturtevant, gave 962 gals. in 1 year, and dr. 22 days.
- Jean Armour, Mr. Peters, gave 28 qrts. daily, 14½lb. butter a week.

Jerseys.

Myrtle, Mr. Fitch, gave 28 qrts. daily, 15½lb. butter a week. Maggie Mitchell, Mr. Tilden, gave 28 qrts. daily, 18½lb. butter, a week and 870 gals. in a year.

Lady Melton, Mr. Converse, averaged 15-92lb. for 15 weeks.

Valuable as these breeds are in their respective places, it is generally admitted that their qualifications as feeders are small and not suited to the good pastures of this country.

Let us now see to what extent the descendants of the early Shorthorns have inherited the properties of their illustrious parents. Their powers of quick feeding and laying on finely marbled flesh most rapidly is still manifest in every Show-yard. On the other hand the milking properties of the tribe have not received their share of attention; on the contrary, some breeders, superseding nature by providing nurse cows for their favourite offspring, and allowing the dams to go dry as quickly as possible, appear to have aimed at extinguishing the special usefulness of the tribe, while others, intent on Show honours alone, have so forced their young bulls and heifers to an unnatural degree of fatness as to render them, the females especially, almost incapable in the future of fulfilling their natural duties. In order to estimate aright the result of this treatment, let us glance for a moment at the question of lactation. Can we, therefore, wonder at the infertility and loss of milk-secreting power evinced by so many families of pure-bred Shorthorns? Mr. Carr, in the work before quoted, has an admirable paragraph on this subject, which I beg your permission to introduce—(See p. 91.) What is the natural deduction which every practical man ought to draw in this matter? Not only to avoid purchasing so treated or maltreated cattle for stock or dairy purposes, but their descendants also, the injury often being transmitted beyond their own offspring. Many instances of this loss of generative and secretive power are on record. Two cases have recently occurred in my own herd. No. 1 is a handsome roan heifer that from the first would fatten so freely even on little else than ordinary pasture that every effort to obtain a calf from her was useless; change of diet, from moderate to poor; change of bull, plenty of exercise in the open air were tried, but all to no purpose; the Cattle Show seemed her only resource at four years old. No. 2 is the daughter of a grand milker, bred by Mr. Drake; the dam's average over nine months of last year was 1244 qts., not including her period of rest, or near 900 gals. in the year. This season, calving the end of March, she has averaged 15 qts. a day over more than eight months, being 940 gals., and is still in milk.

The excellence of the dam induced me to buy her daughter, a superior heifer with great style and substance; during the eight months in 1876 she was milking her average was 3-93 q's per day, or 240 gals. for the year. The present season showed but little or no improvement; her milk lasted nine months, and averaged 3-72 quarts daily, or 250 gallons for the season—one of the poorest returns I have compiled. The explanation, however, is easy—the heifer had been trained for the Chippenham Show. She won the prize, but in winning that she has lost her family's reputation and her own usefulness. I shall probably persevere for another year or two with her, to see if the evil effects of forcing can be remedied by judicious treatment, if not in her own case, perhaps in that of her offspring.

Training for Show honours—what a misnomer! Good training is a development of the animal's properties to such an extent that the greatest usefulness may be reached, but fashionable training means the sacrifice of every good quality in the

individual beast, ending in their extinction in the tribe. Perhaps here we have an explanation of the wide-spread objection which practical dairy farmers have to the pure-bred Shorthorn.

For many years I was persuaded, against my will, not to invest in them; every friend advised me to leave them alone—they were useless and would ruin my herd. Believing, however, that their old and valuable properties were still latent, though from neglect undeveloped, I decided upon crossing a herd of large dairy cows with pure-bred bulls from families noted for their milking propensities, of which there are many still extant, such as the Henriettas of Kingscote, the Pearls of Nunwick, the Chaff Seraphinas tribe, Mr. Jefferson's Bride family and oldest of all Knightley cattle, Stephen's Princesses and their off-shoots. There are doubtless many other families which still retain the power of their ancestors if they are properly educated. Almost all depends on this—by discreet feeding, judicious usage, early breeding, regular and clean milking cows may be trained to a high standard of usefulness.

Of course it is taken for granted certain qualities are present in the heifers—the extent of these depends on the sagacity of their breeders. If bulls are used only from deep-milking dams, themselves again the members of milking tribes, coupled with cows only of similar qualities, the result must be a race with strong secretive powers, and the more often this system of selection be observed, the more fixed become the qualities so much desired. This we find is the case in the instances just quoted, for where properly paired and the milking tendencies well attended to, the old powers of the Shorthorn still exist in perfection. In proof of which I can attest Mr. Drake's Meadowflowers, Mr. Saunder's Pearls, Mr. Hand's Cowslips are splendid milkers. Mr. Wilson writes that one of the Henriettas that she was one of the best cows in his dairy of thirty. Mr. Bland informed me, at the last Gaddesby sale, that his Princesses are all milkers. Rose Ann by Conra, one of the tribe, calved twins, male and female, some time since. After they had contented themselves, 8 qts. of milk each night and morning were drawn from her, an enormous yield, rarely equalled. I am fortunate enough to be the owner of one of these calves, and among my heifers I would not substitute for him any bull in the country. Brother Jonathan has also something to say about modern Shorthorns. In 1874 Flora gave 1,200 gals. milk, equal to 445 lb. butter yearly. Rosa gave 1,360 gals. milk. Maid of Athel gave milk 1,500 gals. 513 lb. butter yearly. These cases are related by Professor Wetherell of Ecston, who writes: "It is not necessary to prove that the Shorthorns are great milkers; the breed for nearly 1,000 years has been known, as it still is, distinguished for that quality."

So much for the females. Now a word or two about the males. It is a well ascertained fact that in-bred families possess the greatest power of transmitting their qualities (whatever they may be) to their descendants. The extent to which the practice has been carried in Shorthorn breeding is only too well known. The inference therefore is that bulls of this tribe would be very powerful agents in impressing the properties of the breed on their offspring, and such is, in fact, the case. Professor Wetherell says, "as a rule the prepotency of the male of pure-bred stock greatly preponderates. Spare neither time nor money in procuring the right sort of bull, making sure always that he is of a renowned milking ancestry. Milking qualities, like other good and bad qualities, are hereditary, and therefore transmissible. In regard to Shorthorn bulls as Hubback, Favourite, Kelton Ist, Belvidere, Duke

of Northumberland, and Earl of Dublin were all remarkably prepotent in their influence on their progeny. This last-named bull impressed deep-milking qualities upon all his get, this being due, as it was claimed, to the influence of the Princess blood, was inherited by and characterised this noble bull." I believe these opinions, in the main, are supported by almost every writer and breeder on this side of the Atlantic also.

Now, what is our position and duty as practical dairy farmers in relation hereto? Most of us possess herds of more or less value generally of mixed breeds, in which the unregistered Shorthorn is very prominent. Are we to sacrifice these and replace them by high-priced pedigree stock, among which, without careful selection, we find fewer prizes than blanks? Most certainly, no! I beg to submit that seeing the increasing demand for and value of dairy produce, our wisest course is, before Normandy and Swedish butter, American cheese, and Swiss milk usurp our place in the markets, to take action at once and improve the productive character of our own herds by using pure-bred Shorthorn bulls among them, whether Ayrshire, Hereford, Devon, Jersey, Shorthorn, or all combined, it matters not. We have shown no bulls are so valuable for crossing with them, and none alter their character so soon and so desirably as the Shorthorn. To my brother dairymen, then, I would emphatically say, "Breed from your own stock."

Home-bred stock is always more profitable than bought stock. Use pure-bred Shorthorn bulls from dams which you know to be deep milkers, do not be led away by high-sounding names, or handsome frames. "Handsome is that handsome does," and the first requisite of a dairyman's bull is that he comes from a proved and well-known tribe which possesses the qualities you can appreciate and which he can transmit. Such animals are not difficult to find nor expensive to buy. You may purchase them at any price that suits your pocket and taste, from £10 to £100. Treat the produce of this union again in the same way, pairing them with mates of the same sire as their sire, thus fixing and rendering permanent those types of character which are now so valuable, and I am sorry to add so scarce. If you will permit me here, I will give you in a word my own experience on these points. During the first ten years in business I purchased my heifers and cows, the second ten years I bred considerably and found our own stock milk and thrive far better than those bought in; and for nearly the last ten years I have adopted the system mentioned above with the happiest results. Every cow's milk is regularly measured and tabulated. The average amount of milk given daily by a number of bought-in heifers taken at various periods from 1847 to 185 is 7.99 qts., equal to 426 gals. annually, keeping in milk 7-2 months. At a later period, sixteen home-bred heifers by good, but not pure-bred bulls, yielded an average daily of 7.35 qts., but kept in milk, 11-15 months equal to 600 gals. annually. Last year ten heifers by a pure-bred Shorthorn from good dairy cows gave 9.51 qts. daily, and kept it up over a period of twelve months each equal to 368 gals. yearly.

The system of feeding has been the same throughout—pasture in summer supplemented by grains and hay, and in winter stalled on roots, grains, hay, and to the best milkers some meal. I could give you the details of others having second and third crosses, which are still more decisive; but I shall weary you, and it is quite too long and superfluous. The plan is simple, and passing beforehand proved successful in other cases. Like produces likes, and herds will mated soon become well-bred, only supposing that you know what you are aiming at, and, as Abe Lincoln said, "Go on pegging away."



There is one contingent all important to breeders and owners of stock which must be said in conclusion. The imported diseases which our cattle are subject to have taken much of the satisfaction and all the security out of stock-breeding. "The ills that bovine flesh is heir to" cause sufficient losses without receiving weekly shiploads of foot-and-mouth disease, pleuro-pneumonia, and rinderpest, which spread like a murrain and destroy our best herds. The present Government is said to be the farmer's friend. They would prove themselves not that only, but the friends of every milk and meat consumer in the land, if they put an end to this scourge. The remedy is easy, and, the power in their hands, we trust they will use it, and at once. It is probable that when freed from these repeated inflictions of contagious disease, the general health and

well-being of our herds would soon be restored to something like their pristine vigour and condition. Then the breeder would take heart again, and English Shorthorn and Scotch Galloways would soon displace the scraggy foreigner in our market-places. The pleased agriculturist, too, secured from constant anxiety, might then have some satisfaction in his pastoral life, and watch "his loving herd wind slowly o'er the lea" with all the pleasure and delight of a man who feels that while success awaits him he is not only adding to his own stores, but contributing to the comfort and wants of the community.

An interesting discussion ensued, and it was resolved to have the paper printed for distribution among the members of the Association.

## CENTRAL CHAMBER OF AGRICULTURE

### ANNUAL MEETING.

A meeting of the Council of the Chamber of Agriculture was held at noon on Dec. 12th, at the Salisbury Hotel, preparatory to the annual meeting which immediately followed. In the absence of the President (Earl Fortescue), the chair was taken by Mr. C. M. Caldecott.

At the commencement of the proceedings,

The SECRETARY (Mr. Algeron Clarke) said the Rooms Committee had communicated with the Society of Arts, and made a provisional arrangement with the Secretary of that Society for the holding of Council meetings in its rooms. The Committee proposed that an arrangement should be concluded for one year, the terms to be a guinea and a-half for each meeting; and as the Council usually held seven meetings in the year and never more than eight, the expense attending the meetings would be much less than it had been hitherto.

On the motion of Mr. T. WILLSON, seconded by Mr. D. LONG, the arrangement was sanctioned, the former gentleman remarking that the rooms of the Society of Arts were admirably adapted for the purpose, and the latter that the terms appeared to him exceedingly moderate.

Mr. R. STRATTON, as Chairman of the Committee on Cattle Diseases, submitted a printed form of petition to the House of Commons which had, he said, been circulated among the local Chambers throughout the country.

On the motion of Mr. T. WILLSON, seconded by Mr. ST. JOHN ACKERS, the petition was referred back to the Committee for further consideration.

A discussion ensued with regard to the deputation which it had been arranged should hold an interview with the Lord President of the Council on the subject of cattle diseases, on the following Friday; and it was determined that a memorial should be prepared which would embody the recommendations of the Select Committee of the House of Commons.

The SECRETARY then read a letter from Professor Tanner, of the Science and Art Department of the Privy Council, requesting to be informed whether the Council was disposed to take any steps for the purpose of securing for the sons of farmers the advantages of scientific education in connection with that Department.

Mr. H. BIDDELL said he believed there was a Committee of the Royal Agricultural Society for that purpose.

Captain CRAIGIE remarked that there was also a Standing Committee of the Chamber.

Mr. BELL deprecated the question being disposed of in that manner.

Mr. T. WILLSON proposed the formation of a new Committee to confer with Professor Tanner on the subject, and to report to the next meeting of the Council.

Mr. BELL seconded the motion, and, it having been adopted, Captain Craigie, Mr. Bell, Mr. Willson, and Mr. Phipps, M.P., were appointed to constitute the committee.

On the motion of Mr. PELL, M.P., the Report of the Local Taxation Committee, presented to the last meeting, was received and adopted, after which, on the motion of Mr. CLAY, seconded by Mr. LYWOOD, the annual Report to be submitted to the annual meeting of the Chamber was agreed to.

The SECRETARY then read a letter, which he said he had just received from the Lord President of the Council, stating that a Cabinet Council having been fixed for Friday at 12.30, it would not be possible for him to receive a deputation from the Chamber as soon as had been announced, and that he would receive it either at three o'clock on that day (Friday) or at two o'clock on Thursday, his Grace intimating a preference for the latter.

After some conversation, it was decided that the interview should be held on Thursday.

A discussion took place with regard to the subjects for future Council meetings, and it was determined that at the meeting in February the first subject should be "Deductions from Gross Rateable Value," and the second, "The Operation of the Agricultural Holdings Act."

The Council meeting having thus terminated, the annual meeting of the Chamber followed, Mr. G. F. Muntz succeeding Mr. Caldecott in the chair in consequence of the latter gentleman being unwell.

Mr. T. WILLSON, the auditor, presented the balance-sheet, from which it appeared that the receipts, including £317 6s. 9d. in hand at the beginning of the year, amounted to £716 1s. 5d., and that the disbursements left a balance of £77 9s. 9d.

In reply to Mr. Read, M.P., Mr. WILLSON explained that the balance at the beginning of last year was swollen considerably by the collection of a considerable amount of arrears and by the postponement of payments in consequence of the Finance Committee being unable to make a quorum, and that the establishment charges amounted in the past year, as in the preceding one, to about £360.

A vote of thanks was given to Mr. T. Willson, and he was re-appointed auditor.

The following gentlemen were elected to fill the eight vacancies in the Council, arising from retirement by rotation:—Mr. G. F. Muntz, Mr. James Howard, Mr. C. Clay, Mr. T. D. ...

ham, Mr. Whitaker Wilson, Mr. Masfen, Mr. St. John Ackers, and Mr. H. Neild.

Mr. JAMES HOWARD gave notice that at the next meeting he will raise the question of the payment of members of the Council; and

Mr. T. BRIGGS gave notice that on the same occasion he will bring forward the subject of the malt-tax.

The Twelfth Annual Report was then presented, being as follows:—

The Council of the Central and Associated Chambers of Agriculture has to report that forty-nine Chambers of Agriculture and Farmers' Clubs are now in association, contributing to the funds of the Council, and sending deputed members to its meetings, namely:—The Central, Banbury, Bedale, Brecknockshire, Buckinghamshire, Cambridgeshire and Isle of Ely, Cheshire, North Cheshire, Cirencester, Cornwall, Cowbridge, Croydon, Devon and Cornwall, Dorsetshire, South Durham and North Yorkshire, Essex, Gloucestershire, Hampshire, Herefordshire, Hertfordshire, Howdenshire, East Kent, West Kent, South Wiltshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Newbury, Newcastle-on-Tyne, Norfolk, Northamptonshire, Nottinghamshire, Penrith, Peterborough, Ripon, Shropshire, Somersetshire, Staffordshire, East Suffolk, West Suffolk, Sunderland, Swindon, Warwickshire, Wisbech and North of Isle of Ely, Worcestershire, East Riding of Yorkshire, West Riding of Yorkshire, and York; while the Scottish Chamber is in corresponding association.

**LOCAL TAXATION.**—The Council at its meeting in March, attended by representatives of twenty-seven Chambers, expressed its satisfaction at the prompt re-introduction of the Prisons Bill by the Government, and at the progress made by that measure in the House of Commons. The Council passed a resolution by a large majority approving generally of the Valuation Bill as tending to secure a more uniform and fair assessment of rated property, and recorded its satisfaction at the withdrawal of provisions to which Chambers of Agriculture had previously objected.

Mr. Clare Read having given notice in the House of Commons of his memorable motion on Representative County Boards, the Council at the same meeting unanimously passed a resolution strongly supporting Mr. Read's motion. That motion was subsequently passed, by the consent of both great parties in the House of Commons, and will undoubtedly form the basis of the promised reform in Local Government. At the adjourned discussion on Local Taxation and Administration in April, a resolution expressing disappointment at the small amount of relief given to real property with regard to local taxation for matters general in their operation and character, was withdrawn; and of two amendments thanking the Government for relief afforded to ratepayers, one was lost by a majority of one vote, and the other not put, owing to "the previous question" being carried by a majority of twenty-one to fourteen. The June meeting considered proposed amendments to the Valuation Bill with reference to taking actual rental as gross value, making rateable value the basis for income-tax, and establishing special county boards for appeal. The Council resolved by twenty to fifteen votes in favour of amending the Definition of Gross Value contained in clause 105 of the Bill, so that rent, where no other consideration is given for the hire of a hereditament, should be taken as the basis of assessment. The Council unanimously supported the proposal to charge income-tax upon

rateable instead of gross value; and a resolution was unanimously passed objecting to the Courts of Appeal provided by the Valuation Bill, especially to the Justices in Petty Sessions, the resolution further declaring that uniformity of assessment would be best secured by the establishment of Representative County Boards. The Council, at its November meeting, voted its thanks to the Local Taxation Committee, which has presented to the several meetings during the year its valuable reports upon measures before Parliament affecting the interests of ratepayers, and in testimony of the great services rendered by that Committee, your Council are happy to quote from the Committee's own annual report the following summary of its work:— "The chief events of the past Session of Parliament affecting Local Taxation were the passing of the Prisons Bill, the unanimous acceptance by the House of Commons of Mr. Clare Read's motion for establishing representative county boards, and the carrying of a measure to secure uniformity in the very irregular dates of local accounts. In the Prisons Act of 1877 the Committee recognise a further and most important consequence of Sir Massey Lopes' successful motion of 1872. That decision of Parliament is loyally followed by the Government measure, which charges national duties on national funds, and relieves ratepayers from a heavy and exceptional tax. The passing of such a statute must therefore mark the past session. During the past eight sessions the Local Taxation Committee have had reason to object, in whole or in part, to no less than 62 Bills, as adding to the special charges on ratepayers. Of these measures 46 have been defeated, 18 amended in their more objectionable features, and in only three instances has resistance proved unavailing. Viewing the necessity of thus continuing to protect an overweighted class from the indiscriminate imposition of new burdens, the Committee cannot but trust that an abuse of privileges which may seriously endanger the most valuable safeguards of Parliamentary procedure will be made for the future impossible.

**HIGHWAY LEGISLATION.**—No remedy having been provided by Parliament for the continually increasing burden and injustice to ratepayers consequent upon the abolition of turnpike tolls, and the efforts of Chambers of Agriculture to obtain a good measure of Road Reform having for years proved fruitless, the question was again considered by the Council at its November meeting, when it was unanimously resolved:—"That the continued abolition of turnpike trusts, the unsatisfactory condition of roads in some districts, and the increasing burden of highway rates, render more imperative the introduction of a comprehensive highway bill, and Council trust that, in any legislation on the subject, due regard will be had to the classification of highways and the adoption of an improved system of tolls or local licenses towards the maintenance of main roads; and, further, that it is desirable in every district to bring all highway, poor-law, and sanitary administration under one authority, and to constitute in every county a representative provincial board."

**TRACTION ENGINES ON COMMON ROADS.**—At the February meeting the Council unanimously resolved, that it is highly desirable, for the advancement of agriculture, that the law should be so amended as to give every encouragement to the use of locomotives, having due regard to the public safety and interests.

**CATTLE DISEASE AND IMPORTATION.**—The past year has been signalised by a remarkable advance in public opinion on the question of Prevention of Contagious Diseases of Animals. The sudden invasion and rapid spread of cattle plague early in

the year demonstrated the inadequacy of the existing regulations against imports of contagion; yet the ultimate success of the Privy Council Veterinary Department in stamping out the disease proved how completely a contagious malady can be mastered and suppressed by a central authority, acting by its own officers and under its own rules. The alarm created by the progress of the plague, the feeling aroused by the action of the Chambers of Agriculture, the London Farmers' Club, the Royal Agricultural Society, and other agricultural bodies, and the debates in Parliament, led to the appointment of a Select Committee of the House of Commons on Cattle Plague and Importation; and the Report of that Committee, making recommendations embodying to a large extent the proposals which have been advocated for years by the Chambers of Agriculture must be regarded not only as the greatest Parliamentary event of the year affecting agricultural interests, but as the highest encouragement to the Chambers to persevere in their efforts for obtaining a sound system of sanitary protection for the live stock of the United Kingdom. The proposals laid before the Lord President, and His Grace's replies were printed in last year's Annual Report, and at the February meeting the Council passed a resolution regretting that those replies were unsatisfactory. It was also resolved unanimously that the Council could not admit that the difficulties attending interference with existing trade are insuperable, the contrary being proved by the successful importation of dead meat from America. The Council considered that an alteration in the manner of conducting the trade in animals with the Continent of Europe is absolutely necessary, and firmly maintained the proposals of the joint deputation with regard to slaughter, quarantine, and uniform internal regulations, as the minimum that could be considered to afford anything like adequate protection from disease. And in view of the altered circumstances of the present time, the Council desired to press as strongly as possible the great desirableness of the slaughter of all cattle at the port, not of debarkation, but of embarkation, except such as are intended for and entered as store stock; while such live stock should be admitted, as before proposed, only under regulations of strict quarantine at the ports of debarkation. Copies of the resolutions were forwarded to the Lord President of the Privy Council and to the Prime Minister. At the March meeting, the Council voted its warmest thanks to the Chairman, Earl Fortescue, for the prompt and able manner in which his lordship had brought forward the Cattle Disease and Cattle Importation question in the House of Lords. At the April meeting the Council resolved to support the motion of which the Vice-Chairman, Sir George Jenkinson, had given notice in the House of Commons in favour of slaughtering imported cattle at the places of embarkation, excepting store cattle to be admitted under strict quarantine. Owing to want of opportunity, however, and other circumstances beyond the Vice-Chairman's control, this motion was not brought forward; and the result instead was the appointment of a Select Committee to inquire into the whole subject of contagious cattle diseases and the importation of live stock. At the same time the Council declared its opinion that the large and successful importation of American meat would fully justify the Government in giving immediate effect to Sir George Jenkinson's proposal without the delay inseparable from another Committee of Inquiry; but that if an inquiry be held, it should be thorough and exhaustive, embracing the whole question of the cost to the country of cattle diseases.

the Cattle Diseases Committee of the Council were authorized to watch the inquiry and to select witnesses to give evidence on behalf of the Chambers of Agriculture. The Council also declared its opinion that, owing to their diversity, the orders of different local authorities are inadequate to deal with the increasing spread of cattle diseases, and recommended that the Privy Council should issue uniform and compulsory orders to apply to the whole of the country. Exception of certain districts from the operation of these orders should be made, where shown to be necessary, by the local authorities of those districts. And, inasmuch as it is an established fact that the cattle plague is not indigenous to this country, but imported, and that farmers and graziers are in no way responsible for its introduction, the members of this Chamber pleaded that they who suffer loss in consequence of the appearance of the plague amongst their cattle ought in all cases to receive full compensation from the imperial exchequer, and not from local rates. Copies of these resolutions were forwarded to every member of the House of Commons. At the April meeting, on the recommendation of the Cattle Diseases Committee, fifteen gentlemen were named to be requested by the Council to give evidence before the Select Committee; and the Cattle Diseases Committee accordingly invited and received the assurance of the best assistance of those gentlemen in speaking to the heads of evidence prepared. However, upon an intimation being received from Sir H. Selwin-Ibbetson that, for the purpose of concluding the inquiry at an early date, the number of witnesses on behalf of the Council must be limited to two or three, Professor John Gamgee, Mr. William Stratton, and Mr. James Odams only were called expressly on behalf of the Council. These witnesses gave most valuable and important evidence, as to the extent of losses by preventible diseases of animals, the feasibility of preventing the re-introduction of such diseases from abroad, the practicability of replacing the large imports by a dead meat trade, the willingness of farmers to submit to the necessary sanitary regulations, and the views of the Chambers respecting remedial measures which alone would be effectual. The Council cannot but feel that the facts and views laid before the Select Committee by Professor Gamgee, Mr. William Stratton, and Mr. James Odams on their behalf together with the important and powerful statements and exposition of the views of agriculturists on the question given in evidence by Mr. C. S. Rea, M.P., Mr. James Howard, Mr. Thomas C. Booth, Mr. Jacob Wilson, Mr. George Rea, Professor J. P. Sheldon, Mr. John Souby, Mr. A. G. Robinson, Mr. James Melvin, and Mr. C. Tisdall, were irresistible in leading the Select Committee to report mainly in favour of the views and proposals of these witnesses, approved, as they were, by the whole agricultural community. At the November meeting, the Council adopted a Report from the Cattle Diseases Committee as follows: "Your Committee have great pleasure in congratulating the Council on the very able and satisfactory Report of the Select Committee of the House of Commons on Cattle Plague and Importation of Live Stock—a committee not specially representing the agricultural interest, but comprising influential members of all political parties. After a most patient and laborious investigation, that Committee came to the conclusion that the measures which the Central and Associated Chambers of Agriculture have consistently advocated as necessary for the suppression of these diseases are such as it is desirable should be adopted in the interests of the common

at large, and not of agriculturists only. Your Committee view with extreme regret the continued reiteration of the groundless imputation that our efforts to obtain security for our flocks and herds against imported disease arise from a desire to procure any reversal of the Free-trade policy long deliberately adopted by this country. We have throughout sought protection, not against competition, but contagion from abroad. Your Committee would call attention to the fact that during the restrictions this year on the importation of live stock from the greater part of Europe the prices of meat have not risen, but, on the contrary, are appreciably lower—the natural result of the comparative freedom of our home stock from disease and of a largely-increased importation of dead meat. Your Committee trust that the Government will lose no time in taking the necessary steps to carry out the recommendations of the Select Committee in a matter of such pressing importance. And your Committee recommend the Council forthwith to memorialise the Lord President to this effect, and to prepare a petition for presentation to Parliament at the beginning of next session, earnestly praying for the requisite legislation on the subject. Your Committee cannot conclude without expressing their deep obligation to those gentlemen whose valuable evidence effectually enforced before the Select Committee the views so long maintained by the Council on this question.—FORTESCUE, Chairman." It was resolved that a memorial to the Lord President should be drawn up, to be presented by deputation, praying that legislative effect may be given to the recommendations of

the Select Committee, which include slaughter of imported animals at the place of debarkation, a step, your Council believe, naturally leading to the ultimate adoption of slaughter at the ports of foreign embarkation. A form of petition to the House of Commons has been prepared and circulated; and in accordance with the resolutions of the Council the co-operation of the Associated Chambers of Agriculture, and all Farmers' Clubs and Agricultural Societies throughout the kingdom, is being sought, for the purpose of urging Parliament to pass the recommendations of the Select Committee into law. At present the Cattle Diseases Committee have not succeeded in devising a satisfactory method of inquiry into the amount of meat annually produced in the kingdom, in accordance with resolutions of the Council to collect such statistics as proposed by Baron Dimsdale; but the subject is still under consideration.

The Council has to announce that its future place of meeting will be the large room of the Society of Arts, Adelphi; while the office of the Chamber and meeting place for committees is at 21, Arundel-street, Strand, W.C.

A statement of accounts is appended to this report.

JOHN ALGERNON CLARKE, Secretary.

On the motion of Mr. ADKINS, seconded by Mr. BELL, the Report was adopted.

A discussion respecting the circulation of the rules resulted in the passing of a resolution to the effect that a copy of them should be appended to the next annual report.

The meeting then separated.

## AGRICULTURE IN JAPAN.

### No. I.

The principal productions of Japan are rice, silk, tea, sugar, cotton, hemp, wheat, tobacco; the minor products are camphor, beeswax, honey, beans, cassia, seaweed, andigo, mushrooms, &c. The methods pursued by the growers of these articles have been described at various times by our Consular service. There is an increasing interest attached to the affairs of that country, and hereafter we may learn more fully the condition of the agricultural classes. At present our information is limited to the growing of a few of the more prominent articles. The rice appears to be the chief source of food for the people, and upon the success of this crop depends the question of dearth or abundance. It is only in recent years that the Government have withdrawn their suicidal edicts against the export, whereby the cultivation had been limited to the immediate wants of the country and the extension to fresh lands was discouraged.

The plant is known under the name of "Mó;" the grain, before the husk is removed, is designated as "Momi" (paddy); without the husk it is known as "Komó," or rice. The hill, or upland, rice, which is sown on dry soil, is called "Okabo"; ordinary rice is, as is generally known, grown on irrigated lands. The early kinds are small in grain and not sweet, but they meet a want when, as in the height of summer, there may be an absence of grain of any kind. The ordinary, or late, crops are big in grain and sweet in flavour. In Japan, as in all ric-

growing countries, attention is paid as to what particular kind of grain thrives in a fat and what in a thin soil; also what kinds of rice are best adapted to a cold and what to a warm climate. The Japanese have several kinds, to which distinctive names are given, these being either universal throughout the country or confined to particular districts. Prior to sowing, the seed (rice-grain) is always soaked in water, the length of immersion depending on whether the sowing is for early, ordinary, or late crops. The sowings are, however, generally made between the middle of February and the end of April. The rice is taken just as it is packed in bags, and immersed in water—a stream, well, or pond all answering the purpose equally well. It is there left to soak for ten, fifteen, or twenty days, and then taken out and warm water poured over the bags, which are now covered with an additional covering of matting, so as to induce warmth and force the sprouting of the grain. Another plan is to open the bags after they have been soaked, and to dry the grain for two or three days, taking care to turn it about frequently. It is brought indoors about dusk, and covered with matting. The rice is sown when the grain is on the point of sprouting. In some parts of the country the rice is sown almost immediately after it has been taken out of the water, and when the husks of the grain have just burst, and no more. The ground for the reception of the seed is chosen with an eye to richness

of soil and good facilities for irrigation. Towards the end of the autumn it is well ploughed, and stable manure is mixed with the upturned soil. When spring comes round, the soil is gone over with a spade, and all lumpy soil broken at each stroke of the spade or hoe; trefoil, young bamboo leaves, or, indeed, green leaves of any kind, fish manure, or refuse oil is mixed with the soil, which is manured besides, and then well flooded. The water channels are well banked up all round, and care is taken to keep the ground free from weeds: further, the surface of the soil is smoothed down so as to present no irregularities. When the water is cleared, and all muddy particles are sunk to the bottom, the seed is sown broadcast. This work is only entrusted to experienced hands; otherwise the seed would appear in patches. After the sowing the water is drawn off: a fine day is chosen for this, so that the warm rays of the sun may penetrate the soil. The soil is left dry from morning to evening, when it is again flooded, and so left till morning. The water is not allowed to be more than two or three inches deep. If the weather looks like rain the water is drawn off; otherwise the rain would wash away the seedlings altogether. When the seedlings are well up, fish manure, or refuse oil, is scattered over them to force them on and induce a thick growth. Transplanting takes place in from forty-five to fifty-five days after sowing: in this work the wives and daughters of the farmers are largely employed. The seedlings are planted out in tufts, two, three, four, or five plants going to the tuft, according to the practice prevailing in different localities. The tufts are planted out in lines, with a space of from one to two feet between each tuft. Much dexterity is displayed in this, and a knowledge of the capabilities of the soil is essential, so as to know whether to plant the rice out close or far apart. So soon as the planting out is over, the proprietor goes round his lands to see with a practised eye, whether any irregularities exist; and whatever he notices amiss he rectifies at once. From 15,000 to 20,000 tufts are required for 300 tsuboes of ground (a tsubo measuring six feet square). In sowing, a little over a pint-and-a-half of grain will suffice for thirty tsuboes of ground. After planting out, the ground is gone over with a light hand-rake and hoe, and care is taken that the soil does not press so heavily at the roots of the seedlings, all foot-marks are carefully erased, the ground is constantly weeded. When the plants are well forward and full in grain, the water is taken off the fields, so that the sun may penetrate the soil and thus harden the grain. When the earth has become thoroughly hard at the roots of the plants, it is accepted as a sign that the grain has attained a proper consistency of hardness.

Rice crops suffer much from the depredations of birds and vermin, and all sorts of appliances are resorted to to scare these away. Either straw ropes, with clappers attached, are stretched across the fields, or scare-crows are placed here and there. A favourite contrivance, particularly noticeable in hilly districts, is this: A hollowed

bamboo, of a foot or so in length, in which is a small stick, is inserted; this is supported on a couple of props, right and left, which just keeps it at a balance. It is then placed in such a position as to allow any of the small natural rivulets of water that abound to play into it, thus causing it to chatter up and down. It effectually scares away birds and the like.

When harvest-time comes round, the crops are cut with a sickle, the rice is bound in sheaves and left to dry in the sun for about five days, and it is suspended, ears down, from a bamboo frame. It is then taken into the *baras* and passed through a toothed instrument, which roughly separates the ears from the stalks. It is then run through a sieve and again dried in the sun; afterwards it is winnowed, by which process the good and inferior grains are separated, the one falling to the right and the other to the left of the machine. Another aperture provides for the egress of dust, refuse, stalk, &c. The grain is then placed in a pestle and the husk separated from the grain, after which it is again winnowed and passed through a funnel placed on an inclined plane; the best and heaviest grain finds its way down the incline, the light kind being caught in a wire-work net. The rice is now measured out, and made up into bags holding from 12 to 22 gallons of grain. The size of a rice bag is held to be a test of the physique of the men of any particular district where rice is grown. The bigger the bag the stronger and better built the man. The province of Owari is noted for the size of its rice bags; the smallest are those of Hizen and Dewa. Rice of the first quality is grown in the provinces of Mino, Isego, Ise, Owari, Totomi, Hizen, Hinga, Yamashiro, Yamato, Suruga, Idza, Omi, and Mikawa. Second quality is grown in Haruie Tamba, Tango, and Tajima. Third quality in Kadzusa, Shimosa, Musashi, Kaga, Echigo, and Shinano. The relative produce: With a good harvest, one-quarter acres best ground produces 816 lb. of rice, of medium ground 583 lb., and of inferior ground 467 lb. With a bad harvest one-quarter acre of best ground produce of 467 lb., of medium ground 350 lb., and of inferior ground 289 lb. These results are based on the average products of a well-known rice district in Hizen. The annual rice produce of Japan is estimated at 30,000,000 kokus (a koku is equal to 250 cattles, or 333 lb.); 50 bushels to the acre is considered an average crop. 9,000,000 acres of ground are said to be under tillage in the empire, supporting about 3½ souls to the acre. There is mention of the existence at Niigata of a rice exchange (*Beisha*), from which the Government are said to derive a large sum. The Company consists of fifty members, each of whom pays a sum of 50 dollars as entrance fee. The sales are conducted by auction, the highest bidder being the purchaser. Five per cent. bargain-money is deposited at the time of purchase, and after the lapse of ten days the purchaser may, if he think fit, throw up his contract by forfeiting his bargain-money, or he can adhere to it by paying another 5 per cent. The rice is taken, delivered at the end of the month, at a price paid according to the market value at the

The cotton plant is not indigenous to Japan, but is said to have been introduced somewhere between the years 782 and 805 A.D. It is more generally believed to have been introduced about the period comprised between the years 1558 and 1609, and it has since then been extensively cultivated, more particularly in the Southern provinces bordering on the sea. There are now in Japan several varieties of the cotton plant, each having its peculiar excellence or otherwise. The mode of cultivation varies according to the different qualities of soil, but that pursued in the province of Totomi is generally quoted as an example. In that province a soil of which one-third part is sand is generally considered best adapted for cotton. The seed is sown early in summer, and generally in wheat-fields, in furrows between the rows of wheat, which are well manured before receiving the seed.

The manure is composed of burnt straw ashes, lees of oil, chopped weeds, rice bran, and swamp mud, mixed in equal proportions. It is usually worked over and over again for about ten days, and then left to stand for about fifty days before using. It is dropped in with the hand, and the process is a familiar sight to anyone going about

the country. The seed is steeped a day and night in water, then taken out and mixed with straw ashes. The seeds are sown at proper distances from each other and then covered with a layer of earth about half an inch thick. It is considered beneficial to tramp the earth down lightly. Four or five days after sowing, the sprouts appear. After the wheat crop has been gathered, the young cotton plants are thinned out and a little liquid manure poured over them. Soon after this, when the plants have attained a height of about four inches, a manure made of fish, lees of oil, and saké, the whole powdered fine, is applied. Later on, when the plants are about six or seven inches high, the top sprout is nipped off, and a slight manuring given as before. After this, when the plant has put out some six or seven branches, the leaf-buds at the end of each are nipped off, as also any leaf-buds that appear along the branches. The flowers now gradually bloom, and then the seed-pod ripens, after which the pod opens and displays the cotton. The cotton is then picked and dried in the sun. A grinding machine is used for separating the cotton from the seed. When the seeds have been got rid of, the cotton is then beaten out even, and is now called finished cotton.

### ROYAL DUBLIN FAT STOCK SHOW.

The entries were as follows:—Cattle, 59; sheep, 19 pens; swine, 9; poultry, 353; piggeries, 133; farm and dairy produce, 60; animal produce, 23; collections of farm produce, 3, and 2 collections not for competition; Irish manufactured tweeds, 2. There were no entries of agricultural produce from agricultural schools, the Commissioners of National Education, in their zeal for economy, having withheld the small sum formerly granted for the purpose of being awarded to the best collection from agricultural schools exhibited at the Winter Show of the Royal Dublin Society.

#### CATTLE.

The first section consists of two-year-old oxen of any breed, and the first prize was easily taken by a bullock belonging to and bred by J. L. Naper, Esq. Mr. Naper has shown two-year-old oxen for several years, and always brought out superior animals; but his prize ox of this year was, we consider, the best all over we have seen from the Loughcrew stalls. He was particularly good in the back, rib, and loin, full in the thigh, and well finished, being for his age a very ripe animal. Mr. O'Connell L. Murphy's second prize ox was large, but uneven, and not up to the quality of many animals we have seen Mr. Murphy turn out in former years.

The aged section contained some very middling animals; but the pair of oxen exhibited by the Marquis of Headfort, which took first and second prizes, were undeniably good. They were large, thick, well-finished bullocks, their especial dietary since they were put up to fatten having been, for each, 6 stones of turnips, 4 lb. of cake, 4 lb. of oats and hay. Mr. O'Connell Murphy had

a good black polled cross-bred bullock in the section which was highly commended.

In the class of fat cows there was nothing remarkable. The class, as a whole, was very much inferior to previous shows. Mr. Radcliff took the two prizes, and Mr. O'Connell Murphy an H. C. The Duke of Leinster exhibited an even two-year-old heifer, which got the first prize in her class, and Mr. Richard Walsh took the second with a very fairly fed animal. We observe that Mr. Walsh still uses Indian meal strabout, along with oilcake and crushed oats, in preparing his cattle for the Winter Show. Major Barton showed a three-year-old Shorthorn heifer, which was the best female in the house-fed classes. She was bred by Mr. Littleboy, and is a handsome animal, long and deep in the frame, and covered with flesh of first-rate quality; altogether, a thoroughly useful animal, not a mere mass of fat only fit for the chandler, and "too rare and good for human nature's daily food," but profitable both for butcher and consumer. Mr. R. Wilkinson took the second prize with a good heifer, and Mr. Murphy an H. C.

In the out-fed class several animals were brought out which could only be regarded as well-conditioned stores. In the section in which oxen of any age or breed were shown in pairs the Marquis of Headfort showed a pair of very superior animals which got the first prize. These oxen were four years old last May, and in addition to the far-famed pasture of the Headfort demesne, had each got daily for some time past 4 lb. of cake, and 2 lb. of crushed oats. Both bullocks were well covered on the back and ribs with hard flesh; a dark roan, which was the better animal of the two, was remarkably good in the fore

flank, and showed altogether a deal of Booth style, which was, no doubt, owing to the fact that his sire was bred at Kingsfort. Mr. Mark Curtis took the second prize with a pair of good oxen, and Mr. St. George Pepper the third prize with a pair of large beasts, but not such well-finished animals as we have seen coming from Ballygarth Castle.

In the class of cows of any age, Mr. T. D. M'Cann took the first prize with a fairly finished pair; Mr. R. S. Featherstonhaugh the second prize with two handsome Hereford cows of superior quality. Mr. P. B. Nortou's pair took the third prize, and Mr. R. W. Reynell's pair of Herefords were highly commended. Mr. Richard Walsh took first and second prizes in the section of two heifers of any age. These were all good animals, one of the first prize pair being particularly so.

The three sections which were made up of single out-fed cattle were fairly filled in point of numbers, but there was nothing in these sections calling for special remark. On the whole, the cow section was the best. Mr. Corbally's cow was put first, Mr. Ridgeway's second, while Mr. Walsh's cow was highly commended, and Mr. Blake's commended.

#### SHEEP.

The wethers exhibited in the long-wooled class were of a useful description. The cream of the sheep department was found in the short-wooled class, where Mr. Naper took first and second prizes in the section of shearing wethers with two pens, three in each, which were superior to anything we have yet seen in Kildare-street. These sheep were very handsome, and possessed great character, while in respect to the way they had been finished, they could not be beaten anywhere; first-rate quality, combined with early maturity, marking them as rent-paying animals. Two of the wethers in Mr. Naper's first prize pen weighed respectively 18 stones, and the third sheep 19 stones, live weight. Mr. Peake took the prize in the next section with a pen of three two-shear wethers, of heavy weight and top quality. One of the wethers was a remarkably thick animal, and, altogether, it was a lot of splendid sheep, showing great perfection in breeding and feeding. There was a special class for Roscommon sheep, consisting of two classes. There were two pens in each class of ordinary market sheep.

#### SWINE.

There were only nine lots of swine, which were chiefly of a useful description for general use. Lord Clonmel and Mr. Naper were the exhibitors of white pigs, and Mr. Reynell, Mr. Waterhouse, and Mr. Peacocke of Berkshires. The Guardians of the North Dublin Union showed three large, coarse pigs, which had been fed on the offal of the workhouse.

#### PRIZE LIST.

**JUDGES AND STEWARDS.**—FAT STOCK: J. Simson, Cloona Castle, Hollymount; J. F. Bomford, Drumargan, Garadice, W. Heathcock, 32, Market-square, Liverpool. Stewards: C. Cannon, J.P.; P. Riall, D.L.; W. Owen, J.P. **SHEEP AND PIGS:** J. Simson; A. Darker, Barn

Hill, Clonsilla; W. Hencock. Stewards: Colonel Ffolliott, D.L.; R. Chaloner, D.L.; T. G. W. Sandford, D.L.

#### CATTLE.

##### FAT OXEN.

Ox, calved in 1875.—First prize, J. L. Naper, Lougherew, Oldcastle (Shorthorn); second, O'Connell L. Murphy, Breemount House, Trim.

Ox, calved prior to 1875.—First prize, R. Ball, Clonmel-lou; second, R. Ball.

##### FAT COWS.

Fat cow.—First prize, W. P. Radcliffe, Hindlestown, Kells, County Meath; second, R. W. Reynell, Killynua, Killucan.

##### FAT HEIFERS.

Fat heifer, calved in 1875.—First prize, His Grace the Duke of Leinster, Cartou, Maynooth; second, R. Walsh, Kingswood, Saggart.

Fat heifer, calved prior to 1875.—First prize, Major H. L. Barton, Straffan House, Straffan Station, County Kildare; second, R. Wilkinson, Balcorris, Santry, County Dublin.

##### OUT-FED FAT CATTLE.

Two oxen, any age or breed.—First prize, Marquis of Headfort, Headfort House, Kells, County Meath; second, M. Curtis, Flemingtown, Naul; third, T. S. G. Pepper, Ballygarth Castle, Julianstown, County Meath.

Two cows of any age.—First prize, T. D. M'Cann, Beaumont, Drogheda; second, R. S. Featherstonhaugh, Rockview, Killucan; third, P. R. Norton, Turvey House, Dunabate. Highly commended: R. W. Reynell.

Two heifers, any age.—First prize, R. Walsh; second, R. Walsh; third, R. Blake, Ladyrath, Wilkenstown, Navan.

##### SINGLE OUT-FED CATTLE.

Single ox.—First prize, L. Steen, Maidstown, Ardee; second, M. Goodbody, Inchmore House, Clara, King's County.

Single heifer.—First prize, P. Blake; second, R. Walsh.

Single cow.—First prize, M. J. Corbally, Rathbeal Hall, Swords; second, T. N. Ridgeway, Aghan Villa, Geashill. Highly commended: R. Walsh. Commended: P. Blake.

#### SHEEP.

##### LONG-WOOLS.

Pen of three shearing wethers.—First prize, J. Dennis, Ballygall House, Finglass; second, R. Walsh.

Three wethers, exceeding one shear, and not exceeding three shear.—First prize, R. Walsh; second, J. Dennis.

Three ewes.—Commended: S. Mowbray, Killeany, Mount-rath.

##### SHORT WOOLS.

Three shearing wethers.—First prize, J. N. Naper; second, J. N. Naper.

Three wethers, exceeding one shear, and not exceeding three shear.—Prize, J. Peake, Mullaghmore, County Monaghan.

Three ewes.—First prize, J. L. Naper; second, S. Mowbray.

##### ROSCOMMON SHEEP.

Three shearing wethers.—First prize, R. Walsh; second, J. Dennis.

Three wethers, exceeding one shear, and not exceeding three shear.—First prize, J. Dennis; second, R. Walsh.

Three sheep, of any age or breed not qualified to compete in the foregoing classes.—First prize, R. Walsh; second, S. Mowbray.

#### PIGS.

Three pigs, small breed, not exceeding eighteen months old.—Earl of Clonmel.

Single pig, small breed, of any age, not competing in the

foregoing section.—First prize, J. L. Naper; second, Earl of Clonmel.

Single pig, large breed, of any age, not competing in the foregoing section.—First prize, R. W. Reynell; second, R. W. Reynell.

Three pigs exhibited by a public institution.—Prize, Guardians of North Dublin Union.—Abridged from *The Irish Farmers' Gazette*.

### L I V E S T O C K N O T E S .

One of the hydra-headed mis-statements which are being brought up continually against the cosmopolitan Shorthorn is that it cannot thrive on hard commons. I must plead guilty to having once thought so myself; but it was only when "to see Shorthorn" was to visit the pampered pets in their comfortable Towneley home. I was subsequently shown, and soon learnt to know, that they are a hardy race. My eyes were opened first at Warlaby, when I saw deep-fleshed blooming heifers straying fetlock deep to find a bite over the snow-clad pasture. In Carnarvonshire amidst the mountain morasses I subsequently found them flourish, to the discomfiture of the black native kine. Since that, one has known of experiments tried in Devonshire with a variety of sorts, including the aboriginal of the soil, and the Shorthorn came out undoubtedly triumphant. Whether it can adapt itself to the vicissitudes of hot climates as well as to the severity of cold we don't know. But to see a herd, as I did yesterday, feeding over hoof on a sort of half grass, half sedge pasture, with rush and briar, scabious and hard head, all flourishing, and to find them not only thick-coated, but heavy-fleshed and mellow, glossy, and with every indication of thorough health, speaks volumes in their favour. Nor have they any artificial advantage whatever; no hay at night, only the long "fog" for breakfast, luncheon, and dinner, and no shelter to go to, save a screen of holly against the wet South-westerly winds. A collection of Herefords of the same age in an adjoining field looked to my prejudiced eye, you may remark, not a whit the better, if so well. But I am satisfied to have fought the battle of the pedigree Shorthorn. Passing from their vicinity we are on a wet clay park, amidst a flock of level and very shapely Shropshire sheep. "Surely they rot here," I remark inquiringly. "Never had one with a fluke in it that we know of, but then they have plenty of dry food, cake, and chaff in the troughs there." "Well, but they would certainly have rotted where those cattle were?" "I agree; but you must remember the carnation grass grew there, and it all wants draining. This land has been bled, but of course its close consistency holds the transient water somewhat resolutely. There is no stagnant soak, however, and that make all the difference. At least that's my idea, and we certainly escape the rot, which you could fairly expect as a certainty." "Well, but how do you escape the foot-rot?" "We scarcely ever have it. Now and then one falls, but we dress it at once, and

it is soon well. It is the strong land that is our salvation. It is your light, sandy soil that keeps your South-downs lame, as you say they are." This was undoubtedly novel reasoning to me; but there must be something in it, for we neighbours, though not close, have had this same comparative experience for years. Even in brighter lands than our impatient youth deems England to be, sheep are suffering and scarce. An ex-squatter tells me that he has just heard from Australia that on "paddocks" (only thirty miles about in extent, my friend) where twenty thousand sheep used to range, owing to the excessive drought there is scarcely one to be seen now. "They die like flies." How the experience of our life varies! How useless it is to look over into to-morrow! *Prudens caliginosa nocte premii deus* our future. How terribly frightened we were as farmers at the idea of the overwhelming tide that was to arise of tinned Australian meat! Nature ever rectifies itself in one way or another. When your day's work is over, just calmly sit you down on the end of the canal-boat there and enjoy over your pipe the sunset hues upon the Western sky, without troubling what the morrow is to bring. Whatever the stern task or hard experience be, so long as your ways be honest you will have ample courage and intelligence granted you to meet them with. I note an inquiry as to the food, or rather the amount that is fitting for a fattening animal. Half the stock goes wrong from overstuffing, not to enlarge upon the woful waste of money to the pocket. Seven pounds a day of mixed meal and cake is the outside quantity that a yearling can consume with advantage. More would only sicken and retard his progress. This we have learnt from hard experience—Don't over-do the root dose either. Just enough to keep them open. Well-saved clover hay, fragrant as honey and sweet to chew, helps more than corn and linseed. One used to storm at the cowman and carter for saying so, but I have lived to realise the fact. Take pains, then, at harvest-time. It is consequently wise to forecast and consider how to secure the greatest possible quantity of this extra-precious provender. In the first place, don't attempt to ripen your own clover seed. You will usually get a sample full of weed, partially malted, and partially redolent of mildew. Apply to the professional salesman, who has learnt his art, for it is no less; by dint of repeated experiment success and disappointment alternate. This, however, applies rather to next spring's performance. For the present prepare due dressing for



the land. It is done well and cheaply thus: by an accumulation of ashes soaked in manure juice. The ash is the best possible food for the young clover. If you have the advantage of V pits, under sparred floors, you are fortunate. But if not, as is commonly the case, and you don't care or have not the means to make them now, get the hedger to cut and collect an amount of hazel, willow, and, in fact, any wood free from thorns, which, on the first wet day, the men can tie into closely-packed bundles of faggots. Of these in the pens pack a floor, having strewn a thick coating of ashes beneath. It is surprising what a cake of rich stuff will be spaded out in spring-time, and how it will tell as nutriment for the starting rootlets. It is, moreover, a great saving of litter, for the liquid passing through, glances off the bright and polished stems, getting absorbed by the dust below. When the seeding-time comes, too, take advantage of a dry day to send the liquid-manure cart over the furrows. Not a drop will be lost. It will all speak up. Liebig teaches us that manurial essence taken in by soil in need cannot be driven out by washing of the rains, even any particle of it, any more than you can squeeze ink out of new blotting-paper. When the pad has got soaked and glossy with accumulated drink it will take in no more. So too of the soil. But you are not likely to have any such superabundance of liquid manure. Anyhow, secure what you have in its undiluted potency, so well as you can. It will bear much watering before it is distributed, or it may burn the throat of the land. Above all things give it the fair chance of a dry day, and toasted earth to operate on. Fields thus prepared the last season, without artificial of any sort, having only had a coating of muck before the winter, show glorious roots alongside acres of "spuddlings" where artificial only has been given.

I omitted to comment, as I intended above, on the value of cultivation in cattle, or rather stock generally. If the rich, weighty Shropshire sheep can be grown and thrive where the galloping, wild Welsh wethers used formerly to haunt, what an increase of value to the country at large it must be, and consequently how great a stimulus to ardent youth to use eye and brains to keep continually advancing to the better, which, after all, is the law of our existence. I have lately seen a team of cart horses clipped, and doing wondrous well. It seems so hopeless sometimes to attempt drying the long coats of the soaked animals from work under rain. Nature must adapt them to meet many vicissitudes, no doubt, else how do animals do in the open, as sometimes they seem to prefer to encounter the driving storm? Then, on the other hand, some sorts will haste to shelter. It is a subject that beats our imagination. It is just prudent, perhaps, to do our best to make them comfortable, when we have subjected them somewhat to civilisation. Undried heels in the horse often bring on a cracked condition. For this give a good handful of clean-washed groundsel twice-a-day, and the humour will soon disappear. It seems a specific for this affection.

VIGIL.

THE THAMES AND THE SEWAGE.—Mr. Mechi writes as follows to *The Times* :—

Sir J. W. Bazalgette, in his letter to you this day, appears to be unaware that the quantity of solid matter in liquid voidances exceeds that in the so-called solid excreta, and as a manurial value, when dry, of £17 10s. per ton, while the latter is only estimated, when dried, at £3 17s. per ton. (See the late Dr. Letheby's tables.) It should also be remembered that animal voidances, washed from our streets, form a considerable addition to that enormous quantity supplied by a population of 4,000,000, who consume daily the annual average produce of 20,000 acres of land, in addition to vast supplies of foreign tea, coffee, sugar, rice, wines, fruits, and other commodities, all having a manurial value.

Surely such an accumulation must raise the banks of our river. The fact is, the sewage should have gone to the land instead of to the river. The cost of doing this could hardly have been greater in the one case than in the other, and it must be done some day; for, as at present, it amounts to national suicide. What would be said of a proposal that 4,000,000 of well-fed sheep in a single district should deposit their voidances in a river instead of on the land? And yet this comparison is a just one.

Agriculture lost much of its fertilizing supplies when house cesspools were abolished, but I trust that the common sense of the country will some day correct the tremendous mistake which has been made.

#### DAIRY MANAGEMENT AND CATTLE FATTENING.

—I wonder how many farmers out of every hundred have read and studied the late Mr. Horsfall's admirable papers on these subjects?—papers which, in my humble opinion, would put money into the pockets of juvenile farmers, and perhaps of the seniors too. They are contained in the 17th and 18th volumes of the Royal Agricultural Society's *Journal*, and if published separately in a cheap shilling pamphlet, would confer a real benefit on British agriculture; for I do not believe that up to this time, one farmer in a hundred has ever seen them, although they were published in the *Journals* of 1856 and 1857. Just now, when the dairy question has come to the surface, these papers have an especial value, and should no longer be buried in the ruins of antiquity. We should hear much less about unprofitable cattle feeding if Mr. Horsfall's advice was acted on. When I reflect upon the masses of most valuable practical and scientific information contained in the Royal Agricultural Society's *Journals*, I cannot help thinking how much profit they would bring to the farmer who frequently referred to them. There is plenty of time for young eyes to read them during the long winter evenings. No farmhouse should be without them as a profitable investment. It would be a fortunate thing if every farmer would think, as I do, that our stock of agricultural knowledge might be almost daily increased.—J. J. MECHI.

THE PARIS EXHIBITION.—Mr. P. Cunliffe Owen, Secretary to the Royal British Commission, informs us that the date fixed for sending in entries for the live stock to be shown at the Paris Universal Exhibition of 1878 has been extended to the 15th of this month.

**DETERMINATION OF SEX.**—With regard to the age of the birds which are to be bred together, there is no universal rule. Cocks and hens in their second season will always breed well together, and the chickens usually fledge more kindly than the produce of either older or younger birds. The offspring of cockerels and pullets mated together are worst in this particular, and in the large breeds are also more subject to leg-weakness. A cockerel mated with adult hens is preferred by most amateurs, and usually produces very vigorous and large chickens, but if only two or three hens be put with him there is almost sure to be a preponderance of cockerels. An adult cock mated with pullets is also a good arrangement. A valuable hen may be kept, and her eggs set as long as she lays; but, except in rare cases, a cock is of little or no use after he is four years old, unless for exhibition, for which purpose we have known birds preserved for seven years and even more. In some cases, as we have hinted, productive power may be maintained beyond four years; and so long as a breeding bird of proved value shows indisputable liveness and vigour it would be a pity to discard him. We have hinted in the last paragraph that the breeder has some control over the sexes of his produce, and we may repeat here more definitely that the following have long been verified by general experience as ordinary rules, though numerous exceptions occur:—1. If a vigorous cockerel be mated with not more than three adult hens, the cocks almost always largely predominate in at least the early broods; later this becomes uncertain. 2. If an adult cock be mated with not more than three pullets the result is very uncertain, the one sex being as likely to occur as the other, but usually there is a decided predominance on one side rather than equality. 3. If an adult cock be mated with five or more pullets the pullets are generally in excess; and what cockerels there are will be most numerous in the earlier eggs. 4. Young birds or adult birds mated together are very uncertain; but the fewer hens and the more vigorous the stock, the greater is the proportion of cockerels, which are always more numerous in the earlier eggs of a season than the later. It is also a curious fact that chickens hatched late in the season are often perceptibly more short-legged than the earlier birds; we have often remarked this in our own yard, and it has also been observed by others. From these facts, while nothing like certainty can be obtained, it is manifest that the breeder possesses considerable power of obtaining such results as are desired.—“*Cassell's Illustrated Book of Poultry.*”

**WEDDING RINGS.**—In speaking of wedding-rings we learn that these important symbols have not always been manufactured from the precious metal, gold. We are told that in lieu of a ring the church key has often been used; and Walpole tells of an instance where a curtain ring was employed. The Duke of Hamilton fell so violently in love with the younger of the celebrated Misses Gunning, at a party in Lord Chesterfield's house, that two days after he sent for a parson to perform the marriage ceremony; but as the Duke had neither licence nor ring the clergyman refused to act. Nothing daunted, Hamilton declared “he would send for the Archbishop; at last they were married with a ring of a bed-curtain, at half-past twelve at night, at Mayfair Chapel.” Forgetful bridegrooms have been reduced to greater straits than this even; in one instance a leather ring had, on the spur of the moment, to be cut out of a piece of kid from the bride's

glove. A tragic story of a forgotten wedding-ring is told in the “Lives of the Lindsays.” When he should have been at church, Colin Lindsays, the young Earl of Balcarras was quietly eating his breakfast in nightgown and slippers: when reminded that Mauritia of Nassau was waiting for him at the altar, he hurried to church, but forgot the ring; a friend present gave him one, which he, without looking at, placed on the bride's finger. After the ceremony was over, the countess glanced at her hand, and beheld a grinning Death's-head on her ring. She fainted away; and the omen made such an impression on her that on recovering, she declared she was destined to die within the year, a presentiment that probably brought about its own fulfilment, for in a few months the careless Colin was a widower.—*Chambers' Journal.*

**A CANADIAN OPINION OF PROTECTION.**—We are not affected by American competition to any appreciable extent in Ontario, and but little in Quebec, while Manitoba and the Maritime Provinces are now looking to Ontario for their supplies of the machinery we manufacture rather than to the States, which lie contiguous to them, and it is only a question of time, capital, and enterprise until all the Dominion will use only reapers and mowers built in Canada. The change from 15 to 17½ per cent. has not helped, but rather hurt, the Canadian manufacturer, for it has had no appreciable effect on the importation of machines, and has enhanced the cost of producing them. A reaper is a compound article. A great many manufactured articles enter into its construction on most of which we have to pay 17½ per cent. duty, instead of 15 as formerly. Having to pay this 17½ per cent. on so many articles used in building a reaper, increases its cost, as compared to the time when we paid only 15 per cent. Let our friends who love protection put a duty on pig iron, coal, coke, steel, &c., which are now free, and will not the cost of producing reapers be greater, and must not the price of the manufactured articles be enhanced? And if the price in Canada is much increased, then in comes the complete article from some other country which has for years been kept out by low prices, more than by the 15 and 17½ per cent. duties that have prevailed. Then we would be compelled to cry for protection from “protection,” just as the country cried out last winter when it was announced that gas pipes and boiler tubes were put in the 17½ per cent. list. It was at once seen that every boiler would cost more than formerly, and from this protection, in so far as tubes were concerned, the Government wisely relieved the country. It is easy to increase the cost of manufactured goods by protection, while if we would control our own market, and if we ever hope to become a successful exporting nation, we must produce cheaply, which can never be done under a high tariff. A revision of the tariff would have been no remedy for hard times. With the good crop, coupled with industry and frugality, we will see a change for the better long before there is a change in the Government, brought about by the failure to protect us sufficiently.—*Toronto Weekly Globe.*

**MR. DAVID PULLEN.**—We are glad to see it announced that the proposal originated by Mr. B. Ashford, of the Britannia Carriage Works, Fulham, for a testimonial to the Assistant Secretary of the Smithfield Club has met with a hearty response from exhibitors and others, and the present is intended to be a New Year's gift of a timepiece, with a purse containing the handsome sum of £500.

## REVIEW OF THE CORN TRADE,

FROM *THE MARK LANE EXPRESS* FOR THE WEEK ENDING DECEMBER 24.

Capricious and uncertain as our climate is, it is unusual for Christmas to arrive dressed in other guise than that of time-honoured frost and snow. Of late years, however, a green Christmas has been not unfrequently experienced, and to a thoughtful observer it is evident that changes of an important character are taking place in the natural phenomena with which we have been wont to associate the advent of the seasons. Old-fashioned winters, as they are called, are becoming the exception rather than the rule, and the course of the year is broadly marked with a wet and a dry season. During the past week the weather has been to a great extent of an abnormal character, the atmosphere having been humid, and the temperature comparatively high. Frosts have occurred occasionally at night it is true, but it can hardly be said that winter, properly so called, has arrived. Farmers have been enabled to make up some of the lee-way lost through the recent heavy rain, but outdoor operations have not been making very rapid progress. Threshing has been carried on without much hindrance, but many samples of damp and inferior grain are still offered in our markets. The aspect of the winter-sown wheat-plant gives rise to no complaint, but at the same time a too rapid development may render it more sensitive to the action of frost later on. In the present scarcity of roots and winter fodder the open character of the weather and greenness of the pastures are favourable for stock farmers. The approach of the holiday season has exercised its usual quieting effect upon the grain trade, as at this season of the year buyers and sellers alike, besides being willing to abandon themselves as far as possible to the genial influences which the season brings, are accustomed to pause awhile to cast a retrospective glance at past transactions before giving themselves up to the anxiety and excitement of a new campaign. This feeling has predominated during the past week, and business has therefore been very quiet—not weaker, through want of confidence in the future course of prices, but deficient in activity under the influence of the approaching holidays. An interval of comparative quiet may, generally speaking, be confidently anticipated at Christmas, although last year it was of very short duration, owing to unusual political excitement,

which had the effect of sending up prices 15s. per qr. last spring. Whether the same cause will have the same effect now remains to be seen, but an ominous cloud hangs over the political horizon, which is being watched with painful anxiety, as, unlike the cloud which gathered in 1876, it threatens the peace of this country. There is, of course, always a tendency to exaggeration in times of crisis, but political matters are far from reassuring, and, until something more definite can be learnt as to the probable future course of events, holders retain their confidence, and refrain from pressing sales of wheat, even in face of liberal supplies. Business has, therefore, been confined to the supply of the immediate requirements of millers, and, as a rule, prices have been fairly sustained. The large arrivals from American Atlantic ports have in a few instances led to a slight reduction, but it has been scarcely quotable, and as the Baltic ports are now closed no alteration has taken place in Russian wheat. Stocks are, however, large, and the imports from India show no diminution; while the export movement continues fairly active, and a healthy tone animates the market. Maize has fully supported last week's prices, but grinding barley and oats have given way slightly on the week. The sales of English wheat noted last week were 43,670 qrs., at 51s. 7d., against 47,103 qrs., at 50s. 4d. in the previous year. The London averages were 57s. 3d. on 922 qrs. The imports into the kingdom for the week ending December 15th were 1,230,236 cwts. wheat, and 156,042 cwts. flour. Last Monday's market was well attended, but the trade was to a great extent influenced by the dulness which usually prevails at the approach of the holiday season, and the business transacted was mainly of a retail character. The week's arrivals of English wheat amounted to 2,793 qrs., and the small supply fresh up on factors' stands met a slow sale at previous currencies. The imports of foreign were again liberal, in all 90,923 qrs., of which quantity 41,288 qrs. consisted of East Indian and Persian produce, and 37,607 qrs. of American. The arrivals from North Russian ports were only 3,870 qrs., the remainder of the supply being from Germany and New Zealand. Millers showed little disposition to purchase, and where sales were effected previous prices were, generally speaking, obtained, except

for American sorts, which, being pressed for sale ex-ship, gave way about 6d. per quarter on the week, with a quiet consumptive demand. The week's exports were 8,179 qrs., which showed a decrease of 3,404 qrs. on those of the previous week. The supply of barley consisted of 4,547 quarters of home-grown, and 12,886 quarters of foreign. There was an improved inquiry for malting descriptions, but grinding sorts were dull, and prices the turn in buyers' favour. Maize was again in very moderate supply, the return giving only 7,693 qrs. The trade for this article ruled very steady, and the full prices of the preceding week were obtainable both for round and flat corn. There was a fair arrival of oats for the time of year, the return showing about 37,500 qrs. Dealers were enabled to supply themselves on former terms, but the demand was inactive both for new and old corn. On Wednesday there were 380 qrs. of English Wheat and 32,110 qrs. of foreign reported, and with a scanty attendance of buyers business ruled dull for both wheat and feeding-stuffs at nominally Monday's prices. On Friday the supply had increased to 780 qrs. of English wheat, and 32,480 qrs. of foreign. There was an improved demand for wheat off stands at the close of the market, although no quotable rise took place in prices. Feeding-corn ruled quiet at previous currencies. The imports of flour into the United Kingdom for the week ending December 15th were 156,042 cwt., against 180,389 cwt. in the previous week. The receipts were 20,118 sacks of English, and 7,336 sacks and 10,208 barrels of foreign. The trade has been inanimate, but no quotable alteration can be noted in the value of either sacks or barrels. The week's imports of beans were 101,433 cwts. and of peas 53,406 cwts., showing an increase of 37,254 cwts. on the former, and 5,090 cwts. on the latter. There has been a moderate amount of business passing in both articles, but prices have undergone no variation. The deliveries of malt were 19,149 qrs. and the exports 4,508. A considerable want of activity has been experienced in this branch of the trade during the past week, and quotations have given way slightly for all varieties. A healthy tone predominates in the agricultural seed trade, in spite of the limited amount of business which has been passing, owing to the near approach of the holiday season, and previous prices have been well supported for nearly all articles. The few samples of new English red clover on offer have been of only medium quality and irregular value. American advices quote a reduction of 1s. per cwt. for this article, but the inducement

is not sufficient to attract buyers here, whose wants are being amply met by the supply of French seed of good quality now offering in our market. White clover and trefoil have attracted but little attention, and values are unaltered. Of mustard and canary, occasional sales have been made at late rates, while fine rapeseed has advanced 1s. to 2s. per qr. owing to scarcity. Provincial trade has ruled quiet during the past week, and the tendency of prices has been in buyers' favour for wheat, barley, and oats. At Liverpool on Tuesday, there was a moderate enquiry for wheat at a decline of 1d. to 2d. per cental for both white and red sorts. Flour was slow at previous currencies, and barley and oats ruled quiet, without quotable changes in values. A steady consumptive demand was experienced for maize, at 29s. 3d. to 29s. 6d. per qr. for new mixed American. The week's imports included 46,700 qrs. of wheat and 21,600 qrs. of maize. At Newcastle wheat has been very dull, but as holders have not pressed sales prices have not undergone any quotable alteration; neither has any change taken place in the value of spring corn. At Peterborough and Hull there has been a quiet trade for both English and foreign wheat at about last week's prices. At Edinburgh the market was well supplied with grain from the farmers, and wheat sold slowly at a decline of 1s. to 2s. per qr. Oats were also 1s. per qr. lower, but barley was unaltered in value. At Leith the weather has been dry, and a mild temperature has prevailed. At market on Wednesday Scotch wheat gave way 1s. per qr., but foreign was not quotably cheaper, although where sales of Russian sorts were pressed prices were somewhat irregular. Barley and oats were 6d. per qr. cheaper, and flour met a slow sale at former prices. The week's imports have been large of barley and flour, but moderate of other articles. At Glasgow there has been only a limited business passing in wheat and flour, and the tendency of prices has been against sellers. Spring corn has ruled quiet, and maize has declined 3d. per qr. There have been large arrivals of feeding corn during the past week, but the imports of wheat have been moderate. At Dublin the weather has been cold and frosty, and the grain trade has ruled dull for both wheat and maize, at a decline of 1s. and 6d. per qr. respectively. At Cork dulness has prevailed, and business has been depressed by the political uneasiness. Holders of wheat refrain from pressing sales, and business has been limited to the supply of immediate milling requirements. Maize remains steady, and quotations are unchanged for all articles.





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*Agriculture*

No. 2, Vol. LII.]

FEBRUARY, 1878.

[THIRD SERIES.

THE  
FARMER'S MAGAZINE,  
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MONTHLY JOURNAL  
OF  
THE AGRICULTURAL INTEREST.

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8 lb. 40 "	0 4 0
10 lb. 50 "	0 5 0
20 lb. 100 " " " " " (Case and measure included) "	0 10 0
30 lb. 150 " " " " " included) "	0 15 0
40 lb. 200 "	1 0 0
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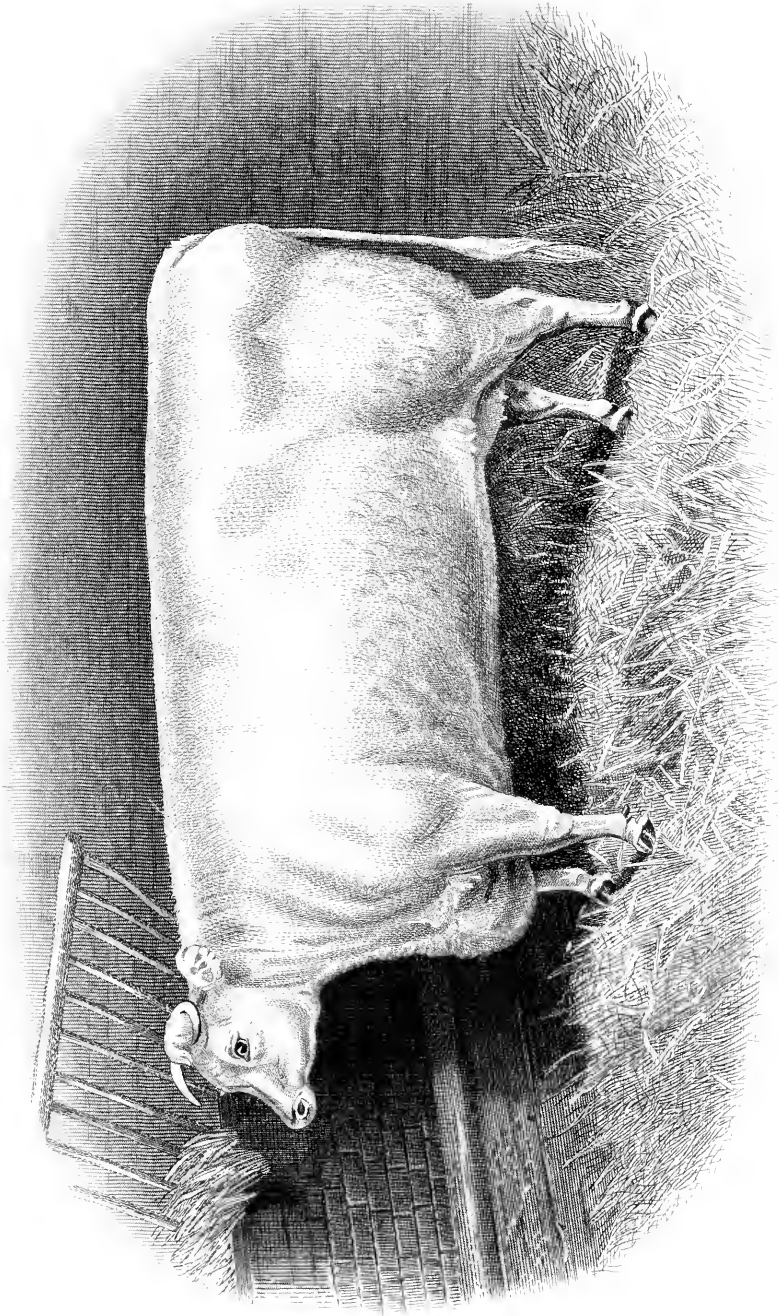
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“Scouton, near Hingham, Norfolk, April 16th, 1865.  
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 “To Mr. Thomas Bigg.” “R. RENNEY.

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*W. H. Woodbury*

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1857

# THE FARMER'S MAGAZINE.

FEBRUARY, 1878.

## PLATE.

### PRIDE OF THORNDALE 2ND,

A PRIZE SHORTHORN HEIFER, THE PROPERTY OF MR. N. CATCHPOLE, IPSWICH.

Pride of Thorndale 2nd, a white heifer, three years and seven months old when entered at the Smithfield Club Cattle Show 1877, is by Oxford Prize out of Pride of Thorndale, by Thorndale Grand Duke, was bred and exhibited by Mr. W. Catchpole, and awarded the cup for the best beast in the show. She is sweet to look upon, having a pretty head, with a kind eye and a slight dish in the face, beautifully laid shoulder, an even, lengthy, broad back, with deep, nicely-sprung ribs, a level under-line and good quarters, but rather light in her thighs for a fat heifer, which was palpable to any one, though the coat was well

brushed up, and of which she had enough to please the most fastidious lover of hairy beef. In fact, with recollections of hobbling, puffy, panting Baker-street obesities and the grease tub, she reminded us more of present agricultural show trim than a Smithfield Club prize beast of years gone by. We thought it a pity to send such a beauty to the shambles, and as there is a note at the bottom of the list of prize cups to this effect, "No animal having once won either of these cups can compete for it again," she may not be eaten, but eating still.

## AGRICULTURAL SOCIETIES.

### KINGSCOTE.

#### THE SCOTCH AGRICULTURAL LABOURER.

At the last meeting of the above Association, Colonel Kingseote in the chair, Mr. John Clay, of Winfield, Berwick-on-Tweed, gave a lecture on "The Scotch Agricultural Labourer, together with Labour and its Bearing on Land."

MR. CLAY said:—The South of Scotland, or what is popularly known as the "Borders," is eminently an agricultural country. It possesses no minerals to speak of, and its inhabitants are little acquainted with manufactures excepting the making of tweeds, a branch of trade pursued by the populations at the thriving towns of Galashiels, Hawick, and Selkirk. An immense quantity of wool grown upon the adjoining hills goes into consumption at those places. Agriculture has thus been left free to develop itself in a more than

ordinary manner. With such a fair field it has made rapid progress during the last fifty years, and with few interruptions it has had a course of unparalleled success, benefiting more or less the landlord, the tenant, and the labourer. It is not my intention to touch in a direct manner either the landlord or his tenant. My mission to-night is in the first place to put before you in a rapid and concise manner the position of the Border labourer. It would be impossible for me to touch upon the whole labouring population of Scotland connected with agriculture, as every district has its different habits and customs. Secondly, there will follow some remarks upon labour and its bearing upon rents. Be it remembered that I speak only of my own country, and that while speaking of Scottish labour I do not wish to throw any animadversions upon the labouring classes here. In travelling across the district to which I belong you will find three classes of farms. Upon the green hills of Cheviot, or the heather-clad Lammermoors, there are immense sheep runs, bearing from five hundred to five thousand head, either of the Cheviot breed or the more

hardy blackfaced. Those farms are in a state of nature just as they were when—

“Wild in the woods the noble savage ran.”

The labour employed upon such farms is almost entirely confined to the shepherds, with a few extra hands at sheep-shearing or hay-time. Those hill shepherds are by far the best class of servants in the district, and in fact they are the noblest specimens of labourers I have ever met. They are a shrewd, thinking class of individuals, seemingly lazy and indolent in many ways, but keenly alive to their master's interest. Their thought by day and their dream by night is their stock, and for its sake they spare no pains. They rarely ever shift, and it is no uncommon thing for generation to succeed generation; as the old man either retires or leaves this mortal scene for another world, so the son fills his place. The duty of a shepherd is not so much to work as to observe. They have to study the character of their stock, they have to regard its well-doing, whether a change of pasture or treatment is necessary or not, and they have to watch the elements for sudden storms or drifting snows. Living away amid those solitary hills, where even the wild stream of the curlew or the babbling of the brook is music to the stranger's ear, situated far from the haunts of the busy world, there has grown up year after year a noble class of men, whose lives are marked by no eventful history, but who plod on with honourable industry, leaving behind them no “footprints on the sands of time” but those which an earnest and faithful career must ever earn. Without such a class of men the system pursued amid those hills could not be followed out. With the increase of wealth and a different style of life, it is a matter of some difficulty to get resident tenants for places so far removed from the centre of civilisation, if we may so term it. Thus, most of the holdings are “led” farms—that is, they are rented by non-resident tenants, who visit them weekly or monthly, as the case may be. Great responsibility therefore rests upon the men, and in a great many cases it is the shepherd who manages, and not the master. The manner in which those servants are paid is also an admirable one. Instead of receiving hard cash they are allowed the keep of from 50 to 65 sheep, which are mixed through the master's flock. According to their attention and ability so is their profit. With other perquisites, such as a free house and garden, keep of cow, potatoes and meal, the income of a hill shepherd runs from £55 to £70 per annum, according as prices and seasons vary. Round the edges of those hills and on the higher elevations where strictly arable farming will not pay, there are a large number of holdings which may be termed as hill and half-hill farms, that is, a larger proportion of grazing than arable land. The remainder of the district is taken up by purely arable farms. Upon the two latter classes nearly the same description of labour is employed. On a moderate-sized farm, say 600 acres, there is a steward or bailiff. The men who occupy this position are as a rule drawn from the hinds, horsemen, or carters, the most active being selected; but as in many other branches of labour, this occupation often follows from father to son. A shepherd, a cattleman, five or six horsemen, generally an odd man to do all sorts of work, along with six or eight women, and a stout lad or two, comprise the workpeople of such a place. In summer time and harvest the ordinary labour is supplemented by a few Irishmen, who receive 1s. 6d. per day and some rations. Speaking of the social condition of the labourers, the lecturer said there existed between employed and employer a mutual bond of

confidence, which he hoped would not soon be broken, as it was the experience of all sensible parties that better labour was secured by firmness combined with justice and kindness than the usual system of driving men on. The circumstances amid which the people live, continued the lecturer, have much to do with their welfare and comfort. Scotland has long been famous for its education, and the interests of the class to which I refer have not been neglected. They are in every respect an educated and an intelligent race of individuals. I have met one or two who could not read, but they are few and far between. Nearly every family has the benefit of a newspaper, and it is wonderful how well versed they are upon the topics of the day. On no class has the influence of the Press been more apparent than this one. It has given them more liberty of thought and action, but their good sense has never allowed that liberty to run into license. And while they are fairly educated, they are deeply imbued with religious feelings. If you see a people mindful of their Creator, if you see a district where from every point of the compass there comes wending by road and lane, o'er hill and dale, the inhabitants to their kirk, believe me it is a happy and prosperous region of the globe. No Sabbath desecration pollutes the land. It is a day of rest when every farm place and country village send forth in decent attire its population to the sanctuary. It is not so much this outward show that is to be looked at. It is the inward feeling of reverence for their Church. For it their fathers suffered, and for it they are ready to suffer again. When Burns wrote his immortal verses upon “The Cotter's Saturday Night” he pictured forth in elegant language the home life of a Scottish peasant, and in it he laid great stress upon the religious feelings which are still held dear by those descendants of the Scottish Covenanters:—

“From scenes like these old grandeur springs,  
That makes her loved at home, revered abroad;  
Princes and lords are but the breath of kings,  
An honest man's the noblest work of God.”

Family life, said the lecturer, was the rule throughout the south of Scotland. The “bothy” system was almost unknown, and it was only on rare occasions that a son or daughter left the parent's home. The demand for labour in the large towns, which had drawn a great many young men from the villages a few years ago, had now stopped, and had even turned the other way. The custom of hiring of female workers away from home, which had formerly prevailed to a great extent was now discontinued, and they now had family life in its greatest simplicity. This system of female labour was styled the bondage system, which in itself suggested a bad state of affairs. Female labour was necessary to every farm, and it is the best, and in many respects the cheapest, for certain descriptions of farm-work, and some twenty years ago no farmer would accept a hind or shepherd without a female worker. When the shepherds had grown-up daughters, it was all very well, but they frequently had to hire a bondager, which opened up a path to immorality, which in Scotland needed to be checked rather than fostered. The evil, however, had worked its own remedy, and a female bondager was now a *rara avis*. Then again, continued the lecturer, all our labourers live upon the farm. A long row of six or fifteen cottages hard by a farm-steading is an object which attracts the eye of a stranger. Close to their work, under the eye of the master, with a suitable garden and a comfortable home, live the servants of the farm. Year by year our cottages

improve. A house with only one room is a matter of history. In every direction costly cottages are seen, and comfort reigns supreme so far as dwellings are concerned. When a new lease is entered upon a notable feature is that new cottages are the first improvement. Without good houses it is impossible to get good servants. With regard to the food, said the lecturer, a great deal of improvement has been effected within the last 50 years. Formerly the staple food was oatmeal, but now wheaten bread was much eaten, and many a butcher's cart travelled the country where never one was seen before. Tea was the favourite beverage, but taken thrice a day he thought it was neither wholesome nor frugal. As to the drink question, he was happy to say that, though intemperance raged like a demon in the towns, the country populations were singularly free from its influence. There was little doubt but that the Scottish temperament was prone to drunkenness, but gradually throughout the country districts they had eradicated most of the public-houses which opened up temptation to the surrounding inhabitants. With better homes, improved education, and less temptation, intemperance was on the decrease among the labouring class. Crime of any description was almost unknown among them. They were not, however, perfect, and illegitimacy was a prevailing evil. Little respect was paid to aged parents, and ingratitude to kind and indulgent masters was not unrequited. The lecturer then gave a sketch of the change in wages during the present century from a total amount in keep and kind and a little money of under £17 to the present rate of nearly £60, of which £36 was in money and the remainder in cottage, garden, and keep. Payments by kind, which at one time were universally general, still continued, although they had lost their general character within the last few years. Women were paid 1s 8d. per day, and in harvest 4s. per day. Bailiffs and shepherds were better paid than ordinary ploughmen. In the case of the latter, said the lecturer, much depends upon the price of stock, as I explained before. It must also be kept in mind that these wages are up-stand- ing—that is, they are payable through foul or fair weather, through health and sickness. A man may be absent from work for six weeks, and still claim full wages; not so with women, who are payable daily. In Roxburghshire, where kind payments are still largely prevalent, the money value will be about £50 to £52, so-ne half-dozen pounds less than the pure money man. The rates in those sister counties are higher than any in Scotland, and are, perhaps, in the same position to the United Kingdom, excepting the county of Northumberland, which lies immediately on the other side of the border. Wages with us have always been progressive, never by any chance retrogressive. They have crept up slowly and cautiously, but still surely, and the value of our labour rests upon a steadfast foundation. We had no strikes, no trades' unions, no political and self-enriching agitators, nothing but the grand old laws of supply and demand to regulate the scale. Long after the wages of pitmen and tradesmen had begun to rise (I am talking of the last ten years) the yearly payments of the Scottish agricultural labourer stood still, and although day by day they read of the immense success of the unions throughout the length and breadth of the land they appeared to be personally uninterested. There were a few meetings, to which the employers offered no opposition. But it was not the ploughmen who began them, and demagogues who tried to stir the fire retired from the scene after a few ineffectual efforts. The consequence

was that there being no unions or combinations on either side a rise of wages came when the natural time arrived, and although farmers resisted the upward tendency as far as they could by all legitimate means, they felt they were powerless to stem the tide that was flowing against them. All engagements in Scotland, when not previously made at home, are arranged at fairs and markets. With a fair field and no favour, one employer bids against another, and thus a well-balanced wage, and one adequate to the demand, was established from year to year. Seldom, indeed, did neighbours lay their heads together, for truth to tell every man had enough to do with his own business. The Scottish farmers also saw that their men and women were not receiving wages in proportion to tradesmen and others, and as year by year came round it found them prepared to advance their terms. At least such was the case till last year, when, in fellow-feeling with other labour markets, ours also halted. It remains stationary, neither advancing nor retiring, although more than probable next hiring time will see a decline. A notable feature in connection with the rise of wages was the fact that no demand was made for shorter hours. Ten hours per day is a general rule on all farms, and ploughmen have to look after teams over and above those hours. During winter the work lasts from dawn to dark, with a short interval for dinner. There are no general holidays, and yearly servants are content with three or four days in each season. I may say before leaving this part of the subject that our agricultural labourers have a thorough contempt for trades' unions. Some parties say they are not educated enough to understand them. But as I stand here, I will throw down the gauntlet on behalf of their intelligence and foresight in comparison with any class who hold the same position. Combination of parties may raise commodities to an inflated degree, and so trades' unions may for a time have effect upon the value of labour, but be assured they can never fight against a falling market. As long as times are prosperous and the wheel of fortune runs up the hill, they may go forward; but the inevitable end of all such illegitimate combinations, so far as the laws of political economy are concerned, will be disaster and ruin. Far be it from me to deny the workman his rights of combination, or any other means by which he can better himself; but, so far as I can judge, a more sound basis is attained by allowing the laws of supply and demand to work their own cure. After giving a review of the wages paid to labourers in the different counties of Scotland per acre, the average being estimated at 32s. per acre, which was about 75 per cent. more than it was 25 years ago, the lecturer remarked: With such enormously increased expenses it would appear almost impossible for the value of land to go upwards, but notwithstanding nearly in the same ratio as wages rose, so did rents. On heavy clay lands this was perhaps not the case, although such farms increased in value; but upon the light soil, or what we term turnip and barley farms, the rise in yearly value was very marked. Of course, if wages had not increased, the rents would have been relatively higher. Up to the present time, on most descriptions of land throughout Scotland, larger labour bills have been followed by larger rents. Nor has the prosperity of the farming community been affected, for those increased rents meant greater profit to the agriculturist. Such, at least, was the case up to 1875. Previous to that date the farmers had enjoyed favourable seasons, with the exception of 1872, for ten or fifteen years. All the while the out-lets

world was in a whirl of excitement, and as new factories rose and fresh shafts pierced the bowels of the earth, the wages of the consuming multitudes increased accordingly. There was an unlimited demand for produce. As from every black country and busy city there came a cry for beef and beer, for bread and broadcloth, money flowed to farmers in the same degree. With wealth rapidly increasing, a mania arose for land. Every holding that was advertised had a host of admirers, for men of all trades and professions—butcher, baker, and tailor—hastened to make their fortune out of the products of the soil. The question then was not so much the price of labour as how to get enough of it, and it seemed strange that its value did not rise sooner. The very fact of its not increasing so rapidly as in other branches of trade did an immense amount of harm to agriculturists. High prices for produce came three or four years before high rates for labour. It would have undoubtedly been better for the farmers if wages had risen sooner, for a great number of farms were leased upon the basis of large profits and small labour bills. And now we have to contend against those high rates disastrous seasons, and restricted consumption." After indulging in some rather gloomy forebodings as to the character of the next season, the lecturer concluded: Corn-growing and cattle-feeding have been leaving but small returns of late years, and upon estates consisting of such farms the rent-roll will not increase very much. Farms that were leased nineteen years ago will in most cases make more money, but those let either last year or this are far below the value of the same quality of land four or five years ago. At present on the Scottish border heavy land holdings are worth about the same as they were twenty years past. Produce has risen since then, but the labour bill has come in to counteract any increase on rent. Although some years since this class of land was letting very dear, influenced no doubt by the immense rise upon light land, I am satisfied that no rise was justifiable. There was no margin left for bad seasons, which we have experienced for two years gone by, and it is likely that considerable reduction will be needed if we have a succession of middling and unsatisfactory ones. We may therefore say upon this particular class of land the rise of wages has had a direct effect, and that year by year it will be more felt. The profits to be derived will depend upon a judicious use of the labour employed more than upon the other items of management. In conclusion, if the commercial prosperity of the country had not been so seriously checked, if the seasons had been moderately favourable in Scotland, the landlord or his tenant would have had but little to fear from the rise of wages. It is more the decrease of the wages of the outside multitude, of the consuming millions, combined with the years of disaster, that will tell upon the value of land. If from the causes which I have stated, and those which I venture to forecast, there is to be a decline somewhere, I, for one, hope it will not fall seriously upon the ploughman or female worker. They have wrought slowly and judiciously up to their present rates of payments, and as they are well worthy of their hire it is not desirable they should suffer a great diminution. Far rather let it fall upon the rents of the landlord and the profits of the farmer, both of which can afford some strain after the good times which I fear are past for the present.

Colonel KINGSCOTE said they must all feel very greatly indebted to Mr. Clay for his very instructive lecture, one which would not only please them, but would be a very great boon to the community at large. The labour question, from

a Scotch point of view, had now been clearly put before them. There was a great deal in the character of the Scotch labourer which they could admire. His knowledge of Scotland was very limited, but, when travelling in Scotland, what had struck him more particularly about the Scottish labouring class had been their very great love of education. The children thought nothing of going very long distances every day in order to attend school. When sporting among the gillies he had been struck with the amount of knowledge they possessed, not only of local interest, but more especially of what was going on in the world. Instead of this knowledge having been a dangerous thing for the Scottish labourers, he was glad to learn from the lecturer that it had led them to be free and independent, and not to join in the strikes, or to listen to any of the union agitators who had done so much harm in this country. He really thought from a contrast of the Scottish with the English labourers that it was to education that the former owed their freedom from these unions, as he observed that in most places where there had been unions a short time ago—and they had nearly all died out now—it was among the worst educated of the labourers that they had sprung up, flourished, and decayed. He noticed that Mr. Macdonald, the hon. member for Stafford, was now advocating, because the times were bad, that the labourers—not the agricultural, but mining labourers—should only work so many hours a day, so as to lessen the output of coal in order to make labour more valuable, but there could be no more suicidal policy than that. Mr. Clay had shown them that it was the freedom of the market of labour, if he might use the expression, that had kept up the wages of Scotland, and that if there had been any force used it would have tended very much to the falling off of the wages given to the labourer. To that free and open market for labour the Scottish labourer owed it that his wages had increased rather than decreased, and he had thus taught his English cousins a very great lesson. Although Mr. Clay had not said much about it, he thought the Scottish labourer worked better for his wages than the generality of labourers in the lowland countries. There was one thing that struck him, and that was that in harvest time the Scottish farmers could always fall back upon women and Irishmen. There was a time when Irishmen came here, but they never saw one now, although he did not know why. He would like to know where the women came from of whom Mr. Clay spoke, because, although they used to work in the fields in this country some years ago, they never saw any now. It was said that that kind of work was bad for their morals, and that if they worked in the fields they could not attend to their children. Were these women wives, or mothers, or what? and how was it that they got a larger proportion of women than men? Mr. Clay had quoted the poetry of Burns, but there was another great Scotch poet. Sir Walter Scott, who had also written beautiful lines upon the character of his countrymen, and the heart of the Scotchman still gave a responsive throb when he read that beautiful apostrophe to his native land—

“Land of brown heath and shaggy wood,  
Land of the mountain and the flood,  
Land of my sires! what mortal hand  
Can e'er untie the filial band  
That knits me to thy rugged strand!”

With regard to the different style of paying wages—the English labourer being paid entirely in money, and the Scotch a great deal in kind—he was not quite prepared to say which was the right system, but the former, he thought, was the better principle of the two. He both hoped and trusted that



the remarks with regard to the better housing of the labouring class both in England and Scotland would be generally acted on all over the country. The price of the cottages, he understood, was different in the two countries. The Scottish labourer lived in a very small cottage, which, however, was a palace compared with the cottages here; but he was very contented, and it would be difficult to find cleaner dressed or better educated children than his. After a concluding word of thanks to the lecturer, Colonel Kingscote resumed his seat.

Mr. HOLBOROW said the lecture they had heard had been very interesting, and one from which they could take many useful hints, and he wished there had been more of the labouring class present to hear it. He was afraid they did not quite come up to the Scottish labourer, whose habits and practices seemed superior to their own. He understood they made capital servants, and were, besides, men of strong constitution and frugal habits. Two or three points had struck him in the lecture. First, with reference to the change from what was called the bothy system to the dwelling in cottages. The former seemed to have been very bad, and the present one—that of the labourers having homes of their own—seemed much better. He had been very much struck with the number of cottages that the lecturer said might sometimes be seen on farms at the present day. He wished he could say as much of the cottages about here. They had certainly been improved of late years, but they were not one half so good as they ought to be. If there was one thing more than another in which the landowners of the country fell short, it was in not supplying good cottage accommodation to the labourers on their landed property. There was a great deficiency both in the quality and quantity of cottage accommodation. He had also been struck with what the lecturer had said about females being employed. Here everything seemed to have been said and done to prevent them going out to work. For his own part he could never see that going to work in the fields had had a bad effect on women either morally or socially. How it might be in factories he did not know. It was very pleasing to hear that the Scotch agricultural labourers were so very sober. Alas! it was not the case in this part of Great Britain. He believed it was not so much the question how much a man earned as what use he made of his money when he earned it. The labouring man spent a great deal too much in the public house, and it was not merely that he was spending his money and leaving his wife and children without their food and raiment, but when he got to the public-house he imbibed all sorts of bad ideas that made him not only a bad servant but a bad subject also. With regard to the remark that in Scotland they were very apt to forget their duty to their aged parents when they became unable to earn their own living, he was obliged to say that this was a common occurrence throughout this part of England. He had been a guardian of the poor for something like 25 years, and he had a good opportunity of observing. He thought the system of payment during sickness was a very good one, but he presumed in that case the labourers must be hired by the year.

Mr. CLAY: They are.

Mr. HOLBOROW: Is there a Scotch law which compels you to?

Mr. CLAY: I may say that it is not in the legislature, but it has grown into law through custom, and it is now never disputed in a court of law.

Mr. HOLBOROW thought the custom a very good one. It was a very sad thing for a man as soon as he was taken ill to

be obliged to go to the relieving officer, and if such a custom were in force here he would be very glad indeed, and he felt that they as masters felt a little short in that respect in not earning more than they did about their servants. With regard to the work done at harvest time, he supposed there was a good deal of piece-work.

Mr. CLAY: Piece-work in harvest time is almost unknown except with Irishmen. Our yearly servants work a regular day's work, but our women receive something like 4s. per day, and our Irishmen are hired as cheaply as possible. Last year we had an invasion of them, and got them cheap. We engage Irishmen for about 20s. or 22s. and their rations throughout the harvest. We allow our men extra rations, but not extra payment during harvest. We never have the slightest difficulty. In fact, the men generally work more willingly during harvest than at any other time.

Mr. COX was not quite sure that putting down the public-houses, as was suggested by the lecturer, would tend much to lessen drunkenness. He happened to have been bred up in a village where there were no public houses at all. The villagers had to walk two miles to get to the nearest public-house, but when they did get there they said they did not get the chance very often, and they accordingly had a good go in, and that village actually produced more confirmed drunkards than did Kingscote. (A Voice: They only wanted the public house a few miles further off.) A friend of his lived in a village where the labourers only spent 3d. a week for beer. Here was a case where public houses did not tend to produce drunkenness. He believed that grocers encouraged drunkenness more than public-houses.

Mr. DREW thought it would be bad for this neighbourhood if the hired men and lads were paid during illness. He thought they were wrong in giving the labourer so much beer during harvest. He could not get his labourers to do without the beer, but he wished the others would put their shoulders to the wheel and do without it. The example, he thought, would soon be followed.

Mr. LISTER thought they should set their faces against beerhouses and support good commercial houses, and not allow anyone to have a license unless they sold victuals. He considered the latter to be necessary institutions for travellers, and must therefore be supported.

Colonel KINGSCOTE said he felt very strongly on this drink question. If the system of giving drink to the labourer were swept away it would be greatly to the benefit of the labourer and of the employer. He thought there were too many public-houses. He was not, however, for sweeping them all away but for making them a higher grade. He did not think that there were nearly so many cases of drunkenness among agricultural labourers now-a-days—not nearly so many—as formerly. If they were to ask the landlord of that house the difference in money spent in beer now and a few years ago they would be all astonished at his answer. He thought it was a wrong system giving beer to labourers. With regard to the wages they would find it much cheaper paying a good man well than paying a middle man less. The speaker concluded by proposing a vote of thanks to the lecturer.

Mr. GARLICK seconded the motion.

Mr. CLAY said he did not come of his own accord, but at the wish of his friend, Mr. Peters, and at the request of the Colonel. With regard to the questions put by the latter, he would say that it was just as regular for women to work in

Scotland as for them to take their dinner. They did not begin very early, but if they could not get house places they got work in the fields. The married women did not do any of this work, but a widow might sometimes go out in harvest time, but that was only an exception. With regard to the Irishmen, they had become a necessity. They could not do without them. They generally paid them 2s. 6d. a week, but they would have to have them however much they might have to pay. With regard to the cottages—

Col. KINGSCOTE: What area of land do they occupy?

Mr. CLAY: I think about one cottage to every 100 acres.

Mr. PETERS: Yes, that would be a fair average.

Col. KINGSCOTE: Then each farm must be a little village.

Mr. CLAY: Yes. It was no uncommon thing, proceeded the speaker, to see £200 a year going into the labourer's cottage, and there were lots with £100 to £120 per annum. With regard to the drink question, it had been found that in every parish where there were no public houses there was less crime and less drunkenness. Drunkenness was at the bottom of all the crime in the country, and if the pot-houses that studded the country all over both in England and a great part of Scotland were put down, most of the crime would disappear. In conclusion, he would propose a vote of thanks to Colonel Kingscote for presiding that evening.

### LEICESTERSHIRE.

The annual meeting of the Leicestershire Agricultural Society was held on Saturday, Jan. 12, Major Freer presiding. The following report was presented to the meeting:—"The committee have again the pleasure in this their annual report of congratulating the members on the financial condition of the Society. The committee deviated from the recommendation proposed in last year's report with regard to the extra payment of 1d. per tod on all wool sent to the fair, only charging it to non-members, the result being that several subscribers were added to the Society, and a balance in its favour of £745, as against a loss in the previous year of £217s. 10d. The committee have no cause to regret having followed the suggestion of the last year's report of taking the show to other market towns in the county than Leicester every alternate year, thus hoping to disseminate a useful medium for enterprise in smaller centres. The committee are enabled to give about £200 extra in prizes this year, enhancing the premiums on the most useful classes, notably that for cart stallions; also separating two and three-year-old geldings and fillies, re-introducing shoeing prizes, and many other smaller additions, all of which, by the entries, prove that they are appreciated; also, at the same time, the committee would remind the members that if a good show is to be ensured, larger prizes must be given—particularly in the open classes—as there are so many other kindred societies who offer inducements more lucrative, and consequently get the better exhibits; therefore they earnestly request that every member will use his influence to increase the number of subscriptions. The committee record their best thanks to the gentlemen of the county and the Hunts for their substantial support, and trust that the Society may be favoured with their continuance. The annual show was held at Melton Mowbray. The committee are much indebted to the Earl of Wilton for the free use of his park, and also to the inhabitants of Melton for their cordial welcome and co-operation." Mr. Grant moved the adoption of the report, which was seconded by Mr.

Simpkin, and carried unanimously. The report of the Finance Committee showed that there was in the treasurer's hand a balance of £206 8s., and in addition there were arrears of donations £96 15s., and of subscriptions £40. From these there had to be deducted a few prizes which were not yet due. Mr. Richardson suggested that the annual show this year should be held in Leicester, and also that the Corporation should be asked to grant them the free use of the ground instead of charging them a price for letting as they hitherto had done. Mr. Glover seconded the motion, which was carried unanimously.

**BAD TIMES AND CHEAP HIRINGS.**—In former papers I have mentioned cheap hirings of land, and now quote another. Steeple Grange Farm, about thirteen miles below Maldon, and the same distance from a railway station, is of good but stiff cold land undrained, with some useful pasture, and adjoins good roads; it also abuts on the River Blackwater, so that corn can be forwarded to London by barge at a small cost, and return cargoes of chalk, lime, or manure may unload on the farm. The extent is about 460 acres. It belongs to St. Bartholomew's Hospital (of which, when alderman, I was a governor), and was let on a twelve years' lease to the last tenant at about £1 per acre. It was left in a weedy condition, as is too generally the case where there is no valuation for tenants' unexhausted improvements. No bid having been made for it, a wealthy first-class farmer, who holds other farms in the neighbourhood, has hired it on the following terms (as I am informed): The first year rent free, and afterwards a long lease at 10s. per acre (the average price of 1½ bushels of wheat). No doubt the new tenant will clean the land, chalk it, and heavily stock it with well-fed animals, and, as a natural consequence, derive great advantages from his hiring. The hospital governors will drain the land, if required, on payment of a moderate percentage, and I hope, for his own sake, that the tenant will accept the offer. This is another instance showing how closely the landowner's and tenant's interests are allied, and how unfavourable conditions react on the landowner. When I was governor of this hospital I suggested that all lands requiring drainage should be drained compulsorily; and I would add covered yards, for these are two operations from which the tenant must derive advantages. But there is an unfortunate belief in our county that glutinous clays do not require under-draining, provided the surface furrows are deep and open.—*J. J. Mechi.*

**THE ELEMENTARY EDUCATION ACT.**—The following regulations have been made by the Home Secretary, in pursuance of the Elementary Education Act, 1876:—"1. In the case of a child sent to a certified day industrial school under an attendance order, or without an order of court, the sum which his parent shall undertake to pay towards the industrial training, elementary education, and meals of such child shall be such sum as may be agreed upon between the parent of the child and the managers of the school, not less than 1s. and not more than 2s. a week. 2. An attendance at a certified day industrial school shall not count for the purpose of the first schedule of the Elementary Education Act, 1876, unless it comprise three hours of secular instruction. 3. The regulations made by the Secretary of State on the same subject on the 10th of April, 1877, are hereby cancelled."

## CHAMBERS OF AGRICULTURE.

## GLOUCESTER.

A meeting was held at the Spread Eagle Hotel, on Saturday, Jan. 12th, Mr. T. Cadle, the Chairman, presiding. It was resolved to petition Parliament to carry into legislation the recommendations of the Special Committee of last session on the importation of cattle with a view to prevent the spread of disease. The Tetbury Highway Board had forwarded to the Berkeley Highway Board a suggested petition, praying that imperial or other aid might be given towards the maintenance of turnpike roads, and that taxation should be equally levied on all kinds of property. This the Berkeley Board had sent to the Chamber of Agriculture, thinking it the proper body to deal with it. The subject was postponed.

## HEXHAM.

The members of this Club held their annual meeting on Jan. 15, in the Club-room, Hexham. Mr. Thomas Dryden, of Moss Knaels, presided. Major Nicholson was re-elected President; Mr. W. B. Beaumont, M. P., Mr. J. M. Ridley, Mr. J. Errington, Mr. Robert Wallis, and Mr. C. G. Grey were re-elected Vice presidents, and Mr. Wm. Trotter Secretary and Treasurer. It was resolved to record on the minutes regret at the loss the Club had sustained in the death of Mr. Taylor, of Parkshields, one of the most active and painstaking members of the committee. A discussion then took place on the recommendations of the Select Committee of the House of Commons on Cattle Plague and the Importation of Live Stock. Mr. Wilkinson thought cattle markets should be regularly disinfected as well as railway trucks. In his opinion the sheep market at Newcastle was one of the filthiest places in the country. It was resolved to petition the House of Commons to give legislative effect to the recommendations of the Select Committee on Cattle Plague and the Importation of Live Stock.

## LEICESTER.

At a special meeting of the Leicester Chamber of Commerce on Jan. 15, resolutions were passed unanimously stating that in the present depressed condition of trade, and in view of the incitement to interference in the war raging in Turkey, the Chamber deem it their duty to express their views of the position in which England has been placed with regard to this question. In their opinion great uneasiness might have been spared the trading community if the satisfactory declaration of continued neutrality now made in the early part of the Queen's Speech to Parliament had been published at an earlier date on behalf of the whole Government, accompanied by an expressed determination to do everything possible to procure united action on the part of all the great Powers to obtain a lasting peace, instead of preparing for interference alone, as appears from the latter part of the Speech is still the implied intention of the Government; and that the Chamber strongly deprecate persistence in the system of isolation still apparent in the policy of the Government, more especially as the other Powers are virtually interested in preventing the only probable occurrence—namely, the occupation of Constantinople—in which the English Government declare our interests are threatened.

## LINCOLNSHIRE.

The 11th annual meeting of this Chamber was held at Spalding, in the Corn Exchange, on Jan. 15.

After the reading of the Report and other business had been concluded, Mr. J. ALGERNON CLARKE addressed the meeting "On the work of Chambers of Agriculture." Having stated the objects for which these Chambers were established 12 years ago, and alluded to the great work they had done in promoting improvement in agriculture, he said that about four years after the commencement of the Chamber of Agriculture movement they had as many as 15,000 members of the Chambers, but the numbers had since dwindled down to something like 10,000. The fact was, however, that many of the returns made were fictitious, subscriptions had been got in with difficulty, and lukewarmness had been shown in the movement in some parts of the country that some of the Chambers had been dissolved. He however, noticed with some satisfaction that the speaking powers displayed by members of the Chambers of Agriculture was quite equal to that of the members of the Chambers of Commerce. Still he found—speaking for the Central Chamber—that there was a backwardness on the part of many gentlemen to come forward at those meetings and express their views on the various subjects discussed. Whether it was from innate modesty on the part of tenant-farmers he could not say, but it was a fact that many who could give the best information and advice on many subjects were silent, and allowed a few speakers to monopolise too large a portion of the time allowed for their proceedings. In the few years of their proceedings great complaint was made by farmers on that point. They said nothing at the meetings, but when they got away they wrote and complained that members of Parliament and others were allowed to occupy nearly the whole time of the meeting. But he (Mr. Clarke) must say that in all his experience of the 12 years that he had attended the meetings of the Chambers he had never observed the least bias towards one speaker more than another; or that there had even been any attempt made to induce one gentleman to speak in preference to others. Then, again, it was said that the Chambers would be nothing more than Conservative clubs, and that they would be used for political purposes. But he did not think they had been so used; and as for Conservatives predominating in the Chambers, he only knew that the presidents of the Central Chamber had been alternately Liberals and Conservatives, Lord Fortescue and Lord Granville having been chairmen, so that there had been no party political bias given to any of their proceedings. Mr. Clarke then proceeded to enumerate the questions that had been taken up by the Central Chamber. The corn averages, weights and measures, insurance of farming stock, and the assessment of tithes on market gardens and special crops were some of them; but they had made no headway with the alterations they wished to have made in those matters. Another important subject was the appointment of a Minister of Commerce—a Cabinet Minister they wanted—but although they had had several deputations on that subject nothing had yet been done in the matter. Among the questions which they thought such a Minister ought to take up was that of the arterial trunk drainage of the country. The Central Chamber had also dealt with the question of ground game, and had

several times resolved that it is desirable that rabbits and hares should be excluded from the list of protected animals: but at present they had made no headway in that direction. They also resolved simultaneously with the above that that removal should be accompanied by an alteration in the law of trespass, because it was thought that if a tenant is not to be damaged by rabbits neither ought he to be damaged by poachers or others going over his land whenever they pleased. The gun tax and farm locomotives had also engaged the attention of the Chamber; and it had been decided to support a Bill in Parliament for facilities for the transit of agricultural locomotives. With regard to agricultural statistics there had been some discordant feeling, some of the farmers declaring that they would not furnish the Government with returns unless the Government showed an inclination to do something for them in return. He believed the feeling was that if statistics were to be of any value, furnishing them must be made compulsory, not every year, but once every three or five years. In discussing the Agricultural Children Bill introduced by Mr. Read, the educational endowment for secondary education, Mr. Clarke said, had occupied considerable time, the question being whether it was just that the working classes who could get educated under the elementary clauses should have the benefit of the education left to the middle classes; or whether, now the agriculturists have to pay heavy educational rates, these endowments should be appropriated, as far as possible, to the education of the middle classes, including farmers' sons. But on that matter they had made very little progress. Another very important matter that the Chamber had discussed was the Agricultural Seeds Bill promoted by Mr. C. Sharpe, and introduced into and carried through the House of Commons by Sir W. E. Welby. They had also had many discussions and passed many resolutions on Poor-law relief, but nothing had come of it; and the Malt tax was another subject that had been noticed, but it had entirely gone to sleep. They had, however, made considerable headway with respect to local taxation, a great deal having been done in that direction; but still much remained to be done. The question of compensation for unexhausted improvements had been fully discussed, as well as the Contagious Diseases (Animals) Act, and the cattle plague regulations. Mr. Clarke, in giving an outline of what had been done by the Chambers with the last-named matters, quoted figures showing the enormous losses of cattle and sheep in England from pleuro-pneumonia and foot-and-mouth diseases, and urged upon the farmers the necessity of supporting the recommendations of the Select Committee of the House of Commons of the past year as to the importation of live stock.

A vote of thanks was accorded to Mr. Clarke for his interesting address, which was ordered to be printed and circulated amongst the members of the Society.

Mr. TURNOR moved the adoption of a petition to Parliament in support of the recommendations of the Select Committee on Cattle Plague and Importation of Live Stock.

The petition was adopted, and signed by most of those present.

### S H R O P S H I R E .

A general meeting of the members of this Chamber was held in the office, The Square, Shrewsbury, on January the 12th, to receive the report of the Traction Engines Committee. The President, Mr. Stanley Leighton, M.P., took the chair.

### REPORT OF THE TRACTION ENGINES COMMITTEE.

1.—In the Oswestry Highway District, county Salop, four miles of road are traversed every day by two traction engines drawing two waggons. The cost of repair before their use was £26 per mile. The cost of repair since their use is £500 per mile and likely to increase.

2.—In the Llangollen Highway District, county Denbigh, six miles of road are traversed every day by two traction engines and waggon. The cost of repair before their use was £30 per mile. The cost of repair since their use is £180 per mile and likely to increase.

3.—In the Llanfyllin Highway District, county Montgomery, six and a half miles of road are traversed by traction engines. The cost of repair before their use was £5 per mile. The cost of repair since their use is £70 per mile.

4.—In the Pool and Forden Highway District, county Salop, the cost per mile of the roads used by traction engines has increased from £11 to £150.

5.—Rushcliffe in Derbyshire, Rye in Sussex, Mold and Wrexham, in Flintshire, Condover in Shropshire, and Gnosal in Staffordshire, are only some of the districts which might be named similarly affected.

Every ratepayer in England is in danger of being burdened with a like ruinous expenditure.

The owners of traction engines in most cases contribute nothing to the Highway Rates of the roads they destroy.

A distinction is clear between the occasional use of roads by traction engines for the purpose of moving agricultural implements, to which we do not object, and the vast damage done by engines continuously used in connection with mines.

STANLEY LEIGHTON, President,

WILLIAM NEVETT, Vice-President,

12 Jan, 1878. J. BOWEN JONES, Hon. Sec.

The CHAIRMAN stated that the report which had been drawn up by the committee was a mere statement of facts. The committee had abstained from expressing any opinion on the matter, preferring that the bare facts should go before the public, so that they could form their own opinion. He would move that the report should be adopted.

Mr. UNDERHILL said he attended the meeting which was held twelve months ago, and made some remarks upon the subject. He wished to know whether it was the opinion of the committee that it cost more for the repair of the roads when materials were hauled by steam power than when hauled by horses.

The CHAIRMAN observed that in all cases where steam had been used the cost of repair of the roads had very much increased.

Mr. UNDERHILL thought some explanations should be given of the figures, as a mere statement like that contained in the report was not calculated to do much good.

The CHAIRMAN said the report applied to the regular use of traction engines, and not to their occasional use by agriculturists.

Mr. UNDERHILL said he had copied from *The Cornhill Magazine* for January an article on the question, and he found that at the time of James I., 1622, no carrier was allowed to travel with a cart which had four wheels, and he was only allowed to carry 20 cwt. It seemed to him that they were going back to that state of things.

Mr. DONALDSON HUDSON said they ought to bear in mind that it was not so much the actual tonnage which passed over

a road during a given week which did the damage as the excessive weight which was put on one pair of wheels. If he understood Mr. Underhill aright he contended that it would do as much harm to draw a thousand tons by horse power with waggons carrying four tons as to draw waggons weighing eight tons by a traction engine; but that was not the case. The roads were not calculated to bear more than a certain weight. His own idea was that future legislation should be so framed as to compel the owners of traction engines to reduce the weight of the engines and the waggons.

Mr. G. SMYTHIES thought a bald report like the one just read would do no good. He thought it should be amplified. In his opinion there was great difficulty in interfering with trade in any way. He could hardly vote for the report to be sent forth to the world in its present state.

Mr. T. HORTON said they might depend upon it the committee would not publish what was stated in the report if it were not true. They had made inquiries.

Mr. T. L. MEIRE: Persons are at liberty to go and see for themselves.

The CHAIRMAN said he was informed that the roads at Weston now cost £200 a year more than they did before traction engines passed over them. All the information they had was called hearsay. They had no power to call upon persons to give evidence upon oath. They had founded the statements set forth in the report in the existing state of things. Mr. Smythies had alluded to the baldness of the report. That was exactly what they desired. They wished to put the matter before people in such a way that they would be astonished, and might say "We don't believe it; give us proof, give us the facts."

Mr. BATHER seconded the motion for the adoption of the report. He thought the wisdom of the report was that it stated facts. He should have been sorry if anything had been said against traction engines, as he thought when properly regulated they would prove a great benefit. In his opinion they ought to give the greatest possible encouragement to them. What they wanted was better regulation.

Mr. J. BOWEN JONES said the committee did not wish to throw any obstacle in the way of the use of steam.

Sir BALDWIN LEIGHTON asked if the proposed meeting in London had been abandoned?

Mr. J. HUDSON: Yes.

Sir BALDWIN LEIGHTON said he thought that was a great mistake. He believed the Government were quite prepared to hear what was the public opinion on the subject.

The motion for the adoption of the report was then put and carried.

#### S U N D E R L A N D.

The annual meeting was held on Saturday, January 12, at Sunderland, Mr. R. L. Pemberton in the chair. After the report had been read, the Chairman was requested to sign the petition on the cattle disease question circulated by the Central Chamber. Mr. Pemberton was re-elected President, and Mr. J. N. Lawson Secretary. At the annual dinner, which followed the meeting, Lieut.-Colonel Gourley, M.P., Mr. C. M. Palmer, M.P., and other gentlemen addressed the company.

#### S W I N D O N.

At a meeting of this Chamber, held at Swindon, on January the 12th, Mr. S. Colbourne, the President, in the chair, it was resolved that the Chairman should sign

on behalf of the Chamber, the petition sent out by the Central Chamber, in favour of the recommendations of the Cattle Disease Committee. Mr. J. H. Piper read a paper on "County Boards," and, after some discussion the following resolution was carried unanimously:—

"That this Chamber, while fully recognising the services of magistrates in Quarter Sessions, is of opinion that, in view of the increased spending power, it is desirable to establish County Financial Boards to transact all county business other than the administration of justice."

#### W E S T R I D I N G.

The annual meeting and dinner of the West Riding Chamber of Agriculture were held on Friday, Jan. 11th, at Wakefield. Mr. Stanhope, M.P., presided.

The CHAIRMAN, in moving the adoption of the report, regretted that it could not be written in a more cheerful spirit than last year. The last had been another of a series of bad years for the agriculturist, and that taken in conjunction with the commercial depression which continued without any immediate signs of abatement, increased the difficulties of all trades in carrying on the business of the country. Speaking of foot-and-mouth disease he said that in the long run it probably affected the farmers' interests more seriously even than the cattle plague. It seemed very difficult to trace, and no restrictions seemed to stamp it out. The disease broke out in the spring of last year, and it seemed as if it would again prevail to a serious extent. About this time the cattle plague was again imported from abroad, but, thanks to the exertions of Lord Sandon and the local authorities, the disease was almost entirely confined to the districts where it broke out. Now it was a very curious fact that the regulations which were enforced with the view of getting rid of the cattle plague had the effect of curtailing the foot-and-mouth disease also. From the day those restrictions were put in force the number of cattle attacked by foot-and-mouth disease in the West Riding became very insignificant. The returns used to show numbers, ranging from 1,400 to 2,000, but for the week ending 15th December there were only sixteen head affected by foot-and-mouth disease; for the week ending 22nd December there was only one affected, and for the two following weeks there was a clear break. If these regulations could only be enforced by law, it appeared that the disease would be completely stamped out; and it was for farmers to consider whether on the reappearance of the disease it was worth while to undergo restrictions respecting the moving of cattle and the holding of fairs, now that it had been conclusively proved that the disease could be got rid of by these means. He openly confessed that upon this question of restriction his views had undergone a complete change, and he was now convinced that the only proper way to deal with the disease was to stamp it out by restrictive measures. In connection with this point another arose, the handling of which gave great difficulty. They were well aware that a large increase had taken place in the importation of dead meat from America. This meat had been brought to England in large quantities and in excellent condition throughout the summer; and if dead meat could be brought in a wholesome and sound condition for 2,000 miles, it followed that it could be brought a less distance. Then followed the question so vital to farmers—if our own markets could be supplied so largely and so well with meat slaughtered

on the other side of the water, what necessity was there to bring over live animals, which might contain in them even the germs of disease? The experiment that dead meat could be brought such great distances out the ground from under the feet of those who argued that restrictions upon the importation of live cattle would prejudicially affect the interest of consumers, and strengthened the position of those who wished by restrictive measures to prevent the importation of disease from the Continent.

Mr. LIPSCOMBE, in seconding the adoption of the report, said the West Riding Chamber could rightly take to itself no little credit for its action in regard to the cattle disease, which was one of the most pressing questions which had occupied the minds of farmers during the last half century. Mr. Stanhope had very naturally given the Government all the credit for the energetic measures recently taken in the country to stamp out the disease; but far more credit was due to the agriculturists themselves, who had not ceased for years past, through their local Chambers and through the Central Chamber, to impress upon the Government the necessity of determined action. They had, however, only as yet reached the threshold of the movement, and they ought not to rest satisfied until a regular and systematic restriction for preventing the country being inundated by disease was enforced by Act of Parliament. A committee of the House of Commons had recommended that certain enactments should be passed, but that was all that had really been done. It would take all their influence to keep the Government up to the mark, because he saw with regret the Liberal Press, which as a Liberal in politics he should have wished to see better informed, were setting it about that farmers had some sinister and selfish motives for wishing to bring about the restrictions, and were not, as was really the case, only actuated for the good of the general community. He saw it stated in one newspaper that whilst farmers required fat beasts to be slaughtered, they wished store and dairy cattle to be exempted. The insinuation was that farmers wished to get cheap store animals from abroad and fatten them for the butcher, but that they did not want fat animals to come. This was a most erroneous and unjustifiable statement. The farmer did not wish to keep out fat animals and to admit store animals. All he wished was that permission should be given for the importation of certain pedigree animals, and such breeds as that of Jersey and Guernsey, but he was willing that these should be subject to a strict quarantine.

The officers for the coming year were then appointed. Mr. Stanhope was unanimously re-elected president, and Mr. Lipscombe vice-president.

#### WORCESTERSHIRE.

At the last meeting of this Chamber it was resolved that the Chairman, on behalf of the Chamber, should sign the petition circulated by the Central Chamber asking Parliament to pass into law the recommendations of the Select Committee on Cattle Plague and the Importation of Live Stock.

#### REVENUE AND PROTECTION IN THE UNITED STATES.

Upon the question of tariff reform which is exciting so much interest at this time, Dr. Holland says in *Scribner* for December:—

It is beginning to be apprehended that the petting of our industries, at this period of our history, is a luxury which, as

a great, impoverished people, we cannot afford. We have learned, at least, that protection cannot keep industries alive when the market for their products is insufficient, and that we are paying much more than we ought to pay for goods, while the man who produces them is not to be benefitted. Some of our industries, which have been utterly overshadowed by protection, have died out. An illustration of the working of protection, in increasing the costs of goods to the people, can be found in almost everything we wear. A silk hat, for instance, which ought to cost, at its best, no more than five dollars, now costs eight. The duty of sixty per cent. on the plush and other silk employed makes the silk hat a luxury, and nobody is benefitted. We pay three dollars more for the hat than we ought to pay; the hatter himself does not at all increase his profits, while he finds his business cut down to its lowest mark compatible with continued existence, for only rich people will buy silk hats at the price. A low tariff on the material—say a tariff of twenty per cent.—would increase the revenue, and so cheapen the hat that everybody could afford to buy it, and thus set all the manufacturers at work. Forty millions of people, with every man and woman of the number heavily taxed to keep alive the woolen industries, while the gates are shut down and their workmen unemployed, do not form a very exciting spectacle. The people have petted the manufacturer a good many years. They have submitted to a taxation for this purpose that none but a prosperous people could stand. Now it seems to us that it is time for the people to take care of themselves—time for the fostering mother to push the birds out of the nest.

We have built a wall around us—a wall of protection. Our manufactures are lying still because they have no market. They can get no market outside, for, with raw material taxed, as they are in many instances, they cannot compete in the markets of the world. Again, they can get no markets outside, because what those markets have to give us in exchange is shut out by "protection." Trade is a game of give and take; and we cannot shut out the products of other nations if we hope to sell them our hand. We ask for no free trade that will be inconsistent with a tariff that will give up the largest revenue: but it seems to us that the policy of taxing the people of the United States for the proportion of industries that have become bankrupt under the policy, or have ceased to find a sufficient market at home, is about played out.

STRAIGHT-LACED BUMBLEDOM.—The proprietor of the Bath Theatre having kindly invited the workhouse children to witness his pantomime, a certain Captain Yeels rose on his hind legs at a meeting of the Guardians, and declared "that he considered it was very fair and proper that the inmates of the workhouse, who had been brought there by their own improvident *ne*, should not have facilities for amusements of the kind proposed." A Reverend Acworth "had never been to a theatre in his life, and blessed God that he had been taught that such things were worldly amusements." Noble Yeels! more noble Acworth! With such large souled creatures among us, who can wonder that our "dear old Church of England" is in such a state of prosperity and peace, not harassed from without, rent by no internal schism, but full of kindness, mercy, and charity to all men!—*World*.

## TEVIOTDALE FARMERS' CLUB.

## LARGE AND SMALL AGRICULTURAL HOLDINGS.

A meeting of the Teviotdale Farmers' Club was held in the Tower Hotel, Hawick, on Thursday, January 3rd. Mr. Grieve, Skelhill, president, occupied the chair. A discussion on large or small agricultural holdings was opened by Provost EWEN, who, in the course of a long paper, said: The question is, whether large holdings or small holdings are most beneficial for the country? If you refer to the imports it will be seen that a great quantity of produce is now brought into this country which might all, with a better system of agriculture on the part of our agriculturists, have been produced at home. In order to keep before me and the Club something definite, I propose to take an actual case for the sake of argument. The estate or farm belonging to the burgh of Hawick lies within a short distance of this town, is high-lying ground, goodish soil, partly in pasture and partly in crop, but capable of great improvement. It extends for 890 acres, and has a most excellent farm steadings. Of course, one object of the Council is to obtain the greatest rent they can for the property for the common good, but that, I apprehend, is not the only object; the Council should also look to the benefit of the burgh, and the secondary consideration is, whether or not the land can be made more beneficial to the town by being divided into smaller farms, suitable for persons who will start dairy farms, and increase the supply of milk, butter, eggs, poultry, &c., of which there is a short supply to the town at present—milk, for instance, being scarce and dear. From what I have been informed I am led to believe it will be most advantageous to set aside about 300 or 400 acres for the chief farm, with the onstead, and lay out the rest of the land in smaller farms of about 100 acres each, with a plain steadings, to cost about £500 to £600 each; and I am told there will be plenty of good tenants for such farms. I understand it is the prevailing opinion amongst large landed proprietors and large farmers that the larger the holdings are the better for both landlord and tenants, but there are others who think the holdings of land in single hands are in many cases too large for the general good of the country. It is obviously the present interest of a landlord to obtain the greatest amount of rent with the least outlay for buildings; hence, when he can get a farmer to take a large tract of land and only require one farm-steadings upon it, such a tenant is preferred before those who require more steadings and cottages; but, after all, this arrangement may not be so good for the ultimate interest of the landlord. It is also the interest of a farmer who has a large command of capital to take as much land and as many "led" farms as he can get, but it is a great hardship to other farmers, who may be deprived of a living by the junction of different farms into one holding. From an extensive landowner's point of view, if he can get hold of enterprising wealthy farmers to improve the landlord's land with the farmer's capital, it looks very well; but in considering the question we must not only look at it from a landlord's point of view, but also in a general way all round. Large holdings must be proved to be good for the country at large and for the farmers and the peasantry, or the system is not satisfactory. Now, seeing the large farm system has been the great

idea with landlords of late years, let us test it by its results. If it is the best system it should be most productive; but it does not stand this test. The agricultural statistics show that the acreage under wheat was considerably less in 1876 than in 1875, barley about the same, oats only 100,000 acres more, beans less, peas less, potatoes less, grass and permanent pasture about 700,000 acres more; but there are fewer cattle and sheep than there were in the United Kingdom in 1875. Thus it is proved that the adding of farm to farm has not increased the productiveness of the soil, and therefore large farms have been no gain to the country. Indeed, farming must have gone back somewhere, for we know it has gone forward in other places. But I will pursue this no further, except by way of contrast to mention that Mr. Mechi, of Piptre, states that England only produces a return of £5 per acre, and it could produce £13 8s. per acre; and I have heard our own leading agriculturists say that Scotland could at least double its productiveness under favourable circumstances. It is very striking that, with all the boasted high farming of this country, farming is making so little progress, and still more startling that foreign farmers, with their "little farms well-tended," are beating the large farmers of this country, as evidenced by the great quantity of foreign farm produce that is now sent here. I believe it will be admitted that good small farmers as a rule farm their lands as well as large farmers, even in this country. But I must go further, and say, from what I have seen, that the peasant farmers on the Continent cultivate their small holdings far better than any large farms I have ever seen. The land being in general their own property, they have every inducement to improve it. From morning dawn till dew eve the peasantry and their families are to be seen at work on their plots of ground, ploughing, digging, weeding, sowing, or gathering their crops of all kinds. People in this country think our agriculturists are good husbandmen, but they would get a lesson if they were to see the peasantry of some other countries working their farms to the perfection of our gardens, and weeding their fields as we weed an onion bed, and valuing and using the liquid and solid manure of their homestead as if they bought it by the gill or pound, while we allow manure here to run to waste. The same carelessness, industry, and adaptation to circumstances are displayed by the small pastoral farmers in Switzerland and Norway. I wish our upland farmers here only saw what pains the peasantry in these countries take to increase their crops of grass and hay; how they irrigate their hillsides by leading the rills of water hither and thither; and how they top-dress and manure their pastures also. These peasantry keep feeding their pastures so that the pastures may feed their flocks. Do the hill farmers in this country do anything to improve the pasture on their hillsides? I saw it was stated at the Social Science Congress that some of the pasture lands of Ireland were becoming so poor by constant grazing and the removal of the cattle, sheep, wool, &c., therefrom, without anything being done to restore or regenerate the soil, that some parts of the land are getting worthless. Looking at the success of small holdings in France, Belgium, Holland, Germany, Denmark, and Norway, both in arable and pastoral countries, and how the small farmers and peasantry are thriving and better-

ing their condition there, as well as exporting large quantities of their produce to this country, it can hardly be doubted that the same system of small holdings with right leases or with proprietary rights would do equally well, if not better, in this country. Indeed, I think if the Scotch peasantry had the same opportunities of obtaining land of their own they would not be one whit behind, but rather upside with the Continental peasant proprietors. I am aware districts of country in Ireland and the Highlands can be pointed to where crofters don't do well, but give the Scotch people good land on fair terms and there is no fear about success. In his concluding remarks the Provost said he did not condemn large holdings in all cases, and pointed out that the country population were being gradually driven to the town through the joining of small to large farms.

Mr. HOBKIRK, Broadhaugh, thought it would be a great mistake to divide the landed property of the burgh into small farms; it would be greatly enhanced in value if judiciously let as a single holding. The Provost had quoted the results of last year's farming in this country, but it was no fair case to adduce, as the unfavourable season had baffled the efforts of the most energetic and the most skilful. As to the case to the Continental peasant proprietors who toiled so hardly on their patches of land, that rather indicated poverty than prosperity. Farmers who would now keep pace with the times, must work with their heads rather than their hands, and employ the most improved agricultural machinery. The yield of wheat had, it was true, fallen off in this country, because finer climates could produce it better and more cheaply, and the farmers at home found it more profitable to graze. He strongly approved of large holdings in preference to small ones.

Mr. GREEN, Branzholmpark, said that Continental agriculturists could not yet compete with the beef and mutton of this country, whatever they might do as to grain.

The CHAIRMAN quite disapproved of the small holding system. The Commissioner of the *Scotsman* was at present giving what he could from his own knowledge say was a very exact description of the Highland crofter system and its results, which was not at all favourable to the advocates of small holdings.

Mr. OLIVER, of Thornwood, said that it would not pay the modern farmer to discard the advantages that science, art, and commerce had placed within his reach. Labour was dear because industry had now a wider field, and therefore the farmer must have a minimum of manual labour with a maximum of mechanical labour if his enterprise was to pay and his products compete with others in the market. It was obvious, then, that the modern farmer must hold a different position, and be altogether a different sort of individual from what his forefathers were. He must be a man of liberal education and some knowledge of the world. He must also be possessed of a considerable amount of capital. Improving, draining, top-dressing, and liming, and all the various implements and machinery required a large outlay, and a large amount of skill and practical knowledge was necessary to administer this capital prudently, so as to bring a good return. To farm profitably it was necessary to farm well—every acre of ground must be turned to the best account, and every assistance that scientific knowledge could give must be taken advantage of. Improved agriculture and the liberal and wise administration of capital would produce on a dozen average farms as much as could be grown by all the crofters in Roxburghshire a couple of hun-

dred years ago. It might be objected that in large farms one man held land which supported thirty or forty families at one time, and that thus many families were deprived of the means of livelihood; but this was very far from being the case. The advance of the arts and sciences and the great development of trade had created an ever-increasing demand for labour; and the man who would only live in wretchedness and discomfort as a crofter might now earn large wages and increased comforts for himself and family elsewhere. Circumstances had entirely changed in our country, and the crofter by the side of the modern agriculturist would be as much at a disadvantage as the old cottage hand-loom and spinning-wheel would be if brought into competition with the power-loom and the inventions of Sir Richard Arkwright. The small farmer, with relatively small means, could neither farm liberally, nor avail himself of the inventions and improvements of the present day; consequently he would farm at a greater expenditure of labour and have a smaller return than his more wealthy competitor; and just in proportion as his produce was less, so much both he and the country would be poorer. The capitalist, on the other hand, could avail himself of all mechanical appliances; he could enrich the soil and double the crops; and he was thus enabled to hand over a much greater amount of food for the support of those engaged in other pursuits, and could do so at a much less expenditure of labour, thus in a twofold degree increasing the resources and wealth of the country. He contended, therefore, that large holdings were the best.

Mr. BROWN, Edinburgh, held that agricultural labourers were very much better off when in receipt of good wages from an extensive farmer than when cultivating small patches of land on their own account.

The CROUPIER thought the letting-out of the burgh property in 100-acre farms would tell against its revenue, as the homesteads would involve so much outlay of money. But the case of such land as the burgh's in close proximity to a populous town did not afford a fair example of the working out of the small holding system. He reviewed most of Provost Ewen's arguments, and contended that small holdings were not beneficial to the landlord, tenant, or the community. He thought a 400-acre arable farm was the most suitable for the general good.

Mr. Fraser, Mr. G. Davidson, Mr. Nichol, Mr. Cathrae, and Mr. James Grievie also took part in the discussion.

Provost EWEN, in reply, said his arguments had been met, but he was not satisfied that many of them had been confuted, and he still adhered in the main to the opinions he had expressed. None of the speakers had ventured to defend the "lea" farm system.

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A LIMIT TO FOLLY.—The limit to folly should be the danger to life, and we think that limit has been reached. No lady in a ballroom should be allowed to carry more than twice her length behind her, while at dinner parties the descent from the drawing-room should be conducted on the block system. A servant could be stationed at every landing to announce the line clear, and to allow the next lady's train to pass. If some such measure is not adopted soon, the abuse may call for a sterner remedy. In Queen Elizabeth's time the executioner cut off men's heads; the 'block system' of the present day would be more merciful and merely abridge ladies' tails.—*Mayfair.*



DIFFERENCE OF OPINION ABOUT DETAILS.

MR. PHANTOMPOUND :  
 With theory deep  
 A farm pray keep,  
 Look very well after pounds, Sir,  
 For the trivial peace  
 No man of sense  
 Would turn himself half round, Sir.

MR. PENNYWISE :  
 And what about keys?  
 Do you keep these?

MR. PHANTOMPOUND :  
 No, that is a trivial matter,  
 And if a few grains  
 Some rogue retains  
 His chickens will be fatter.

MR. PENNYWISE :  
 "De Crustibus"—Yes—  
 I must confess  
 Though little I know of Latin,  
 I would rather far  
 Have bolt and bar  
 And chickens at home to fatten.  
 But how about tools?  
 For there are fools  
 Who carefully break, or lose them.

MR. PHANTOMPOUND :  
 Ah! so it may be,  
 But theory  
 Dou't stoop to see how they use them.

It is very true  
 A lot of new  
 Steel forks that I lately paid for  
 Are not to be found;  
 "They were not sound"—  
 Men "wondered what they were made for."

MR. PENNYWISE :  
 And so you must get  
 Another set;  
 But how about rakes and hooks, Sir?

MR. PHANTOMPOUND :  
 Can't tell you, you see  
 Main chance for me;  
 I look to the plan and books, Sir.

MR. PENNYWISE.  
 And your fat'ning shed,  
 It must be said,  
 Is awfully wet and dirty;  
 You have only ten,  
 To foul a den,  
 That might be kept clean with thirty.

MR. PHANTOMPOUND :  
 Well! The drains are there,  
 And very rare  
 Are buildings on such a plan, Sir;  
 There's more than enough  
 Of food and stuff,  
 And a most trustworthy man, Sir.  
 I've arranged a scheme—

MR. PENNYWISE (*Aside*):  
 Perhaps a dream—

MR. PHANTOMPOUND :  
 Compacted so well together  
 That oceans of tin  
 Should tumble in,  
 In spite of the roughest weather.  
 Keep theory right,  
 Main chance in sight—

MR. PENNYWISE (*Aside*):  
 And storehouses with empty shelves, Sir.

MR. PHANTOMPOUND :  
 If majors be straight,  
 As sure as fate,  
 The minors will right themselves, Sir.

MR. PENNYWISE :  
 So little Bo peep  
 Said of her sheep,  
 Whenever she failed to find them,  
 "O let 'em alone  
 And they'll come home  
 And carry their tails behind 'em."  
 But no one has heard  
 That this occurred  
 As the sanguine lass expected.  
 There's a major mess,  
 I rather guess,  
 Where minors are all neglected.

J. C. WESTERVALE.

THE TRANSVAAL.—Mr. Sidney H. Farrar, to whose visit on behalf of Messrs. J. and F. Howard to this country we have already alluded, thus concludes an interesting communication to the *Cape Argus*, of Nov. 22, upon his travels in the newly-annexed British territory. "If all the unused land of the mother-country could be heavily taxed, under penalty of reverting to the Crown, many a home question would be solved and there would at least be no comparison between a lazy Dutch boer and an indifferent British landowner. So far as I can judge from my rapid journey, I think the Transvaal is the finest farming country in the world, and I have travelled in many lands. The whole of the district from the town of Newcastle in Natal to Pretoria in the Transvaal is eminently suited for the cultivation of cereals, as the ground is perfectly level. At present the progress of this truly magnificent district is retarded on account of its very sparse population. There will be some difficulty, too, in getting out from Europe those agricultural emigrants absolutely necessary to develop the resources of the country, since I am informed that the Government of the Transvaal has no land to give away, the greatest part thereon being already in the hands of Dutch farmers who do not occupy or cultivate one twentieth part of their holdings. It is said that the only plan to overcome this difficulty, and that it is a very serious one I do not think any reflecting person will deny, is for the Government to compel the farmers to occupy their farms or pay a very heavy tax, failing which such land will revert to the Government. In this manner the Government may in time acquire some land which it can dispose of as above indicated. The country is very rich in resources, the climate is excellent, and it is a pity that such advantages should not be developed by an enterprising and industrious population."—*Bodjordshire Times*.

## IMPORTATION OF LIVE STOCK FROM THE CONTINENT.

The *Veterinary Journal* says:—

Our readers are undoubtedly aware of the position we have long maintained and the views enunciated, both in this *Journal* and in the public press, with regard to the measures necessary for the prevention and suppression of contagious diseases among the domestic animals. We have for many years insisted that it is worse than useless attempting to get rid of these diseases, which do such terrible damage to our agriculture and cause such serious loss to the public in this country, so long as we allowed the ingress of live stock from infected countries, and therefore incurred the risk of repeated introduction of these maladies from abroad. Port inspection we have shown to be unreliable, while slaughter at the port of debarkation—even with the exercise of all possible care and vigilance—will not confer absolute safety. In proof of the latter assertion, we refer to the last invasion of Cattle Plague. Under these circumstances, and not without due consideration and weighing of the arguments *pro* and *con*, we concluded that the largest measure of safety was to be found in limiting the food supply from foreign sources to that of dead meat—the animals to be slaughtered and their carcasses to be dressed on the other side of the Channel. Not only would this reduce the danger of receiving contagious diseases to the lowest degree, but it would also be more profitable to the exporter, better in some respects for the consumer of such flesh, and also prove more humane to the animals themselves, as they would then be spared much fatigue, if not positive cruelty in transit to our shores. The question was, and is, one which involves several important interests, and comes quite within the domain of veterinary sanitary science and police; it has received much discussion, and some authorities had even asserted that the importation of live stock from the Continent is absolutely necessary, and that, if prohibited, consumers of flesh would suffer from enhanced prices, scarcity, and other evils. We had no fear on this head: trade has a marvellous way of accommodating itself to circumstances, and we felt certain that neither producers nor consumers would be inconvenienced, but, on the contrary, would be benefited in time,—in fact, we anticipated that in a few years we should look back with astonishment and dismay at the then wasteful, inconvenient, unreasonable, and cruel mode of supplying meat from foreign sources to our population. The fears and dismal prognostications of those who adopted the opposite view, and maintained that we could not dispense with the importation of live cattle, has, almost in a few months, been proved to be unfounded; and as time goes on, the proof that we were correct in our estimate will become stronger and more evident. In the meantime we would draw attention to the following remarks by *The Times*, which will show that, as on many other occasions, our predictions have not been baseless or exaggerated:—

§. The prohibition of the importation of live cattle from a large portion of the Continent, made imperative this year by the arrival of infected cattle from Germany, has not diminished the supply of fresh meat for the United Kingdom, nor has it raised prices even in London, which believed itself dependent for about a third of its beef and mutton upon arrivals of foreign animals. The trade in foreign animals has not been destroyed, and the decrease in importation has not confirmed

the apprehensions expressed on behalf of consumers last spring. The number of cattle, sheep, and swine which we received from abroad in the ten months ended the 31st October, this year and last, appears thus, as arranged from the Trade and Navigation Accounts:—

	1876.	1877.	Decrease in 1877.
Oxen and bulls..	149,584 ...	131,915 ...	17,669
Cows .....	51,712 ...	23,169 ...	28,543
Calves .....	41,286 ...	28,279 ...	13,007
Total cattle ...	242,582 ...	183,363 ...	59,219
Sheep and lambs	912,835 ...	763,969 ...	148,866
Swine .....	40,176 ...	18,630 ...	21,546

In ten months the decrease in the number of oxen and bull's most of them slaughtered at once or meat and a small proportion sold to be grazed and fattened, has been only 17,669, or 11 $\frac{3}{4}$  per cent. Cows, which come principally to be milked or grazed before they are sent into the meat market, fell off in number more than one-half; but a loss of 23,543 Dutch and other cows is immaterial in connexion with the total supply of meat. The decrease in calves was 13,007, or nearly a third. Sheep and lambs were 148,866 fewer than in the corresponding ten months of 1876, being a decrease of nearly a third; and the imports of swine fell off 21,546, or somewhat more than half.

What we lost in weight of meat by this decrease in the number of foreign animals imported may be estimated with a fair approximation to the truth. Extensive inquiries into the probable average dead-weights of animals have been made by Mr. C. S. Read, M.P., Mr. James Howard, and Mr. John Algernoo Clarke, from which it appears that, with a moderate valuation, we may take the general average dead-weight of imported oxen and bulls at 5 $\frac{3}{4}$  cwt., of cows 5 cwt., of calves 1 cwt., of sheep and lambs  $\frac{1}{2}$  cwt., and of swine 1 cwt. The estimated dead-weight of foreign animals imported in ten months ended October 31, in 1876 and 1877 respectively, will stand thus:—

	Average dead-weight per head.		Decrease in 1877.	
	1876.	1877.	1876.	1877.
	Cwt.	Cwt.	Cwt.	Cwt.
Oxen and bulls ...	5 $\frac{3}{4}$ ...	860,108 ...	758,511 ...	101,597
Cows ...	5 ...	258,560 ...	115,845 ...	142,715
Calves ...	1 ...	41,286 ...	28,279 ...	13,007
Total cattle ...	— ...	1,159,954 ...	902,635 ...	257,319
Sheep and lambs	0 $\frac{1}{2}$ ...	456,417 ...	381,984 ...	74,433
Swine ...	1 ...	40,176 ...	18,630 ...	21,546
Total weight ...	— ...	1,656,547 ...	1,303,249 ...	353,298

The total decrease in weight of meat imported as live animals in the last 10 months was, according to this estimate, 353,298 cwt., or scarcely more than a fifth below the quantity in the corresponding period of 1876.

Now, it is very satisfactory to find that this diminution of supply was far more than compensated by a great increase in the arrivals of fresh dead meat. In the 10 months we received as follows:—

	1876.	1877.	Increase in 1877.
	Cwt.	Cwt.	Cwt.
Beef, fresh or slightly salted	96,847 ...	412,034 ...	315,187
Meat unenumerated, principally fresh mutton...	66,198 ...	93,433 ...	27,235
Meat preserved otherwise than by salting	208,363 ...	388,465 ...	180,102
Fresh pork	20,309 ...	7,712 (less)	12,592
Total	391,717 ...	901,644 ...	509,927

The shipments of fresh dead meat from abroad have increased 509,927 cwt., or no less than 130 per cent.; and while we have lost 353,298 cwt. of fresh meat in the shape of live animals, we have gained 599,927 cwt. of fresh meat, which has come ready killed in hampers, packages, cloths, or tins.

Already the quantity of foreign fresh meat coming to us dead is considerably over half as much as that coming to us alive, the 901,644 cwt. of fresh dead meat received in the last ten months being 54 per cent. as compared with the 1,656,547 cwt. of live animals imported in the corresponding months of 1876, before the cattle plague restrictions were put on; and at the present rate of increase in the dead meat trade the quantity of foreign fresh meat brought to us dead will in less than a year reach the total weight of that brought to us alive.

The supplies of foreign salted beef have but slightly increased. In the period referred to there has been a considerable falling-off in the imports of bacon, of salted beef, and of salted pork, though the weight of hams is very much more.

Taking both salt and fresh meat, the total weight of dead meat imported into the United Kingdom now exceeds the estimated dead weight of all the live animals imported. For in the ten months of 1877 we have received 791,915 cwt. of salted meat and 901,644 cwt. of fresh, of slightly salted, and of preserved meat, making a total importation of 1,692,559 cwt., whereas the estimated dead-weight of the live animals imported in the ten months of 1876, before the imports were published, was 1,656,547 cwt.

Of course the foreign supply of live and dead meat together bears only a small proportion to the quantity produced by our home breeders and graziers.

HOW TO BEG SUCCESSFULLY.—A Baltimore tramp has attained great distinction in his profession. Here is his story:—“At Perryville I went to a house with a brick in my hand, and asked the lady if she would please be so kind as to put some butter on it. The request excited her curiosity, and she asked, ‘Why do you want to put butter on a brick?’ I told her I was going to eat it. ‘Surely’ she said, ‘you are not so hungry as to eat a buttered brick? Come into the house and I will give you some food.’ I begged a square meal, for which I had set so slick a trap. In the western section of the State I asked for something to eat at a house and was refused. I then begged for a looking-glass, which aroused curiosity to know what I would do with the mirror. I replied, ‘I want to see myself starving to death.’ They then gave me what I wanted.”

## ESTIMATE OF THE WHEAT CROP OF FRANCE IN 1877.

The *Echo Agricole* of the 9th ultimo contains a voluminous supplement in the form of an account of the past season in France, with the approximate breadth of land sown with wheat and the amount thence derived. In introducing the subject M. Laverrière remarks that the estimate would have appeared sooner but for unforeseen delays, yet that this is hardly to be regretted, since the conclusions deducible therefrom are more opportune now than they were three months ago. At that time the general impression was that the harvest was mediocre. Yet the rates continued within relatively moderate limits, remunerative for the grower without being onerous to the consumer, while at the same time attractive to such importation as was necessary to strengthen stocks and serve the interests of speculation. Had the table appeared at this juncture it would probably have brought about such a state of the markets as would have checked the arrivals from abroad. To-day this inconvenience is out of the question, but the possibility of a prolongation of the Eastern crisis has not escaped the attention of American speculators, who, convinced that the French harvest is utterly bad, flatter themselves that recourse must be had to them to supply the deficit. The question, then, arises, Is there a deficit? From the statistics collected it appears that the total yield of 1877 amounts to 98,908,000 hectolitres, while that of 1876 reached only 93,355,000, or according to the official figures 95,437,000 hectolitres.

At first sight this statement appears to be an exaggeration, but if the specific yield has been inferior to that of 1876 the surface devoted to wheat is greater by more than 900,000 acres. In thirty-five departements this increase ranged from five to twenty-five per cent.; in some parts of the Marne and the Saône-et-Loire it was 30 per cent., while in the Gard, where the invasions of the phylloxera had forced the proprietors to remove the vines, the land so cleared was sown with wheat, three times the usual quantity of which was put into the ground. While in eleven departements the breadth of wheat was smaller than usual, the decrease was so slight that the correspondents refrain from expressing it in figures. In fourteen departements the yield of 1877 was superior to that of the previous year, while in four others it was partly superior, partly as good. In twenty-three departements the yield is either as good all round as that of 1876, or rendered practically so by some districts having a better, some an inferior return. There remain thirty-two departements whose harvest was more or less below that of 1876. The last harvest therefore did not exhibit any falling-off as regards quantity, but in weight the hectolitre of 1877 is much inferior to that of 1876. Thus while 93,355,000 hectolitres in 1876 gave 73,327,860 metric quintals, in 1877, 98,908,000 hectolitres give 74,238,000 quintals.

Dividing the whole of France into twenty-one regions the figures may be rendered in their English equivalents as below :—

REGIONS.	ACRES.	BUSHEL8.
ALPES (Savoie, Hautes-Alpes) .....	113620	1699500
PYRENEES (Hautes, Basses, Orientales) .....	79040	880000
VOSGES (Haute-Saône) .....	177840	2970000
MAURES (Var) .....	98800	880000
JURA (Doubs, Jura, Ain) .....	330980	6429500
PROVENCE (Basses-Alpes, Var, Vaucluse, Bouches-du-Rhône).....	597740	7216000
CENTRAL PLATEAU (Nièvre, Saône-et-Loire, Rhône, Loire, Ardèche, Gard, Allier, Puy-de-Dôme, Haute-Loire, Lozère, Creuse, Haute-Vienne, Corrèze, Cantal, Aveyron, Tarn) .....	950950	11849750
ARDENNES .....	61750	1031250
BRITANNY (Orne, Mayenne, Maine-et-Loire, Deux Sèvres, Manche, Ille-et-Vilaine, Loire-Inférieure, Vendée, Côtes-du-Nord, Morbihan, Finistère) .....	2316860	33643500
CAUSSES (Lozère, Aveyron) .....	212420	2315500
LANGUEDOC (Gard, Hérault) .....	234650	3588750
QUERCY (Lot).....	148200	1980000
POITOU (Vienne, Charent, Deux-Sèvres).....	494000	7796250
BURGUNDY (Haute-Savoie, Haute-Marne, Côte d'Or, Yonne, Nièvre) .....	713830	10774500
LORRAINE (Meurthe-et-Moselle, Vosges, Meuse) .....	632320	10029250
CHAMPAGNE (Ardennes, Marne, Aube) .....	498940	8203250
PARIS BASIN (Nord, Aisne, Seine, Seine-et-Marne, Yonne, Pas-de-Calais, Somme, Oise, Seine-et-Oise, Loiret, Cher, Seine-Inférieure, Eure, Eure-et-Loir, Loir-et-Cher, Indre, Calvados, Orne, Sarthe, Indre-et-Loire, Vienne, Maine-et-Loire) .....	5194410	105327750
BORDEAUX BASIN (Tarn, Aude, Pyrenees-Orientales, Tarn-et-Garonne, Haute-Garonne, Ariège, Charente, Dordogne, Lot-et-Garonne, Gers, Gironde, Landes, Basses, and Hautes Pyrenées) ...	2981290	32246500
LIMAGNE (Allier, Puy-de-Dôme) ...	244530	4083750
BRESSE (Côte d'Or, Saône-et-Loire, Ain, Isère, Drôme) .....	1128790	17347000
CORSICA .....	153140	1705000
	17364100	271997000

The approximate yield per acre is estimated as follows —Gers, 5½ bushels; Landes, Lot-et-Garonne, 6½ bushels; Lozère, 8 bushels; Var, Gard, Aveyron, Tarn, Gironde 9 bushels; Cantal, 10 bushels; Pyrenees, Tarn-et-Garonne, Bouches-du-Rhône, Loire, Ardèche, Deux-Sèvres, Cote d'Or, Corsica, 11 bushels; Vancluse, Manche, 12 bushels; Basses-Alpes, Nièvre, Saone-et-Loire, Rhône, Puy-de-Dôme, Haute-Loire, Creuse Haute-Vienne, Corrèze, Maine-et-Loire, Ille-et-Vilaine, Côtes-du-Nord, Morbihan, Lot, Meuse, Aude, Dordogne, Charente-Inférieure, Drôme, 13 bushels; Aube, 14 bushels; Savoy, Allier, Vendée, Loire-Inférieure, Yonne, Cher, Indre, Indre-et-Loire, Haute-Garonne, Isère,

15½ bushels; Haute-Saône, Ardennes, Orne, Mayenne, Finistère, Hérault, Vienne, Meurthe-et-Moselle, Eure, Sarthe, 16½ bushels; Doubs, Haute-Marne, Loiret, Loire-et-Cher, Orne, 18 bushels; Jura, Vosges, Calvados, 19 bushels; Charente, 20 bushels; Aine, Seine-et-Marne, Aisne, Pas-de-Calais, Eure-et-Loire, 22 bushels; Somme, Seine-et-Oise, 24 bushels; Nord, Oise, 25 bushels; Seine, 26½ bushels.

CO-OPERATIVE SANITATION.—The ingenious Scots have hit upon a plan for cheapening the luxury of sound sanitary advice. Some of the leading noblemen and gentlemen in the neighbourhood of Edinburgh have been struck with the difficulty that at present hampers the householder in obtaining skilled opinions upon and periodical inspection of sanitary appliances in their dwellings. For one thing, it is extremely costly to fee experts, and then there is often suspicion that the cheap sanitary engineer is in league with patent-mongers or opulent plumbers whose influence on the opinion is the reverse of wholesome. The only way of avoiding faithless counsellors is to consult a professional engineer of high scientific standing, whose fees are usually fixed at prohibitive rates. For want of any means of getting advice of this sort houses get into an insanitary condition before the occupiers are aware of the fact. Perhaps it is not till death has stricken his family that the householder becomes conscious of the unwholesomeness of his dwelling. To meet such cases it is proposed by some of the most distinguished citizens of Edinburgh to apply the co-operative principle to scientific sanitary inspection. They are attempting to organise an association, the annual subscription to which will be one guinea, for the purpose of securing to its members, free of charge, that skilled sanitary supervision and advice which could only be got at enormous cost through individual action. The association is to secure the exclusive services of one or more well-educated young engineers, who, acting under the sober control of a consulting engineer of high standing, will, when required, inspect and report upon the dwellings of members, giving estimates as to the cost of any alterations that may be deemed advisable. Their recommendations must be limited to strictly indispensable points, and no officer of the association is to hold any pecuniary interest in any patent or manufacture. The Professor of Engineering in the University of Edinburgh has taken such a warm interest in this novel scheme that he has offered for the first year to give the association his gratuitous services. Another feature of the scheme is that each member, on payment of a trifling fee, may secure the services of the officials for any charitable society whose work in individual cases might be aided by them, or for any person in whom they are interested, who, though deserving, is too poor to obtain for himself good sanitary advice. This association involves the novel application of a very old principle. It simply does for the sanitation of the houses of the middle classes what the medical club or sick society does for the personal sanitation of the artisan, who, if he were to act individually, could not afford to purchase the best medical advice. There is no reason why so sensible and beneficent an idea should not be successfully carried out in practice.—*Examiner*.

## THE YEAR 1877.

For the third time in succession it is our unpleasant duty to review an agricultural year which presents but few features that are not of a gloomy character. The year 1875 brought us one of the worst harvests on record, and in 1876 the corn crops were nearly as deficient, the hay crop much worse, but the root crops better. From the Returns published in *The Mark Lane Express* for January 7, we find that the year 1862 was the latest for which the returns of cereal crops were anything like as discouraging as they are for the year 1877. In the former of these two years out of 618 returns of the wheat crop 508 were under average, 100 average, and only 10 over average. That was about as bad as the summary for the wheat crop in the present return. Out of 558 returns of the barley crop in 1862, 264 were under average, 263 average, and 31 over average—an improvement on the barley crop returns of 1877. Beans and peas were much better in the former than in the latter year.

The year was ushered in by storms of an unusually severe character, and with a continuance of the almost uninterrupted rainfall that prevailed generally throughout the winter. Serious fears were expressed as to the result of so much wet on the wheat plant; but, owing to the absence of severe or prolonged frosts, the growing crop continued to look well, and to preserve its thickness of plant. In the middle and latter part of January we were favoured with mild, spring-like weather, which gave treacherous hopes of an early spring; but this was followed by a generally rainy period, which lasted through February. March came in dry and cold, and some progress was made with spring-sowing. Such progress, however, was soon retarded by rain and snow, and it was not till the end of the month that even the sowing of beans and peas could be completed, while barley-sowing was not half finished. April weather was fickle, the frequent rains rendering barley-sowing a protracted and laborious operation. With May came north-east winds, and drier weather—so dry in some districts that the late-sown barley had not sufficient moisture to bring it out of the ground quickly and regularly, especially on the heavy lands, where the tilth was rough and bad. It was not till nearly the end of the month that spring-sowing was finished, and the prospects for barley and oats were very unfavourable. Winter beans and peas looked promising, and wheat was full in plant and fairly forward. But there were some sharp frosts late in May, and even in June, which injured the

growing wheat-crops, and probably the winter beans also. June, however, was generally a cheering month, and frequent showers alternated with bright sunshine brought the crops on nicely. Favourable anticipations began to be expressed, as it was thought that there was time, with forcing weather, for the crops to recover lost time. But July was a thorough damper on such hopes, being cold and wet. Wheat began to show unmistakable signs of blight, and spring corn was wretchedly short, thin, and backward. The hay crop was abundant, but had not been well secured, even where it was not still in the fields, as it was in many districts, and particularly in Ireland, there to remain till harvest, or even in some cases till after the corn crops were secured. The root crops had been put in very late, and mangels were hopelessly backward. The showery weather, however, kept turnips healthy, and in England one of the best crops ever grown was the result, though in Scotland the crop was almost a failure. Harvest in the Southern and Eastern counties became general about the middle of August, and at first the weather was all that could be desired, so that on early farms the bulk of the corn was quickly and well secured. But soon the rainy weather returned, protracting the harvest greatly, and causing great damage to crops, especially in the North of England and Scotland. After the middle of the month there was a spell of drier weather, enabling English farmers in early districts to complete harvest by the middle of September—a very late finishing for them—and Scotchmen to make good progress, except in the Northern counties, where the corn was still green. In the middle of October there were again severe storms, which did a great deal of injury to the crops still out in the late parts of Scotland. This wet weather, though disastrous to our Northern neighbours, was a great help to farmers in the Eastern and Southern counties, where the land had become too hard to be ploughed with advantage for the wheat crop. Wheat-sowing was then driven off beyond its usual time, and after it had become general it was interrupted by another period of rainy weather, which prevailed generally throughout November, with a few short intervals, which allowed wheat to be put in by instalments. A large amount of rainfall during the latter part of the month put a stop to field operations, and though the weather since has been drier, a large breadth of land intended for wheat still remains unsown, especially in the North, and

in Ireland. Ploughing is very backward, and frost came on Wednesday night to hinder the continuance of that operation, but to help on other farm work also in arrear, such as carting manure on to fields for roots or young clovers. The young wheat is for the most part underneath, or only just peeping out of the ground, and the slight covering of snow was beneficial to it as some protection against the keen frost, which, however, only lasted two or three days, and has been followed by mild showery weather up to the present date. Our business is with the year which closes to-night: so we will not speculate on the prospects of the year to come, which are of course very much in the dark.

During the year we have suffered not only from a blight upon our crops, but from a murrain amongst our cattle. The history of the visitation of Cattle Plague is fresh in the memory of our readers, and we need not recapitulate it. We do not regard it as a misfortune, since it brought us the Cattle

Disease Committee and the prospect of legislation that we hope—though not without fear and trembling—may be effectual as a preventive to the frequently recurring inroads of foreign diseases. The Report of the Cattle Diseases Committee has been the most important agricultural Parliamentary event of the year. In other respects the last Session was peculiarly barren for farmers—like the harvest. The Prisons Bill and the Destructive Insects Bill were the only measures passed that were of peculiar interest to agriculturists in England. To the Scotch farmers a stone was presented by Mr. McLaran as a substitute for the egg of Game-Law reform which they asked for. They are now sitting over and not unreasonably finding fault with this silicious monstrosity, and its producer is cackling over it as if it were something to be proud of: but sit upon or cackle over it as they may, they will never succeed in hatching it.

## AGRICULTURE IN JAPAN.

### No. II.

The rearing of silkworms has always received great attention at the hands of the Japanese, and has now attained to a high degree of perfection. The commencement of the season varies in the different parts of the country as the temperature happens to be high or low. When the climate has a pretty equable temperature the silkworm egg cards are taken out of store about the beginning of April, and hung up in a quiet nook of the house. After the lapse of twenty-two or twenty-three days the worms will appear. They are carefully watched, and paper is wrapped round the cards, which are now placed in a basket-tray. They are looked at every morning, and brushed off lightly with a feather-fan into another piece of paper. Mulberry-leaves are then taken, cut very fine, and well sifted, tossed so as to get rid of the leaf-fibre, and then mixed with a certain proportion of millet bran. With this the worms are fed. The great thing to guard against is disease, so that careful watching of the worms day and night is most essential. If the weather is exceptionally hot, then the worms are kept cool; if, on the other hand, cold, then proper warmth is looked after. There are several varieties of the mulberry. Exposed and open ground is generally selected for a plantation, with a stream near at hand. The ground is always well drained. With worms intended for reproduction more than ordinary care is exercised in the selection of leaves for their food. The mulberry trees known as Ichibe-i (an early kind), Yoku-mei and I-awo-jiku (late kinds) are most fancied. Yonezawa in Dewa, Yanagawa in Oshin, Uyeda in Shinshin, and

Shimamewa in Joshin are celebrated for their silkworm-eggs. The provinces of Oshin, Dewa Koshin, Shiushin, and Joshin have the best reputation for silk. Shimonita and Omura in Joshin have also a high name, and so, too, have Mubashi and Takasaki in Joshin.

Tea is said to have been first introduced into Japan from China in the year 782, but it did not come into universal use till 1190. The districts which have a reputation for the best tea are those of Uji, Daigo, and Togauo, situated in Yamashiro. Surumi, in Omi, takes next rank, but the shrub is very generally grown throughout the empire. The ground best adapted for its cultivation exhibits a reddish soil, mixed with small stones, open to the South and East, but shut in from the North and East. Plantations are situated in warm but yet temperate climates. The plant blossoms late in the autumn, and the nut or seed follows the flower. These nuts, however, do not ripen until the winter of the ensuing year; when ripe the nut bursts and the seed falls to the ground. This is known as the "ochiko," and is reckoned the best for sowing. They are placed in bags and stored. The seeds are sown in the course of the last month of the year. Patches of ground measuring six feet square are marked out; these are divided off in three parts, in each of which holes of little over a foot in diameter are dug. Manure is used, and after the lapse of two days a small quantity of seed is sown in each hole; about an inch of light soil is then sprinkled over the seed. The seedlings will show up early in summer. In the ensuing year the seedlings are carefully protected from the cold. In the second year liquid

manure is applied, but solid manure is not used until the third year. If the plantation is a very good one the leaves are picked immediately after the third year. The time for picking depends upon the temperature of the season; but the most useful time is when the shrub is in what is known as the three-leaf stage, and when summer has well set in. This picking makes the best tea. When four or more leaves appear they are somewhat dry in consistency, and make inferior tea. Choosing a fine bright day, the women and children in the tea-growing districts get together, each with a basket in hand, and set to work picking. The best leaves forming first-class teas are picked; and after thirty days comes the second picking for medium teas.

According to a native authority tobacco was introduced into Japan in the year 1695, and was first planted at Nagasaki, in Hizen. In those provinces where a high degree of temperature prevails, the plant lives throughout the winter; but it is, nevertheless, customary to sow fresh seed in the early spring of each successive year. In Awa, where a good deal of tobacco is grown, the seed is sown in early spring in fields well exposed to the sun, and duly prepared for its reception. Well-sifted stable-manure is strewn over the fields, and the seedlings appear after the lapse of about twenty days; the old manure is then swept away, and liquid manure applied from time to time. If the plants are too dense they are thinned out. The larger plants are now planted out into fields well prepared for the purpose, in rows with about eight inches space between each plant, the furrows between each row being about two feet wide. They are again well sprinkled with liquid manure, also with the lees of oil, at intervals of about seven days. A covering of wheat or millet-bran is now laid over the furrows. The bitter taste of the leaf is, in a measure, an effectual safeguard against the ravages of insects, but the leaves are nevertheless carefully tended to prevent damage from such cause. If the reproduction from seed is not desired, the flowers should be cut off and the stem pruned down; otherwise the leaves will lose in flavour and smell. In Osumi exceptional attention is paid to the cultivation of the tobacco plant. The lees of oil, if liberally used, and stable-manure sparsely applied, have a great effect upon the plant, producing a small leaf with an excellent flavour; while if the opposite course is followed, the leaves grow to an immense size, but are very inferior in taste. The manuring of tobacco differs from that of other plants, in that manure is plentifully applied both to the roots and leaves. Gathering the leaves in the height of summer, when the flowers are of a light tint, two or three of the leaves nearest the root are gathered. These are called "first leaves," but produce tobacco of second quality. After the lapse of a fortnight the leaves are gathered by twos, and from these the best tobacco is produced. Any remaining leaves are afterwards broken off along with the stem and dried. These form the lowest quality of tobacco. After gathering, the leaves are arranged in

regular layers and covered with straw-matting, which is removed in a couple of days. The leaves are now of a light yellow colour. They are then fastened by the stem in twos and threes to a rope string in a work-room, and after being so left for fourteen or fifteen days, they are dried for two or three days in the sun, after which they are exposed for a couple of inches in order that they may be well-dried with dew. They are then smoothed out and arranged in layers, the stems being fastened together; each above with beads, and packed away in a work-room.

Hempage is all the tobacco sown, but there is more especially given to its production in the Northern districts, where a kind of pipe is produced, known as "the huge chimney," which produces an excellent pipe. The plant is perennial, and grows to a height of six feet and upwards; the stem is covered with a short hairy substance, the leaves are heart-shaped, with a sharp point, the surface of an iron-blash colour, and the back white; both sides are hairy and rough to the touch. In the summer small sprouts of about two or three inches in length appear at the joint where the leaf joins the stem. These three-lobed blossoms when developed into small white flowers, the female flower being next the leaf, the male next the stalk. There are three descriptions of the plant: one is called "akazira," a second "shiganji," and a third "suirappa." The first named has a much wider leaf than the two former. There is no very material difference in the quality of the three plants, but such as may exist depends on the amount of manure bestowed on the cultivation. The plant being a perennial there is no occasion to sow seed, propagation being effected on by means of shoots taken from the roots. The proper time for doing this is in the autumn, when the shoots are planted out at a distance of three feet apart. Notwithstanding this space between the plants, the ground is completely covered in a very short time. The new plants are not fit for use until after a three years' growth. They are generally protected with a trellis, and the ground is kept free from weeds and creepers. The best plant grows very straight, with the leaves at regular intervals. The inferior kinds grow crooked, and bear a great number of leaves. The fibre is obtained in the following manner: When the summer has set in, the plantation is fired, after which the ground is well prepared with manure, and so left till the close of the summer, when the shoots will have attained their full height; they are then cut, and soaked in running water for about four hours. After immersion the stalks are broken in about three places, thus separating the rind from the pith. In the interstices thus made the thumb of the left hand is inserted, and the stalks shelled. The shelled parts are then placed in layers. They are next laid out on a board, set up with a foot-piece at one end so as to make an inclined plane; a small-edged tool is then grasped in the right-hand, the shreds being firmly held down with the left, and the inner white coating is then scraped off. The shreds are

now hung on a frame, after which they are again placed on the board, and this time the outer green pith is scraped off. The fibre is then tied together in bundles and dried. This scraping, or stripping, of the outer green peel requires much deftness, and is only done by an experienced hand. Only one day is occupied in doing the above; so that a man cuts just as much, and no more, than he can get through in the day's work. When the fibre has been tied together in bundles it is hung up to dry, and carefully guarded from wet. This dried fibre is woven into cloth and all kinds of piece-goods. The coarser kinds are also made into an inferior description of cloth, very brown in colour, and known as "akari momen." The outer green bark, or peel, is also dried, macerated, and made into paper pulp, used for the coarsest kinds of paper. It is sometimes used in its dried state by the poorer classes as a stuffing for mattresses. The best of the outer or surface fibre is also made up into material very strong in texture, and of a mouse colour, known as "kara haji momen." The pith, or what is left after obtaining the fibre, is utilised in finishing off the thatch of houses. A man well up in the cultivation of hemp will raise 130lb. of hemp from a piece of ground measuring 20 *tsubo*s (a *tsubo* being six feet square); but the average production is about 85lb. for the same measurement of ground. Hempen cloths are freely used by the Japanese, and it is not improbable that before long machinery may be brought to bear upon this industry.

The Government has turned its attention to stock-farming, and is endeavouring to ascertain, with experienced foreign aid, what are the localities best adapted for stock-farming and cattle-runs. Particular inquiries have been instituted, too, in respect to soil and grasses. Experiments have proved that red and white clover, and the rye family of grasses thrive wonderfully in Japan; and this, coupled with the statement that there is in the country sufficient pasture land to maintain 28,000,000 sheep, producing wool on an average of 5lb. per fleece, would apparently justify the Government in the attention given to the subject, and to the (it is to be hoped) judicious outlay of money to procure information, either by observation or experiment, on these important subjects. Amongst the most interesting experiments are those that have been made at the farms of the Colonisation Department in Yedo. At one of these 40 acres of ground have been laid out with fruit-trees and flowers; at a second 140 acres have been planted with fruit-trees, cereal crops, and grasses; and a third is used exclusively for pasture land, its area being about 75 acres. Experiments made on the third-mentioned farm appear to have been exceptionally successful, and more particularly with the Italian rye-grass seed. This success cannot but be highly satisfactory to those interested in it; for, if sheep-farming is to attain to any importance, grasses will have to be largely imported, owing to the inferior quality of the natural herbage. Fruit-trees and shrub-fruits have thriven wonderfully the first and

second farms, both from seed and by grafting. The flavour of the fruit is pronounced as excellent, and it is said that the most promising trees are seedlings grafted on indigenous stocks.

There is mention of a very recent visit of the Mikado to Hakodati, being the first time any Sovereign of Japan has ever gone so far North in his dominions. His Majesty's stay was but short, not extending over two days, during which time he made an excursion to the model farm at Nansi. This farm, we are told by Consul Eusden, which at first was expected to be of such great benefit, is still carried on at an immense expense, no attempt being made to make the farm pay for the great outlay. This, he remarks, is much to be deplored, as there is no doubt much beneficial improvement might be derived from the extension of agriculture in that island. The climate, so far North, is well adapted for growing rice, which is the staple food of the people; but, as they are becoming more accustomed to the foreign way of living, there is much to be done in the raising of wheat, cereals, vegetables, and fruit, for the climate so closely resembles England, and the soil is so rich and fertile, that, with very little trouble, almost anything will grow. At the present time the few bullocks that are required for the consumption of foreigners, the natives, and the shipping, are brought from Nambu, and are but sorry animals at the best; but, were the Japanese to take this matter in hand, and devote a small part of the rich pasture land to the raising of cattle, not only an immense profit might be derived, but beef equal to the Roba beef might be sold at the same price for the poor substitute now supplied, and, since the Japanese have of late taken so much to beef diet, to them it would be an immense advantage. Kagorhimo, we are told, is celebrated for its horses, and for the large size of its bamboo trees. The island of Sakurajima, also, is renowned for its gigantic *daikon*, or native turnips, which attain a magnitude treble that of those grown in any other part of Japan. These large turnips take the place of the rice, the soil not being very suitable for the latter. The other productions are camphor, beeswax, honey, beans, cassia, seaweed, pearl, hemp-cloth, indigo, mushrooms, cedar-wood, *katsuwo*-bushi, and awabi.

With respect to the condition of the people, we are informed that little or no distress exists amongst the agricultural classes. Their wants are few, and they are content to live on without seeking materially to improve their circumstances. Of late years a great rise has taken place in the price of articles of daily use. But, if certain commodities have become dear, the Japanese must set off as against this the greater cheapness of transit and locomotion. The people are beginning to adopt foreign inventions. A rice-mill, worked by steam, has been put up at Niigata. A Company was formed, not long ago, in the same locality, to manufacture wine. An Italian was engaged as superintendent, but the attempt was a failure. Grapes are so plentiful in some parts that wine-making may eventually prove a success. It is said that two



thousand people gain a livelihood in Niigata by selling snow-ice in the summer months. Holes for the snow to drift in are dug in the sand-hills by the seashore, and thatched over at the end of winter. The snow has been known to last for two years. There is a peculiar beverage called "saké" for which the district between Osaka and Kobe is most famous. Throughout the whole of Japan Itamin sake is best known, and is largely exported in junks to Yedo. Sake is brewed from rice, and in its formation two kinds of rice-malt are used. These are afterwards mixed with other rice, at different times, and a certain quantity of water being added (20 to 25 gallons of water to 20lb. rice), the whole is left till a certain kind of fermentation takes place in about nine or ten days. The liquid is boiled down according to the quality or quantity of the saké to be produced, and is then placed in tubs of immense size, and kept well closed till required for use. The rice from which the saké has been manufactured is called "kas," and is used as manure, and also, after having been dried in the sun, is made into cakes much liked by the Japanese. The making of saké gives employment to large numbers of labourers from the neighbouring provinces of Tamba and Fudji, who assemble in large numbers at a fair held annually at Nishinomiya, at which place the owners of saké establishments engage their employés for the ensuing season. The season commences in the early part of January, though the preparation for the malt, cleansing of rice, &c., go on some time before that. The export usually takes place in the summer.

At Osaka a brewery on an extensive scale is at work, and brews beer of a fair quality from hops obtained from America. This liquid is much consumed by the Japanese.

It is satisfactory to observe that the necessity of providing the country with good roads appears to be appreciated by the Government, and that they have lately endeavoured to make this subject popular by calling upon the newly-created Assemblies, both local and central, to give it their consideration. In the present state of the roads it is only the productions that are grown on or near to the outer fringe of the country that can hope to reach the ports at prices that will pay for export. A man may grow rice, tea, tobacco, hemp, &c., in the rich land of the interior, where agricultural labour is cheap, at a slight cost; but, by the time he has conveyed such bulky produce to a market on the backs of ponies or bullocks, which form the only means of transport, the price often becomes too high to enable him to compete successfully with the same produce of other countries. It can scarcely be expected that Japan rice will ever compete extensively in the home markets with that of India, Burmah, or Saigon; but cheaper prices would encourage a considerable demand in Northern China, San Francisco, and Australia. Better communication with the Western coast—which could be easily supplied by continuing the railway from Kioto to Otz, on the Biwa Lake, a distance of ten miles, and by constructing a good ordinary road from Machara to Tsuruga, a distance of thirty miles—

would enable the rice, which is grown in great abundance on the West coast, to be brought at a much cheaper cost than at present from Niigata to Osaka. In Yezo, an island of 35,000 square miles, with a population little over 100,000, there are vast tracts of land untouched by spade or plough, which are as admirably suited to wheat cultivation as the Pacific slopes or the plains of South Australia. And even on the main island it is estimated that not more than a fourth part of the area has been brought under cultivation.

#### THE ART OF PUTTING THINGS.

Transatlantic journalists have a figurative way of putting things which is very unique and peculiarly American. Here are a few samples from *The New York Tribune*:

Two more Chicago banks have gone to find redemption in the bosom of financial Abraham. The Third National Bank and the Central National Bank are the defunct institutions.

Only a ripple, and scarcely that, to mark the spot where the Third National went down; and not a wave of trouble rolls across the peaceful breast of any other bank in town.

Let's lipilate! The officers of the Central National Bank signify a desire to treat all their customers alike, and accordingly invite them to call at the counter and get what is due to them.

A big haul! The Fishery Commission catches Uncle Sam on its little hook: five-and-a-half million dollars awarded to Canada yesterday, and fisherman's luck is to be paid for by one-third of the Geneva award.

The Senate Republicans and Democrats are engaged in mortal combat—they have locked horns, and propose to fight to the death.

Oh, it was pitiful! In a whole party full, friends he had none! Patterson, the traitor to his friends, brings his wife and children into the Senate to witness his vindication; but, instead, he is levelled with the dogs in the kennel.

Why, Sammy! Rumours are current that Tilden is to make another struggle for the Presidency; he hears a voice from Washington, calling "Samael," and answers "Here am I."

Idolatry indeed! The Fetish-worshippers of the House bend the knee before a paper deity!

A man overboard—if the wild winds and mad waves had wrecked his vessel he would have been a hero, but as the mainboom did the business he is only a floater.

A bright English mechanic, with speculation in his eye and invention in his brain, recently constructed an engine, the motive power of which was gunpowder. . . . The theory was beautiful, but as for the working of the model—well, the inventor left very suddenly when he put the machine in operation, and he has not yet returned.

SCARLET FEVER BY THE POST.—Dr. Cornell's Fox writes in *The Sanitary Record*:—"There can be no question in the mind of any one who has taken an interest in sanitary subjects but that scarlet fever poison is disseminated by letters, for proofs of this accident have been repeatedly afforded. The outbreak of this disease in a village post-office has presented itself to my notice on two occasions, and in both cases the disease has spread."

## CHAMBERS OF AGRICULTURE.

## NORFOLK.

The annual meeting of the Norfolk Chamber of Agriculture for the purpose of receiving the annual reports and appointing officers was held on Saturday, December 15th, at the Norfolk Hotel, Mr. R. T. Gardon in the chair.

After the annual report had been read and adopted, and the Analyst's report read, Mr. Gardon, on the motion of Mr. C. S. READ, M.P., seconded by Mr. EVERETT, was re-elected president.

On the motion of Mr. DELF, Mr. Grimmer was re-elected vice-president.

Mr. C. S. Read, M.P., the president, and Mr. H. Grimmer, were re-appointed delegates to the Central Chamber.

## CATTLE DISEASES.

Mr. READ, M.P., was anxious that before the meeting of Parliament petitions should be presented from this Chamber requesting the Government to pass at once into law the recommendations of the select committee as to cattle plague and the importation of live stock. The Central Chamber of Agriculture and the Farmers' Club had drawn up a form of petition, which might be adopted by this Chamber. But he would first ask whether the Chamber would prefer to discuss those recommendations at a future meeting. But he fancied that every member knew what those recommendations were; and whenever the Government brought in a bill, which the Prime Minister and the Lord President had promised to do, no doubt the Chamber would discuss it; consequently it seemed unnecessary to have two meetings, which might both be held within a month, to consider the same subject.

The CHAIRMAN said that the effect of the recommendations were that foreign cattle should be slaughtered at the ports of debarkation.

Mr. READ said the crucial point of the recommendations of the select committee was that all cattle from districts where cattle plague existed should be prohibited entering this country, and that all other stock should only be admitted into certain specified ports, and there be slaughtered, instead of being allowed to mix with the home stock. That was what they had said over and over again in that Chamber. If they had those stringent regulations for stopping the importation of foreign diseases the owners of stock must take precious good care when disease broke out in their neighbourhood to exterminate it as quickly as possible. Mr. Read then read a petition framed in support of the recommendations of the select committee. The select committee had, he said, been very much misrepresented, even by the London press, who certainly ought to have known better. There was recently a paragraph in *The Daily News* which said that this committee was largely composed of agricultural and Conservative members. Now as the committee was first placed before the House by the Government, there was a majority of four borough members against county members, whereupon he protested against that constitution of the committee, because a great number of those who represented boroughs might, perhaps, know that a Shorthorn was not a pig, but their knowledge of cattle must be very limited indeed. He thought it was just also that Ireland should be more fully represented, as its chief wealth was in cattle, and as it sent so many stock to this part of the world. The House called for a vote, 8,

3 from Ireland and 1 from Scotland, and 3 of these happened to be Liberals, and therefore as the committee was constituted in the end there were fourteen Liberals and thirteen Conservatives, and one of the Conservatives, being chairman, never voted. That gave the Liberals a majority of one. There were also fourteen borough members against thirteen county members, giving also a majority of one to the borough members, and in addition, the chairman, a county member, did not vote. Therefore, it was most unfortunate that they were always misrepresented. The paragraph went on to say that we must expect some protective policy to be revived. Even the daily paper which circulated in this district was good enough to demand that the Cobden Club should take up this question of Free Trade. Really that very well-informed and generally most fair and impartial paper seemed to have lost its senses for a moment—it was only one day, he was happy to say; it came back afterwards, and said something more to the point. But it lectured the Prime Minister for saying that he "should not consider the interests of agriculture apart from the general interests of all classes;" and upon that text was preached the sermon that we were going to revive protection for the benefit of the farmers and to the destruction, he supposed, of the import trade in cattle. Now he, for one, did not care how much meat the foreigner sent us. Of course he said that guardedly. He did not want them to beat them down so that the grazing stock would not pay; but he did say that if the Americans would send us meat there was no reason why there should be this traffic in live animals, which was so dangerous.

The CHAIRMAN did not agree with the idea that this question was one of politics. It was not in any degree one of Liberal or Conservative, but he was afraid that it was being made one of town against country. That was a very unfortunate thing indeed, because the towns were very strong and very active, and were very apt to get the best of the country if it came to a fight. But their great object was to show the towns that they did not wish the Prime Minister or any one else to consider the interests of agriculture apart from the general interests of all classes. They were endeavouring to protect the interests of the towns quite as much as their own. It was for the interests of the towns that there should be as much meat, and as good and cheap, as possible; and if they could prove to the townspeople the danger arising from the importation of live stock from foreign countries as diminishing the supply and, consequently, as increasing prices, they would be conferring upon them a benefit. However, in every way they ought to combat the assertion that they were working for the interests of the country as against those of the town. If that were so he would not be any party to it.

Mr. I. O. H. TAYLOR, as a citizen of Norwich, agreed with the observations made by the President. He felt greatly interested in the success of this measure, as he was convinced that by stopping the diseases a great benefit would be conferred upon the meat-eating working classes of the town.

Mr. R. SMITH proposed that the Chamber should depute the Chairman to sign the petition.

The CHAIRMAN then signed the petition at the unanimous request of the Chamber.

## NORTHAMPTONSHIRE.

## THE LABOUR QUESTION.

On Saturday, December 15, a meeting of this Chamber of Agriculture was held at the Corn Exchange, when the following paper on "The Labour Question in its Relation to Agriculture" was read by Mr. W. H. GARY, of Market Harborough:—

The subject I have selected for my address, "The Labour Question in its Relation to Agriculture," though somewhat different from those usually discussed here, is of such importance to the landed interest in all its branches at the present time that I shall plead no excuse for bringing it before this Chamber. To deal with it in its entirety on an occasion like this is impossible. I shall therefore take only the economical side of the subject, and even this more cursorily than I could have wished, but I desire to draw attention to some of the facts and laws on a consideration of which the solution of this most difficult question must depend, and then leave to others of greater practical experience than myself the application of them. The produce resulting from the cultivation of land may be divided into three parts—Rent; the profit of the capitalist, occupier, or farmer; and the wages of the labourer employed in cultivation. Of course, one person may take the whole of the produce if he cultivates his own land himself; but usually it is divided, as I have said, between the landlord, the farmer, and the labourer. It is commonly said that the interest of these three is identical, and it is so, as far as they all have an interest in getting the greatest possible amount of produce out of the land, but there the identity of interest ceases. Beyond this their interests are antagonistic, for it is the interest of each to get as large a share of the gross produce as they can, and the larger or smaller share each will have must depend upon the ordinary laws of supply and demand—*i. e.*, on the competition between the members of each class for what the other two classes contribute towards the production. Still, the less this natural antagonism is brought into play the better will it be for all parties. I said agricultural produce is usually divided into three parts, but it is not necessarily so. Agricultural produce is the result of the combined application of two forces—Capital and Labour—to what may be called the raw material—Land. The application of the same quantities of capital and labour to all the different kinds of land in the country will not produce the same results; some portions of land being more fertile or otherwise advantageous than others, will give back much greater returns to the capitalist and labourer. This fact is the origin of rent. True rent is that portion of the produce of unimproved land which the capitalist is willing to pay the owners of the most fertile and convenient lands for the advantages they offer in cultivation. Land, the market value of whose produce is no more than will pay the wages ordinarily paid to agricultural labourers, and the ordinary trading interest on the capital advanced as those wages, and in buying the instruments and seed necessary to produce a crop, will pay no rent. Such being the case, it will at once be seen that rent depends on the relative proportions existing between the current rate of interest on capital invested in trade; the current rate of wages paid to labourers; and the market value of the produce of the land. Such is rent in its simplest form—the price paid for the occupation of unimproved land. When land has been improved by the investment of capital in clearing, draining, &c., &c., the increased price paid for the occupation is not really rent, though it is commonly called so,

but interest on the capital advanced in the improvements. This interest, however, becomes practically a portion of the rent, as the capital is sunk in the land, and forms a component part of its value; it is liable, therefore, to the same contingencies as rent, and may, like it, be absorbed altogether should the current rate of interest on trading capital, and the current rate of wages, rise at a greater rate than the current market value of agricultural produce. Of course, these laws are subject to modifications in practice; as, for instance, farmers may be satisfied with less interest for their capital than other traders, and agricultural labourers with lower wages than others, in consequence of the more healthy and pleasant nature of their employment; but no modification of this kind affects the principle, that there can be no rent paid on the least fertile and least convenient lands in cultivation, and that the standard of such lands as can pay rent will rise in proportion as the amount of interest to be paid on the capital employed in cultivating them rises more rapidly than the market value of their produce—whether this increase of interest is dependent on a larger capital being required, or on the current rate of interest on trading capital ruling higher than before; and, as by far the larger part of the capital employed on arable lands is required to advance the wages of the labourers, and to pay for the machinery used in cultivating them—the chief cost of which machinery again is dependent on the wages paid to the mechanics who make it—it will at once be seen how intimately connected is rent with the price of labour generally, and especially of agricultural labour. Again, that portion of the produce which does not go to the landowner is divided between the farmer and the labourer; and the one or the other will get the larger share at any one time, according as, at that time, the number of agricultural labourers is greater or less in proportion to the capital employed in agriculture wherewith to pay them; and the number of labourers seeking for agricultural employment will depend on the competition of other capitalists with the farmer for their labour. These are truisms which probably no one will contradict. Let me, then, apply these laws to certain facts in the past and present history of agriculture; and see how they are likely to affect it in the future. To apprehend clearly the present position of the agricultural interest, we should go back to the end of the last century, to the period of the great Continental war. In 1799 the population of Great Britain was about 9½ millions, of whom the larger part were engaged in agriculture. In 1811 the number of the people had increased to 12½ millions, and 35 per cent. of the families in the country were employed in agriculture. In 1831 the population had increased to 16½ millions, but the families employed in agriculture were then only 23 per cent. This alteration will appear in a more striking point of view if a comparison be made of the increase of families in each class during the twenty years, 1811 to 1831. The increase in the number of families altogether was at the rate of 34 per cent.; the addition to those of the agricultural class was only 7 per cent. In the census of 1841 the occupations of the people were more particularly defined, and out of a population of 18½ millions, 4,490,783 were employed in agriculture; otherwise occupied 6,304,917—1 to 4½. In 1851 the number of persons employed in any way connected with agriculture was 1,928,796; in 1861, 1,833,295; in 1871, 1,634,192, whilst in manufactures, trades, and professions, the number was 8,830,291, or 1 in 7½. The decrease in agricultural labourers alone, from 1831 to

1871, was 101,000. Again, when Mr. Pitt brought forward his proposal for an income tax in 1798 his calculations were based on these estimates:—Rent of land, tenants' profits, tithes, &c., £54,000,000 per annum; profits of trades and professions, £44,000,000. In 1843 the actual annual value of rent and tithes assessed was about £47,000,000, to which may be added £22,000,000 for tenants' profits; total, 69,000,000, as compared with 1798. I have no account of the amount assessed on trades at this period, but Mr. Porter, in his "Progress of the Nation," calculates the personal property (exclusive of money in the public funds) to be about £1,500,000,000. Now, if we capitalise the trading income of £44,000,000 in 1798 at 15 per cent., *i.e.*, £300,000,000, we see what an immense increase in the capital, available for commerce, had occurred in the first half of this century. And the latest income tax returns published show how much more rapidly that increase has gone on since. In 1872 the total income tax paid on Schedule A, *i.e.*, all kinds of real property, houses, factories, warehouses, &c., as well as land, and Schedule B, was £3,681,380. Under Schedule D, the profits of trades, &c., it was £4,546,918. The average price of wheat for the first 20 years of this century was 86s. per quarter; from 1820 to 1830, 52s.; 1830 to 1840, 49s.; from 1840 to 1855 I have not the exact figures, but I think any gentleman who remembers will admit that they were not higher than the previous years; 1855 to 1860, 57s.; 1860 to 1865, 47s. 6d.; 1865 to 1870, 54s. 6d.; 1870 to 1875, 53s. 2d.; averaging, for the last 22 years, 53s. The average price of meat from 1801 to 1815 was 5s. 3d. per lb.; from 1816 to 1820 it sunk to 3s. 9d., and for the next 35 years the price kept low. From 1855 the price of meat has been slowly and gradually rising, till the average price of beef for the last six years is the same as that of the first 15—*viz.*, 5s. 3d. At Manchester, in 1810, the weekly wages of carpenters were 25s.; bricklayers, 22s. 6d.; masons, 22s.; tailors, 18s. 6d.; shoemakers, 16s.; hand-loom weavers, 16s. 3d.; labourers, 15s. About the same time the wages of agricultural labourers varied in different parts of the country from 8s. to 12s. per week, with more or less of perquisites. This money rate of wages in all branches of industry continued almost stationary for the first half of the century, but, in consequence of the fall in price of the prime necessaries of life, the real wages of labour were considerably increased. From 1810 to 1850 the ordinary rate of wages of colliers was from 3s. to 4s. per day; miners, 2s. 8d. to 3s.; engineers, 3s. to 4s.; blacksmiths, 3s. to 4s.; carpenters, 3s. to 3s. 6d.; labourers, 2s. to 2s. 6d. For the last few years the wages of mechanics, of all sorts, have been from 8d. to 9d. an hour, according to the nature of their employments and their situation in town or country; and the wages of agricultural labourers from 16s. to 20s., and often more if their earnings by piece work are taken into consideration. Since 1850, in consequence of the enormous stimulus given to commerce and manufactures by the gold discoveries in California and Australia, and the development of steam power, the accumulated wealth of the country has increased at a rate surprising even the dreams of economists a hundred years ago. And, whereas at that time the chief obstruction to the efforts of philanthropists to improve the condition of the lower classes was the tendency of the population to increase at a greater rate than the capital which was to find them employment during the last 25 years<sup>6</sup> the opposite condition has obtained, the capital invested in productive industry having nearly tripled, whilst the

increase of the whole population is only about 25 per cent. From these statistics it will be seen that the numbers of the agricultural labourers, in proportion to the rest of the people, have been declining throughout the century; that for the last sixty years the price of agricultural produce has ruled lower than it did at the beginning of the century, during part of the time much lower; that the wages of labour, especially of mechanics, have now for many years been rising; whilst during the whole of the century the capital employed in other branches of industry has increased much more rapidly than that employed in agriculture. The report of these changes has been that whereas at the beginning of the century the amount of capital and the number of labourers employed in agriculture were equal to, if not in excess of, the capital and labour employed in trade, and, consequently, that the ordinary rate of wages for all other employments was based on, and regulated by, that for the agricultural labourer, since 1815 these proportions have been gradually altering, slowly at first, but recently at a very rapid pace, so that instead of agricultural wages being the standard for wages in general, they have themselves become subject to regulation by the price paid for labour of a similar kind in a great variety of industries, and depend not on what the farmer can afford to pay out of his profits, but on profits of those industries which are competing with him for labour. Parallel with this condition of the labourers and the price of labour, the position of the farmer has also altered in many respects, not only as regards his own status as a capitalist, but also in his relation as such to other traders. For many years after 1815 the amount of capital required to stock a farm remained almost stationary, and although the price of agricultural produce fell considerably, and the money interest on this capital might be less, a variety of circumstances concurred to prevent this loss being as great, or as much felt, as the fall in prices would seem to warrant. Increased production, the result of improved cultivation, made up partly for reduced value of produce, and the general cheapening of articles of necessity and convenience made money go farther than before. Moreover, the agricultural interest has benefited, if not so much as the commercial classes, still very materially by the increased facility of locomotion, which the introduction of railways has brought about. The average prices of agricultural produce, as given in the Board of Trade returns, are taken from the prices in the markets of certain large towns, and, of course, include the cost of its conveyance to those markets. Though these published prices ruled low as compared with those of the earlier part of the century, the cost of conveyance was considerably lessened by the improved communication provided by better roads, canals, and latterly by the railroads; and the larger part of this saving has gone into the pockets of the farmer. In effect, improved communication, by enabling the produce of a much larger area of country to reach easily and cheaply the best markets has placed those districts in as favourable a position as that of the lands which were in the immediate neighbourhood of those markets before; and as, in general, rents have not been much raised, this advantage has to a certain extent, compensated for the tendency of the wages of labour in the country to assimilate themselves to the wages in towns. For the last few years, however, the benefit accruing to the farmer from this cause has been gradually coming to a standstill, prices being pretty well equalised through the country. So long as the two forces about balanced each other, the labourers were benefited without

loss to the farmer; but the sudden and great rise in wages brought about by the extraordinary impulse given to all kinds, of manufacturing industry on the cessation of the Franco-German War occurred without any equivalent improvement in the price of agricultural produce, and consequently was an uncompensated loss to the farmer. I have said that the increase in the gross produce of the land helped to make up for its reduced value; but the very means by which this increased production is brought about necessitate the use of a larger capital by the farmer, and his inducement to employ more capital must be the prospect of gaining the ordinary rate of interest on it. But the quantity of produce capable of being raised on any given piece of land is not indefinite, and after a certain, and not advanced, stage in the progress of agriculture it is the law of production from the land that every increase of produce is obtained by a more than proportional increase of expense, and therefore, to give the same interest on the fresh capital expended, the price of the gross produce raised must be higher than before its application. United competition from foreign countries checks this rise in prices, and the British farmer must be satisfied with less interest on his new capital, unless he can induce some one else to provide that part of it necessary for permanent improvements who will be satisfied with less than the ordinary trading profit. Now, the law of production I have just quoted does not apply to capital employed in other industries. In most, additional capital will produce equivalent additional profit; in many, even an increased profit. And whereas increased facilities of communication have somewhat improved the position of the farmer by opening to him new and better markets, it has done this, and more also, for other traders by enabling them to do either a larger business with the same capital or the same business with a smaller capital. In several respects, therefore, capital employed in agriculture is placed at a disadvantage compared with capital employed in trade; and at the present time there are so many causes for anxiety to a farmer in carrying on his business that I cannot see anything in his personal or social position to compensate for the economical disadvantages he labours under. By the ordinary laws of political economy capital is withdrawn from the least advantageous businesses, and if this state of things were to last much longer we should see the rents of inferior farms a great deal reduced, and probably the worst land now occupied go out of cultivation altogether. Such is a short and, I believe, true sketch of the economical history of agriculture during the present century, the shades of the picture becoming darker during the last few years. What, then, are the prospects for the future? I believe I may speak hopefully on this point. I think the climax of the revolution through which agriculture, in common with every other industry, is passing has been reached, and that soon we shall be in smooth water. The causes which have created this revolution cannot, from their very nature, be often, if ever, repeated. We cannot be always reconstructing our fiscal policy. It will probably be long, very long, before such an event as the Californian and Australian gold discoveries occurs again to disturb the financial condition of the world; and equally long, most likely, before a new motive power is found capable of effecting such a complete mechanical revolution as the use of steam has done. There will be sufficient occupation for the next few generations to develop and utilise these forces, and during this period the ordinary laws by which human progress is governed will re-assert themselves, and restore the normal equilibrium between capital and labour.

We need not expect the recurrence of such a hurricane of money-making, if I may use the illustration, as prevailed a few years ago, and which, by suddenly drawing an excessive amount of capital into industrial investments, unsettled and demoralised the labour market. The ordinary principles of population will quickly produce their natural effect, and provide a supply of labour sooner in excess, it is to be feared, than below the demand. Already something of the kind may be noticed. Wages, which in several branches of industry rose with unexampled rapidity, have fallen almost to their old rate, and although the consumption of coal and iron is considerably larger than it was ten years ago, there are numbers of the workmen engaged in those industries out of employment. I believe I am correct in saying farmers have had much less difficulty in procuring labourers this year than they had for four years previously, and the tone of the men is more subdued. The crisis is happily passing away, but it has not been altogether without its advantages in putting an end to a state of things which for some time has been decaying. The semi-feudal state of dependence between landlord and tenant, employer and employed, is gone, and the practice of independent contract between each of these parties will be substituted instead. The landlord will find his advantage in having a few large, wealthy, and independent tenants, instead of a number of small dependent ones, and looking on them as his partners in the cultivation of his property, in trusting them to use their ability and capital in the way they see best. A farm must be treated as a factory—made to produce the article which the state of the markets and the circumstances of the times show to be most profitable. And the farmer will be none the worse off in carrying out this method, because he has about him a staff of well-paid intelligent labourers, with whom he has to bargain for their services in the same way that he does with the corn or the cattle dealer. The gain to the labourers in this revolution no one can doubt. It will rest with themselves to determine whether the benefits they have received shall be permanent or not. But it is not by means of strikes or trades' unions they will be maintained. Industry, sobriety, frugality, and prudence with regard to early marriages, are their only natural safeguards. If ever again the supply of needy labourers overtakes the demand, no combination on their part can keep up wages, and then their last state will be worse than their first by the bitter sense of loss which will accompany it. There is, however, one unsatisfactory point at present, to which Mr. C. S. Read very forcibly, if not bitterly, alluded in an address he gave at the Farmers' Club last year—the falling off in the quantity and quality of the work done by the agricultural labourer. But I do not think this falling off is peculiar to them. I fear it must be admitted that handicraftsmen of all sorts are amenable to the same accusation. This general deterioration of work is due in a great measure to the excitement in the labour market I have mentioned, and in agriculture there is another special cause for it—the habit of the younger and abler portion of the rural population to seek other employments, leaving the old and feeble to work on the land. Agricultural wages have now reached such a standard as to make immigration a doubtful advantage from a pecuniary point of view; but the young rustic is stimulated with a desire after novelty, and the feverish gaiety of the town is a temptation too strong for his simple nature to resist, and lures him from his proper occupation. It is, however, essential to the welfare of agriculture to check this habit, and attract the best men to the

arm; and the only way I can see to counteract the evil influence is to offer, at least, equal inducements to remain. Rural life must be made pleasant and cheerful. The comforts of a light and roomy cottage, and the pleasures of a garden, will be the best antidote to the craving for the bustle and excitement of the town. The village library and the workman's club must be the rivals of the music-hall and theatre. The labourer's respect for his calling should be cultivated, and I believe the best way to produce this feeling is for his master to show that he has a respect for him. "A fair day's work for a fair day's wages" should be the maxim by which both are guided, and it should be understood when each has performed his part in this contract they stand on an equality. The labourer will learn that the produce of the land is the only source from which his wages can be paid, and, therefore, it is his interest to make that produce as great as possible by throwing his heart and energies into his work. The conduct complained of in the ignorant revenge of those who are smarting under a feeling of oppression, as trades' unions are the almost natural reaction from the state of dependence in which the labouring population have till lately existed. They have thrown off their dependence on their masters, and are not yet able to stand alone. They, therefore, seek in combination the strength they feel in need of, and give to the individual freedom of will they have not yet learnt to use for that of the multitude, moved and directed as it is by, too often, self-interested leaders. Time, education, and, above all, example by the master of dealing with his servant as an independent contractor will teach the labourer the weakness and futility of union control, and when once he has learnt that it is more in accordance with his manly dignity to make a bargain for himself, and having made a bargain, good or bad, honestly to fulfil it, he will scorn to submit his judgment or his work to the irresponsible orders of an agitator, and again, as in days of old, British workmanship will become the model for the rest of the world to imitate.

The CHAIRMAN: I understand it is the custom of this Chamber for an address to terminate with a substantive resolution. It is difficult to frame one on the subject I have brought before you, but to place myself in order I will move:—

"That this Chamber considers the labour question, in its relation to the future of agriculture, to be satisfactory."

Mr. R. G. SCRIVEN said he had great pleasure in seconding the resolution. He fully agreed with Mr. Gatty that the labour question was in a satisfactory state. They could all understand that the great impulse which was given to all trades three or four years ago did raise, for a time, the demand for labourers, and had its effect upon agriculture; but, as Mr. Gatty had pointed out, there was now no difficulty in getting labourers; indeed he was afraid there would be men standing about for want of work. He did not think, however, it was likely that the rise in wages would be lowered and he did not wish that it should be. They did not wish to see the labourers ground down to the last penny. He hoped the Chamber would agree with the resolution.

Mr. W. SAULL thought there was something rather indefinite in the resolution. He thanked Mr. Gatty for the paper he had written, but the resolution that the labour question was satisfactory he could not support, and he thought the figures which Mr. Gatty had given would hardly justify the conclusion at which he had arrived, and even if theoretically it was so he thought it was their duty to consider the question

practically. He did not doubt for one moment that the wages had risen; indeed, he considered that the advance had been too great, and had rendered it somewhat difficult for the farmer to pay the wages. Was the present state of agriculture sufficiently prosperous to justify the amount of wages now given? There was no question that the demand for labour had been great, but what had induced that demand? It had been that the prosperity of the commercial community had induced the better portion of the labourers to be extracted from the agricultural community, and they had left a number of men who looked merely to Saturday night, and did not consider the interests of the farmer, amongst whom dissatisfaction predominated, and whose work was of such a character as not to justify the amount that was paid for it. He was quite sure, from his little experience as a practical farmer, that circumstances were not in such a satisfactory state as predicted by Mr. Gatty. Again, there was another side to the question. The elements had been so much against the farmer that they had checked him in his crops; and whether he had had a return for the amount of capital expended was not a question, because it had been proved that he had not, and he was quite sure the question of labour must to some extent affect him, because, whatever might be the seasons, there were two people who must be paid—the landlord would receive his rent, and the labourer would receive his weekly wages. In conclusion, he reminded them that the discussions which took place in that Chamber were read by the labourers, who, if they believed that the farmers were satisfied with the money they were giving would believe that they could afford to give more.

Mr. BERRY (Stanton) said he did not agree with all Mr. Saull had stated, but agreed with Mr. Gatty that the labour question, in its relation to agriculture, was in a satisfactory state. At the same time he thought there was something else which should be added to the resolution. The expenses on ploughed land, owing to the increased cost of labour, had greatly increased, and if they could get that in some way combined with the resolution, he thought they might come to a definite point satisfactory to the farmer. Within the last five or six years the price of labour had increased 25 per cent. The cost of labour per acre was now 45s., being an increase of 11s. 3d. per acre. Then there were the increased taxes. Within the last ten years his taxes had increased from 2s. 6d. to nearly 5s. per acre, being an increase of 2s. 6d. on his land. The tradesmen's bills had also increased from 3s. to 5s. per acre. Thus there was an increase of 15s. 9d. per acre on the ploughed land, and the question in his mind was, where was this 15s. 9d. per acre to come from? Further, in his opinion, the rents during the last 10 or 15 years had increased 25 or 30 per cent., so that the expenses during the last few years had increased £1 per acre. He had gone through his books for the last four or five years, and found that his ploughed land cost him £3 2s. per acre, and his produce did not amount to £7 10s. per acre, so that there was a loss of 12s. per acre. He should, therefore, suggest that something be added to the resolution recommending that a reduction of 25 per cent. be made on the rent of the ploughed lands, in order to meet the present disadvantageous times, and he was sure, under more prosperous circumstances, the farmers would be quite willing to add the 25 per cent. to the rents again.

Mr. J. M. VERNON thought they had wandered beyond the subject. He should have been very glad if it had been further extended, so that one might have had an opportunity of ex-

pressing an opinion with reference to it, but at present, if he understood the question correctly, it was whether they were satisfied with the existing state of the agricultural labour market, and he thought they were bound to that simple question. He believed that the labourers, at the present time, were a more thinking class of people than they had been since he had had a knowledge of men and things, and he was now more convinced than ever that there was no disposition on their part to go rushing into a mad enthusiasm supposing the tenant farmers could give almost anything in the shape of wages. The farmers were willing to give them all they could afford in proportion to the return they received, and he trusted that the kindly feeling which had grown up would continue and increase. At present they were giving all that they possibly could give to the labourer for his labour, and he believed the labourer was much better satisfied than he had been for many years past.

The Rev. W. Bury said that he did not at present think that the labour question in its relation to agriculture was satisfactory, and he should like to know to whom Mr. Gatty thought it was satisfactory? He trusted not to the labourer, from what he read in *The Labourers' Chronicle* every week. He was quite sure it was not satisfactory to the farmer, from what he had heard in that room, and he was quite sure it was not satisfactory to the parson or the public at large. He knew very little about farming, but he was convinced there was one blot upon the labour question in its relation to agriculture, and that was the present system of out-door relief, and he was going to make an amendment to the effect, "That so long as the present system of out-door relief continues, the labour question in its relation to agriculture never can be satisfactory to the labourer, the farmer, or the community at large." It could not be satisfactory to the labourer, because it was impossible a man could be satisfied when he was told that the ordinary accidents could not be met out of his wages, and he was obliged to go to the Guardians for his doctor, and for everything that was not absolutely a necessity of life. It seemed to him the most humiliating thing possible for any branch of a trade to say that it could not pay the men it employed sufficient to meet the accidents of life without taking from other people's pockets.

Mr. E. K. FISHER said Mr. Bury had asked him to second his amendment, but he did not do it on that account, because he should never express sentiments to please anyone if he did not agree with them. He could not say that he quite agreed with Mr. Bury in the amendment he had proposed, but he hoped to see the day when the substance of it might be admitted. He did not think, considering that the present race of agricultural labourers had been educated under the present system of out-door relief, that they could take away from them, and without notice, what they looked upon as some sort of resource for their old age. At the same time he did not think he should be gratified in letting the matter drop without seconding the amendment, but he hoped in future they would see such a system of frugality and independence exerted by the poor which would allow them to dispense altogether with the out-door relief. There was one observation which fell from Mr. Berry, of Stanion, to which he would refer. He did not like it to go forth as an accredited fact that the rent of land had been raised within the last five or six years to the extent of 20 or 25 per cent. He had had a little experience in this matter, and his observations had extended over a much larger area, and he did not believe, so far as these Midland

Counties were concerned, that the rent of agricultural land had increased at all within the last five years.—(Mr. Berry: I said ten to fifteen years.)—Well, as to that, there had in later times, been going on a continued reduction in the rent of land which had brought, or was bringing, the average rent to the condition it was ten or fifteen years ago. But he contended, they ought now to consider this question, and that was really the important point before them now, whether they, as farmers, could afford to pay the present rate for labour; if not, whether they could expect the rate of labour would be lowered, and if they could not expect it to be lowered, in what way they were to meet the deficiency. He did not hope to look forward to any great reduction in the present rate of wages, and he did not hope to see it, because he believed there was nothing more demoralising than wages upon which men could not live. He thought the present rate of wages, however difficult they (the farmers) might find it to procure the money, was not more than it was necessary for the labourer and his wife to support themselves and their families upon. Therefore, he thought they must look for economy in the methods of cultivation, and that could be found first of all in the introduction of good machinery that would do the work, and secondly, in the improvement of the labourer himself, because the intelligent labourer must always be worth more than the stupid one. Then there was the influence of education upon the agricultural labourer. The present tendency of education, he believed, was to elevate the sharper children of parents engaged in agricultural pursuits, and to induce them to look to becoming something higher than agricultural labourers. He thought the question which would cause a great deal of consideration in future would be how far they would be able to maintain the position of the agricultural labourer when the article they were having to deal with was having its best blood taken from it and drawn into the towns and manufacturing. That placed them in a very disagreeable position, because they had to pay the higher price, which they were satisfied to pay for the good article, for the stupid members of the families of the agricultural labourers. As he had said before, this was a thing which would find its own level; the manufacturers' clerk market, the railway clerk market, and the railway porter market would be overdone, consequently there would not be that tendency for the clever boys of agricultural labourers to go into the towns, and it would devolve upon the farmers to provide some inducements to those persons to remain at home. They must try to encourage habits of sobriety, steadiness, and frugality in the labourers, and try to originate some system of insurance which would prevent them in the future becoming a burden upon the rates—which would induce them to look forward to future independence instead of future dependence.

The Rev. W. BURY said he fully agreed with all Mr. Fisher had said. He knew it would be unjust to do away with out-door relief at once. The labourers had come to look upon the relief as the crutches on which they could depend, and he simply said their state could never be satisfactory till they could take away the crutches and the labourer could walk without them.

After a little further discussion, Mr. BURY replied to the various speakers, and the amendment was put. Only four hands were held up in its favour, and it was, consequently lost.

On the motion of Mr. SAULL, seconded by Mr. CHITTLE, the further discussion of the question was adjourned until the next meeting of the Council.

## FARMERS' CLUBS.

## CROYDON.

## MEADOW AND PASTURE LANDS.

A meeting of the Croydon Farmers' Club was held at Croydon, on Thursday, Dec. 20th, to hear and discuss a paper by Dr. SHORTHOUSE on "Meadow and Pasture Lands—Their Renovation and Repair." Mr. R. Fuller presided.

Among other suggestions which the paper contained was one for the use of petroleum for steeping seeds before sowing, the Doctor having learnt by experiment as well as from other sources that this would effectually prevent the rooks from walking off with the seed. With regard to flowering-plants and fruit trees, he suggested a reason why it is so difficult to keep up successive crops of them. He attributed this difficulty to bees and butterflies, by whose agency the pollen of one plant gets mixed up with that of another. As an instance of this he remarked that in the neighbourhood of Carshalton, where much lavender is grown, other plants frequently smell strongly of lavender. His suggestion to all owners of large areas of such plants or trees was that they put a number of beehives in their fields for the bees to deposit their honey there instead of going further a-field. As for the butterflies he recommended that a lot of nice girls should be set to catch them. On the more serious subject of the renovation and repair of pasture lands, the Doctor came down very strongly on those owners and occupiers who did not take proper pains to keep under the growth of weeds on their land, mentioning the estate of the Earl of Egmont at Baunstead as an instance of deterioration in value through such negligence during the lifetime of the late Earl. He took the liberty of parodying a couplet of Goldsmith's, as follows:—

"Ill fares the land, to hast'ning ills a prey,  
Where weeds accumulate and plants decay."

He advocated breaking up the land in cases where weeds grew in such force as in some places which he knew in the neighbourhood. He advised farmers to spend a little time in the study of botany, which would better enable them to protect themselves against imposition in the purchase and use of seeds, manure, &c. On the subject of manures, he said he believed fish to be the best, and he was surprised that in places where it was very cheap—and could even be obtained sometimes for the fetching—farmers set no store by it. The only objections that he knew of were—first, its fearful stench, which prevented its use very near towns or villages; and, secondly, the extreme fondness of rooks for this particular kind of manure. He remembered the case of a farmer not far who bought several trucks of fish manure very cheap, which came by rail to Sutton-station, where the stench was so fearful that before he could fete it away he was threatened with an action, passengers being unable to use the station, and when he got it on his land the rooks descended in thousands, and feasted on it with such gusto that a gun fired close by made very little impression on them!

After the reading of the paper, the CHAIRMAN having invited questions or discussion,

Dr. SHORTHOUSE said, in answer to Mr. Edwards and Mr. Smith, that mistletoe and similar plants were parasites, and would never grow on perfectly sound trees, rottenness being essential to their existence.

Mr. BROWN asked whether petroleum could be applied to corn as a dressing, to keep birds from interfering with it. He had tried it with peas, and found it answered the purpose. He believed in dressing almost everything.

Mr. S. WALKER said he was not so much troubled by birds as by fly, and he asked whether the petroleum dressing would keep the fly off turnips and other young crops? If so, it would be a very valuable thing.

Mr. FOX said he was about to ask the same question, and he also wanted to ask Dr. Shorthouse whether he would mow or feed a field the first year after laying it down for pasture?

Another gentleman said he had not tried petroleum, but he had tried a mixture of assafetida and lime, and never had a crop disturbed so little as when he used that.

Mr. HORSLEY did not quite agree with Dr. Shorthouse's suggestion that a meadow should be ploughed up to renovate it. It would depend a good deal on the soil. Generally, if some good heavy arrows were put on, and small renovating seeds sown, procured from men who had studied the thing and knew what would suit, he thought it would be found better than following the Doctor's suggestion. As to dressing, he had tried carbolic dressing this year, but could not yet speak positively of the result; he was, however, favourably impressed.

Mr. M. WALKER said he had used the refuse of his farm for years as a dressing for poor land, and by that means had got a piece of poor land on a hill into such a state that it was better land than what he paid £3 an acre for. Their machinery blew the dust and wee s out of the chaff, and the refuse was kept in certain receptacles, from which they took it about every other year, and put on about 12 loads to the acre. Road scrapings would do for grass land.

Dr. SHORTHOUSE said he had mentioned road scrapings.

Mr. FOX said road scrapings mixed with lime would do well. He wished to ask if the Doctor thought sorrel and brakes could be got rid of without breaking up the land. He agreed with Mr. Horsley that it was often better to renovate grass land than to plough it up.

Mr. STACEY wished to tender his thanks for the Doctor's very valuable paper. The subject was important not only because of the bad management now general, but because many pieces of land now tilled must eventually be laid down for grass. He thought that even poor grass land might be renovated without being broken up. No doubt there were some weeds which could not be got rid of except by digging them out, but he had seen pieces of land—and there was one down the Brighton-road, near the Boneman's-place, which had been reclaimed by the use of manure alone, having been formerly entirely overgrown with useless weeds, but had become a very fair piece of grass land.

Mr. SMITH thought it a most unprofitable thing to lay down heavy clay land for grass. If it were drained and then ploughed it would be found to contain such constituents that wheat might be grown year after year on it without exhaustion, as had been shown by Messrs. Fowler in their cultivation of deep clays with draining. Such land could not be profitable till drained, but after that the best thing was to sow it with corn crops, with pulse occasionally.



The CHAIRMAN said that like Mr. Stacey he should be sorry to allow an opportunity to pass without rendering his best thanks to the Doctor for bringing the subject forward. Not only was it a very highly important one, but it came at a most opportune time, when agriculturists in general had had to struggle as they had not for many years before, having had three very unprofitable seasons, while the price of corn had not been very remunerative. They were finding out that on some lands corn was no longer remunerative. He thought that if they ploughed up a pasture, that was an eradication—not a renovation. On the breaking up of pasture generally—which was a point more for a lawyer than a farmer, though it might be useful for valuers and surveyors to consider it—he agreed with Mr. Horsley and Mr. Fox that it was not the readiest way to produce good pastures. His impression was that they should be strongly scarified, to just such an extent as might appear necessary so as not to destroy the sward, and afterwards renovated with grass suited to the soil, and dressed with such manures as were calculated to make it grow. About 20 years ago he introduced the question of the propriety of laying down heavy lands for pasture on these hills. It occurred to him about that time that when the land required anything like four horses to plough it, the best thing was to lay it down for pasture. He differed from Mr. Smith, and would mention that he knew an instance, in the parish of Cudham, on land belonging to Mr. Moxon, where some land was laid down for pasture about the time he had alluded to, and he was prepared to say now, without fear of contradiction by anyone, that it was better worth 50s. per acre than the land round it not laid down for pasture was worth 12s. A tenant farmer lately told him of a field which he laid down for grass about ten years ago, in the parish of Burstow, without any conditions about being paid for it. The landlord required the land for his own purposes this year, but the tenant, before going out, had the good sense and good feeling to say “I can’t stick the plough into that beautiful piece of pasture that I created; I’ll leave it to him.” And the landlord acted very well, making him a present in consideration of it.

Mr. SMITH.—Was it drained first?

The CHAIRMAN thought it was not. The draining was just the same there as on the other parts of the farm, but he could never get it the right way upwards till he got a green sward on the top of it.

Mr. STACEY thought most of the land in that neighbourhood was drained.

The CHAIRMAN wished not to be misunderstood. He was not blind to the importance of draining. He did not say the land would not be better for draining, whether arable or pasture. As to the use of petroleum in the way mentioned by the Doctor, he had lately heard of a tenant farmer who took the same means to secure himself from injury by pheasants. He should be glad to hear Mr. Smith’s reason for advocating the growth of corn on heavy clay land. He confessed that he had had difficulty in believing lighter lands could be more profitably laid down for grass, as a good sward could seldom be kept on them in the summer. But they might see that in the headlands, where the grass had an opportunity of growing, it usually sprang up there, and sometimes to a considerable extent. He happened to be born on the farm now occupied by Mr. Walker, where his (the speaker’s) relatives farmed for 100 years, and he could quite endorse what Mr. Walker said about the piece of land which used to be ploughed with four or six horses before he got there and turned it into grass. In answer

to Mr. Fox’s question whether newly-laid grass-land should be fed or mown, he should say “mown.”

Mr. SMITH still adhered to his opinion, and referred to the experience of a friend of his in Herefordshire, where the land was heavy clay, and all his grass land was not worth  $\frac{1}{2}$ d. an acre. The chief farming there was sheep farming, but sheep could not be folded on that land without getting foot-rot and all sorts of things. The owner had built a magnificent mansion there, though if he had spent the money on improving his land which he spent on his house he probably need not have let his land at all. His friend thoroughly drained three fields, two of which he ploughed, and put one down for pasture, and though he had no steam cultivation he could grow wheat and beans year after year, on the first two fields. Some one had said that turnips would grow on a deal board, with proper manures, but he would not farm any soil without having it drained first—he’d see the landlord hanged first. He wanted it drained, and then to nip it up about 12 inches deep.

Dr. SEORTEHOUSE, replying to the questions that had been put, said the cost of dressing an acre of corn with petroleum would, of course, be much more than that of an acre of turnips. Another point in connection with this was the length of the time the seed would be in the ground before germinating. In the case of corn sown in winter and laying some time in the earth, a good deal of the taste and scent of the petroleum might be lost. It was really amusing to see birds spit out the seeds if they got any in their mouths which had got a share of the petroleum. He should have no compunction about breaking up a piece of ground so worthless as some he had mentioned. Cattle might as well be turned on a turnpike road. Sorrel must be ploughed out or scarified very deep; it could not be got rid of in any other way. In draining land the maiden soil is acted upon, no roots having before been able to penetrate it; and this accounts for its productiveness. Therefore, he always advocated draining land.

## NEWCASTLE.

### THE USE OF ARTIFICIAL FOOD.

At the last meeting of this Club Mr. HALL read the following paper:—

Last year I had the honour to read a paper here on “Grazing Farms and their Management.” I intended on that occasion to have offered a few remarks on the use of artificial feeding stuffs. I was, however, unable to do so, and I think it was well, as since then I have looked more carefully into the subject, and have made some experiments which I hope may prove interesting. It is remarkable that, notwithstanding the immense quantities of artificial feeding stuffs used in this country by practical farmers, very few indeed can make up their minds to say positively that they pay. Nor is this state of affairs much to be wondered at; for, however difficult it may be to say that they do pay, it must be much more difficult to say that they do not. There is only one point against them, but it is an important one, viz., expense, whilst in their favour there are at least three strong points. By the judicious use of artificial feeding stuffs more beef and mutton can be produced on a given quantity of land, and in less time than without them. The quality of the produce is better. Their manurial value is very considerable. I may here state, gentlemen, that my remarks apply solely to their use on grazing farms. Let us look at the extra quantity of stock that can be fattened on grass when supplemented by meal or cake. It would be rather

perhaps, to state precisely how many more cattle could be fattened on a certain portion of land with cake than without it. I should say, however, that where four could be fattened on grass alone five would fatten on the same area with an addition of four or five pounds of cake or meal each per day. Suppose we take a small park that would feed four heifers of 15 stones weight in nine weeks. Allowing them to be in good condition when put into this park, they ought to leave the graziers, say £4 per head without any artificial feeding. Instead of putting in four, suppose we put in five, and give them each cake or meal of the value of 3s. per week, or a total of 27s. per head for nine weeks, we then have four cattle, leaving £16 without extra food; five cattle, leaving £20 with extra food. We have the five heifers costing a total of £6 15s. for extra food. But the extra animal returns £4 of this sum, and allowing the beef to be 3d. per stone better quality than that of the purely grass fed ones, we have 11s. 3d. per head, or £2 16s. 3d., to add to the £4, which pays for the whole of the cake; and the grazier has the benefit of the extra quality and quantity of manure produced by the consumption of the cake. I have no doubt that many farmers will say that these calculations are all very well upon paper, but that they are not true. I believe, gentlemen, that I have not been extravagant in this calculation; in fact, the profit of the grazier would in all probability be much greater than I have stated. The cattle would be fat much sooner when fed with cake, and we must remember that short keep on good land is a matter of much importance. Then there are certain seasons of the year when the price of fat stock is much higher than at others. The artificial feeder has a better chance of having his stock ready for these markets than the farmer who does not use extra food. The manure made by artificially fed cattle is of considerably more value than that made by cattle fed on grass alone. In order to ascertain as nearly as possible the relative values of these manures, I had specimens of each analysed by the excellent analyst to this Club, Mr. Pattinson. This gentleman sent me a very exact and, I should say, very accurate analysis. He found that the dung of cattle fed on grass alone contained water, 89.15 per cent.; organic matter, 8.61; ash, 2.24; whilst the dung of cattle fed on grass, and supplemented with about 5lb. of linseed cake, cotton cake, and pea meal, mixed, contained—water, 87.34 per cent.; organic matter, 9.42; ash, 3.24; or 1.81 per cent. less water, .81 per cent. more organic matter, 1 per cent. more ash than the dung of the wholly grass fed ones. The organic matter in the dung of the unsupplemented ones contained—nitrogen, .30 per cent., equal to ammonia .36; whilst in the dung of the supplemented ones it contained, nitrogen, .37, equal to ammonia .45. The ash in the dung of the unsupplemented ones contained, potash, .15; phosphoric acid, .23. In the dung of the supplemented ones it contained, potash, .12, or rather less than the other; phosphoric acid, .40, or nearly double the other; equal to tribasic phosphate of lime in each respectively .61 and .87; whilst the siliceous matter in each amounted respectively to 1.14 and 2 per cent. It is clear from this analysis that the fertilising agents, ammonia and phosphate of lime, are much more strongly represented in the dung of caked cattle than in that of purely grass-fed ones. Phosphate of lime is especially present in greater quantity. Any one who has noticed the effects of artificial feeding on grass must have observed that the pasture bears a marked change. In fact no one seems to doubt this. I am convinced that after caking cattle upon land for several years consecutively the manurial value becomes barely appreciable. Having noticed this for

some time, I this year caused a very small quantity of nitrate of soda to be sown on a place where the cake troughs had been standing. I assure you, gentlemen, that the effect of this was marvellous. The grass grew up with such freshness and vigour as I have never seen equalled by any top-dressing. The droppings of cake-fed cattle cause a great change on the grasses of our pastures, having much the same effect as a top-dressing with bones. Although I observe this difference: that whereas bones cause clover to grow in great abundance, the droppings of artificially-fed cattle have a tendency to develop other grasses, such as cock-foot. I firmly believe, also, that cattle and sheep fatten much more quickly on pastures where cake has been consumed, or which have been top-dressed with bones or nitrate, as their food by that means is much more highly nitrogenised. To say that the use of artificial feeding stuffs is at all times remunerative would be simply absurd, for there can be no doubt that there are very many cases in which they do not pay. In fact, to make them pay much care and calculation must be exercised. I believe that it is not profitable to begin to give cake to very lean cattle on grass, nor almost under any circumstances to commence its use for a lengthened period. For we must ever keep the fact before us that it is a very expensive business. I fancy that artificial feeding pays best when a farmer has a lot of cattle in very good condition, and wishes to have them fat as quickly as possible. It not infrequently happens, also, that certain fields will make cattle nearly fat, but not of sufficient quality to command the best price. In a case of this kind a little cake for about eight weeks, to finish them, as it is called, will almost invariably pay extremely well. I think it is a good plan to use cake in certain fields, always having in these fields cattle in good condition; and, as they become fat and get disposed of, to put in their places cattle from other fields where cake has not been used. These again are finished, and their places taken as before. Thus the farmer works his cattle away, always bringing them forward to better keep. The cake troughs can be removed from one field to another, as is deemed best, and the improved manure is thus more evenly deposited over the farm. It ought also to be noticed that cake should be consumed in dry fields, so that the manure may not be washed away. But to lay down hard and fast rules, stating under what circumstances artificial feeding will pay, and when it will not, would be a task which I presume few men would undertake. I have seen many instances where it has been done most successfully. I have also seen instances where the reverse has been the case; but I have never seen it, in my opinion, judiciously used where it has failed. How often have we heard it stated, gentlemen, that the men who have made most money by farming never bought a hundredweight of cake in their lives. This may be very true. But we must remember that there are psychological questions connected with the making of money distinct from the mere qualification of a farmer. It might perhaps be expected that in this paper I should say something about the different kinds of feeding stuffs. I shall not, however, attempt to notice them all. The principal kinds of feeding stuffs used on grazing farms are linseed cake, cotton cake, rape cake, and meal. The first-mentioned of these is undoubtedly the greatest fat-producing agent used by the farmer, and is, perhaps, more extensively used than any kind of manufactured food. Cotton cake, also, when of good quality and judiciously used, is an excellent feeding stuff. In fact, I believe that a mixture of pure linseed cake and cotton cake, in equal proportions, is the very best

food for cattle on grass. Decorticated cotton cake is very highly spoken of, and justly so, as it contains about eighteen per cent. less woody fibre than the non-decorticated, and about double the quantity of nitrogen and flesh-forming principles. The analysis of rape cake is very much like that of linseed cake; but neither its taste nor its smell seem to be relished by cattle. Sheep, however, are rather fond of it, and do well with it. Pea meal and bean meal possess about the same flesh-forming qualities as linseed cake: of the two I prefer bean meal, as it is rather healthier for stock. It is a matter of much importance to procure feeding stuffs of good quality, as there is sometimes a very great amount of adulteration practised in their manufacture. In the manufacture of cotton cake it is especially desirable that the whole of the cotton fibre should be removed from the seed, as it causes the cake to be extremely indigestible, and consequently most injurious to the health of the stock. The best way of supplying cake or meal to cattle on grass is to give them it in small troughs—one trough to each animal. These troughs ought occasionally to be removed from one part of the field to another. I might state that earthenware and wooden troughs are mostly used; but both of these are easily broken and damaged. I have had a quantity made of sheet iron, which are clean, light, and cannot be broken. I do not think, Mr. Chairman and gentlemen, that I can say very much more about artificial feeding. One thing, however, is clear, and that is that the landed proprietor as well as the farmer is benefited to no small extent by having artificial feeding stuffs consumed on his lands. A farm where such feeding has been conducted during a lease must be worth a much higher rent than one where it has not. But I now approach dangerous ground, and must leave the vexed question of unexhausted improvements to be settled by wiser heads than mine. I may, however, be allowed to say that the farmer who enriches the lands of another deserves more liberal treatment than he who leaves them as he got them, or a shade worse. When judiciously conducted artificial feeding will pay the farmer handsomely; but, whether judiciously conducted or not, it will at all times benefit the land, and, as a matter of course, the landed proprietor. Let the farmer then exercise his judgment as well as his purse when he dispenses their oil-cake to his beesves, and to such a one let the landowner exercise his benevolence.

Mr. WALLACE (Trench Hall) said every farmer in the district would admit that the question of artificial feeding stuffs was of great importance, more particularly at the present time, when there was a failure in the turnip crop, and when there was so much competition brought to bear upon British farmers from abroad, rendering it necessary that they should do all they could in connection with feeding stock in this country. He had had only one year's experience of the use of artificial feeding stuffs. This year he had added a quantity of cake or meal to some land which was not equal to topping off or finishing cattle, and in a money point of view that expenditure had been profitable; and he was certain he would get a considerable remuneration in the manurial value of the cake consumed. They must look at the money they would gain from the cattle by the use of artificial feeding stuffs in the first instance, and then at the increased value of the manure made. He next spoke of the great value of manure made in cattle boxes over that made in foldyards, and said that if every farmer knew the great difference in the value they would petition landlords to have boxes. This year a portion of a field of turnips at Ravensworth was finished off with box manure, and the tur-

nips in that part were superior to those in other portions of the field. In the county of Durham and in many parts of Northumberland a great quantity of manure was washed away from foldyards into drains and ditches. All the useful ingredients of the manure were washed away in foldyards, whilst in cattle boxes the manure was under cover the whole time, and all the valuable properties were saved, and could be carted on to the land. He only wished he, as an agent, had means at his command, and then, with the assistance of farmers, there would not be many open foldyards.

The SECRETARY (Mr. Thomas Bell, Hildley Hall) said Mr. Hall had given them an analysis of the composition of the manures, and it would be well to know the money value of the manures. In a paper written by Dr. Voelcker it was stated that the money value of the manure from one ton of linseed cake was £4 12s. 6d.; decorticated cotton cake, £3 10s.; undecorticated cotton cake, £3 8s. 6d.; rape cake, £4 13s. 6d.; and barley meal, £1 10s. In buying and using artificial foods there was no doubt they often lost sight of the value of the manure. They got payment in the money returned from the cattle sold at once; but if Dr. Voelcker's figures were correct, it would be apparent to everybody that they also got a very large profit from using artificial foods in the value of the manure made.

Mr. ADAM TINDALL (Newcastle) said no subject ought to occupy the attention of farmers more than the feeding of stock. The question introduced by Mr. Wallace was most important. The difference between manure made in covered yards and open yards was incredible. In open foldyards the manure was exposed to the atmosphere, and—this was a great discredit to the landlord—in nine cases out of ten the manure was drowned in water, and the best part washed away by rain. If they had manure made in covered folds they would require less artificial manure.

Mr. ROBERT BELL (Town Hall Buildings) said that in using artificial food there was no doubt they were not to expect all the profit out of the cattle themselves, but also out of the improved condition in which the land was left, which enabled farmers to realise greater advantages. By using artificial foods of the right kind they could feed off double the quantity of stock they could without it; and that was a point to be considered in these hard times. As to cotton cake, he did not now believe in the difference between decorticated and undecorticated cake, for the machinery was now so complete that he believed cotton cake could be made undecorticated without fibre in it.

Mr. BRYDON (Seaham) recommended the use of Indian meal for feeding cattle, along with cotton cake.

Mr. HENDERSON (Horsley Hill, South Shields) did not think Mr. Hall had told them anything new; but, considering the deficient turnip crop, a paper like this would remind farmers how they might feed their stock during the winter. Mr. Wallace had told them of the results upon a crop of turnips manure taken from boxes; but his experience was that they wanted manure well decomposed for turnips.

Mr. WALLACE said manure could be turned over and over in boxes and become decomposed. He did not lead the manure fresh from the boxes. Manure kept in boxes, and not washed by rain, was worth twice as much as manure that was kept in the open yard, and had all the good properties washed out.

The SECRETARY said that Dr. Voelcker stated one ton of rotten farmyard manure contained a money value of 15s. 4d., and of fresh farmyard manure 15s. 7½d.

## STOWMARKET AND CENTRAL SUFFOLK.

On Thursday, Dec. 18th, at the monthly meeting of the above Club, Dr. Taylor, F.G.S., Curator of the Ipswich Museum, delivered an able lecture on "Soils, their Origin, Decay, and Renovation." The chair was taken by Mr. H. A. Oakes, one of the vice-presidents of the Club.

Dr. TAYLOR, observing that he thought the subject of soils still open to further remarks, more especially from the direction in which he should principally treat it, said the term soil was one which was employed very loosely for the upper and looser coverings of the dry land all over the earth. With the exception of such words as light, heavy, marly, and so on, no other qualification was employed in speaking of different soils. This was unfortunate, because soils differed from each other in a very marked degree. As a rule, soils may be regarded as being derived by weather action from the underlying rocks, but in the Eastern Counties, as well as a larger area of Midland and Northern England, we were favoured by having extensive sheets of materials not derived immediately from the underlying rocks, but brought from a distance, these beds of sand, gravel, and clay being called the drift beds. They had been formed in a great measure by the breaking up and re-depositing of rocks of different geological ages and chemical constituents. Consequently, the soils derived from the weathering of the boulder clays, or formed by their washing along the slopes of valleys, were likely to be richer than soils derived immediately from the weathering of some homogeneous kind of rock, such as granite, sandstone, or limestone. The agricultural success of the Eastern Counties was, perhaps, chiefly due to this peculiarity in the soil. Some rocks weathered into better soils than others, although it should be remembered that we spoke of soil as good and bad according to whether it would grow the crops which we required, without respect to its chemical compositions. Rocks, according to their degree of hardness, weathered at a different percentage. Thus, over hard slate rocks there would be found in the absence of the drift beds very little soil, and as these slate rocks usually formed hilly districts, owing to their superior hardness, and the slope of the ground was greater, the weathering of the rock into fixed soil was prevented by its being washed. If not carried down by rivers, it might possibly be washed into valleys among the hills, where rich, alluvial soil would be met with. In other places it was found that granite weathered into a loose, fine, white-coloured soil, but usually very poor for almost all the purposes of vegetable growth, notwithstanding that it contained some very valuable constituents, such as potash, soda, and alumina, derived from the decomposition of its felspar. The materials of the new red sandstone formation weathered immediately, and formed rich surface and subsoils. The hard sandstone of the coal measures weathered comparatively little, but the shales associated with it weathered more rapidly. Among the various geological formations we meet with thick deposits of clay—either in the condition of shales or of the firm clay known in Essex as London clay. These beds of clay cropped out in different parts of Great Britain, as, for instance, the Oxford clay in the fen districts, the London clay in Essex, or the Kimmeridge clay in the fens of Lincolnshire. These clays weathered into stiff soils and subsoils when uncovered by drifts, and although they contained rich materials, their mechanical condition, perhaps, did not allow plants to absorb these materials as readily as they might. The mechanical

condition of soils, Dr. Taylor said, was quite as important a consideration as regards their utility to plants as their chemical constituents. When soils were broken up from their stiff clayey condition in which they occurred over the areas he had mentioned, so that the atmosphere as well as water could find its way through the interstices, such soils proved good cereal soils, but if they were not so treated they would have to be left alone as pasture lands—an adaptation which, perhaps, involved less labour, owing to the readiness with which these clays retained the moisture necessary for the growth of grasses. Deep draining was always required in these subclay soils. Then, again, the colour of a soil was of no mean importance. It was found that dark soils were physically acted upon by heat, and even light, more powerfully than the white or light-coloured soils, which reflected both. Hence, the germination of seed would be quicker in the former than in the latter. Drainage, especially deep drainage in clay soils, by carrying off the excesses of moisture, allowed the land to absorb the heat of the sun, which previously had been expended in evaporating the water on its surface. On the surface of soils where vegetation had grown and decomposed, and the remains, perhaps, of insects, &c., or the droppings of animals had accumulated, there was formed what was called a humus, which gave the characteristic black colour to mould. This humus was a peculiar condition of carbonic acid, and was useful to plants in enabling them all the more readily to absorb the materials of their growth from the soil. Earth worms, Dr. Taylor said, held a high place in his opinion. In pastures they could not fail to be beneficial, by the top dressing produced by their castings. As they lived entirely up in the humus, and did no harm whatever to the roots, their burrows must be beneficial to the underlying soil in allowing free access to air and water, for it was a mistake to suppose that the roots of plants did not require air nearly as much as the leaves. Moreover, when water could thus get down into the soil and be distributed equally through it, it could dissolve the soluble salts contained in the soil, and be itself broken up into vapour, for the roots of plants required not water but watery vapour, and unless water existed in the soil in this condition it was of no use to the plant. Plants could actually starve for want of water, however much it might be present, if it was not present in the state of watery vapour. Turning to the decay of the soil, Dr. Taylor showed the amount of wear and tear which was going on every year from weather action. It was calculated, he said, that this amounted to about one foot in thickness of the entire surface of Great Britain in 6,000 years. This wear and tear, however, was compensated for by the fact that the subsoils beneath were weathered and decomposed in their turn, so that there was always a certain relative thickness of soil, notwithstanding that the upper surface films had been carried away. It was not the case many places would be laid bare, and solid rock would crop up, as was the case in mountainous districts. The breaking up or cultivation of arable lands, of course, allowed the weather to act more powerfully upon the soil, and to waste it in a higher degree than it otherwise would have done, owing to its mechanical looseness, whereas in pasture lands protected by permanent grasses there was less weather action going on. It was not merely necessary to give the land the materials taken from it by the crops grown. Supposing this could always be done, it would only enable us to farm at one level from one generation to another. Dr. Taylor showed that it was utterly impossible to replace over any area all the soluble materials which had been taken from it in the shape of

crops. The droppings of animals, although they had been fed from the same ares, were not enough, and even if we could replace, when the animals died, the solid matter of their bones—their phosphate and carbonate of lime—there would still have to be accounted for a large quantity of soluble salts carried off by drainage into the rivers and into the sea. He held it, therefore, as of absolute importance that in high farming artificial manures, and especially phosphates, should be employed. Plants also, like animals, throw off certain tissues or excreta, and if certain plants were grown in the same soil for a long period the soil became poisoned by their excreta. One effect of tillage, or the turning over the soil, was to expose it to the atmosphere, and this caused the excrete matter to be oxidised, or burnt up. Not unfrequently it was found that when cultivation had been carried on over the same estate for a long period of time, at a certain depth from the surface a hard basenut bed seemed to have formed, these beds being known as iron pans, which required the strongest of deep ploughs to break them up. These iron pans were formed by the insoluble matter contained in the loose soils above having been carried down by the percolation of water and precipitated at this lower level, where they usually occurred as an oxide or carbonate of iron. Farmers were averse to breaking up this bed, because it required time for the exposure to weather to oxidise it; but Dr. Taylor said he was convinced that this policy was a mistake. Going on to speak of the renovation of the soil, Dr. Taylor showed that this very largely depended upon the chemical composition and mechanical condition of the soil. The chemical composition of the crops which were intended to be grown must also be taken into consideration, and he could not help thinking that scientific agriculture had been absurdly blamed by those who had taken advantage of it, as they thought, without understanding its first principles. He had heard of farmers who bought high-priced artificial manures and put them upon land without first enquiring whether they were suitable to the crops intended to be grown, or whether the soils on which they were placed required them or not, and if disappointment was the result under such circumstances science had been stupidly blamed for what was the result really of a want of common sense. The way to derive the greatest benefit from the soil was that all the necessary salts contained in it should be rendered easily available for the plants grown. These salts might be present, but owing to their being insoluble or to the mechanical condition of the soil not being favourable, they could not be utilised by the crops; for instance, it was found that over stiff clay lands a capital expedient was simply the burning of the masses of clay and using the result as a top dressing. In this burnt condition the potash contained in the clay, which previously was insoluble, became soluble, and could be taken up by the plants requiring it, such as turnips or mangels. Dr. Taylor pointed out that clay and iron could absorb nitrogen in a certain degree from the atmosphere, but the chief means by which plants obtained their nitrogen was from the atmosphere during thunderstorms, during which a portion of the nitrogen and oxygen of the atmosphere, now mechanically mixed, was chemically combined and carried down to the earth with the falling rain. He believed with Liebig that plants required very little additional nitrogen, and that there was sufficient in the nature of all mechanically good-conditioned soils to serve every purpose. Of course some soils were very poor and light, as in some of our own light lands, and under such circumstances nitrogen was unquestionably of benefit, but it must be

remembered that nitrogen was chiefly beneficial, not as an element of growth, but a promoter of growth, or stimulant. It was usually present in green or growing leaves and stems. Phosphorus, on the other hand, was usually present most abundantly in the reproductive parts of plants, as in the wheat corn, or barley, beans, and peas, or in the secondary means of reproduction, as the tubers of potatoes. Nitrogen was also found in the underground stems of such plants as the mangel and turnips. These reproductive parts could not possibly obtain healthy development without the presence of phosphates in the soil, and these phosphates must be soluble, as in the unfertilised condition sold by manure manufacturers. Care, however, must be taken as to the soils they were put upon, for if they were placed on hard, sandy soils, containing iron, possibly the iron in the soil would precipitate the phosphat from a soluble into an insoluble condition, rendering a large portion of it useless to the plant. It was best, perhaps, to use the phosphate with farmyard manure or some kind of nitrogen as a vehicle as much to prevent its precipitation into an insoluble form as for any other reason. Moreover, it was found that phosphates were always better in such a combination. Dr. Taylor also mentioned that as to silica, one of the elements of the soil, there was generally enough of it in nearly all soils to form the silicious constituents of crops. Carbon also was obtained from the atmosphere. The chief elements, therefore, which were necessary to raise the soils from a depressed or exhausted condition and thoroughly renovate them for the purposes required by high farming were the alkalis, such as potash and soda; and in the cases of cereal and leguminous plants, such as peas, vetches, lucerne, and sainfoin, soluble phosphates. Dr. Taylor also pointed out the necessity for understanding the geological nature of the subsoils on farms, especially those which had their ups and downs—he did not mean financially, but as regards their geographical contour. It was very possible that a pit opened here and there would reveal the presence of materials that might be of great practical use. In this way underlying clays might be opened and used for top dressings for lighter lands, or sandy materials might be excavated which would render a too tenacious clay less stiff; or peat might be obtained from a marsh and after being partially barbed and soaked with liquid manure, used with the utmost advantage as a top dressing for many kinds of crops. Even in drainage, Dr. Taylor pointed out that a knowledge of the geology of a farm might be useful, it having been found in instances where there was no fall, that it was possible to dig a well through an overlying bed of clay into an underlying sandy bed, by which means the drainage could issue as through a sieve through the porous bed beneath.

The CHAIRMAN, in opening the discussion, complimented the lecturer on his interesting address, and commented on the importance to the farmer of a thorough knowledge of the article with which he had to deal daily. Such a knowledge, he said, they were enabled to gain by so able and so plain-spoken an address as Dr. Taylor's. The origin of the soil, he said, they hardly took so much interest in as they might; in the decay of the soil they were more interested, while in the renovation of it they were more intensely interested. The decay of the soil in one respect, he observed, was less in this district, owing to its flatness, while as to the renovation of the soil, he said it would be hard work to convince some of his friends that the artificial manures were superior to that from the farmyard.

In reply to Mr. Barch, of Combs, Dr. TAYLOR explained

the difference between returning a crop to the soil in manure and the accumulations of decayed vegetable matter in a wood or forest. Dr. Taylor said it was impossible to return precisely the same elements.

Mr. BURCH said he had ploughed in cut straw, but had not observed any advantage; but

Dr. TAYLOR said he could not say whether it would be an advantage or not without knowing the nature of the soil.

Mr. WM. WILSON asked for further information as to mixing sand and clay. He had both, and he mixed them, but had not found it answer.

Dr. TAYLOR asked whether the clay in Mr. Wilson's case contained small pebbles of chalk, or whether it was a fine tenacious clay. In the latter case he thought marl would be infinitely better than sand, but he urged gentlemen to remember that the mechanical condition of soils was of almost equal importance with their chemical constituents.

Mr. W. S. HUNT said chemistry in relation to agriculture was in its infancy. Farmers wanted to know what sort of manures to put on certain soils, and also what manures were required for particular crops. He believed that a good top dressing for barley was nitrate of soda and superphosphate. Mr. Hunt also alluded to the wear and tear of the land, observing that what was washed away was not the worst portion of the soil, because it was the soluble portion, and what was wanted was to render soluble what was left insoluble. Until they knew how to analyse the soil it seemed to him that they would not know how to apply artificial manures. At present he looked upon them as a sort of leap in the dark. Mr. Hunt also remarked that land containing oxide of iron produced a good deal of straw with a shrivelled kernel.

Mr. S. PAGE asked for information as to the depreciation of manure occasioned by exposing the manure in heaps on the field. If there was this depreciation he said the best thing was to plough it in at once with a steam plough, which they

could hardly do without more capital. Mr. Page also enquired as to the advantage of turning up the iron pans.

Mr. M. PRENTICE, alluding to the mechanical condition of the soil, asked whether sawdust or tan could not be advantageously used in promoting the percolation of water and air?

Mr. BETTS asked the value of manure made of sawdust instead of straw, and whether sawdust was at all conducive to wireworm?

Mr. T. LINWOOD, referring to the lecturer's remarks on silica, asked how it was that a few grains of wheat growing in a cellar did not produce stiff straw, if silica were entirely obtained, not from air, but from the soil?

Mr. O. ROBERTS asked for suggestions as to how to utilise the boulder clay underlying many farms.

Mr. J. FARROW reiterated his opinion expressed at previous meetings against deep draining on stiff clay soils. He did not believe they could have too much farmyard manure, and he asked the lecturer's opinion as to the manurial value of the tan and straw in itself.

Dr. TAYLOR, in reply, complimented the members on their acute questions, and especially Mr. Hunt on his shrewd and sound remarks. Straw, he said, was of no manurial value in itself, but in certain conditions of the soil it might be valuable as a mechanical agent in rendering the soil more open to the influences of the weather. As to Mr. Betts' question, he said it was possible that sawdust might contain the larvæ of the skipjack beetle, and thus be conducive to wireworm, while tan refuse, on the other hand, would be destructive to insect life, and from containing a slight percentage of phosphorus might be beneficial to the land. Dr. Taylor expressed his opinion that ploughing manurial straw into boulder clay might be serviceable in rendering it less stiff, while as to deep drainage, he said, it was a question of engineering. If surface drains were sufficient to take the water off a farm it would be absurd to resort to deep draining, but if without deep draining the surface water was retained in excess in the soil, deep draining was necessary.

## L I V E S T O C K N O T E S .

The reading portion of the agricultural community have reason to congratulate themselves that J. H. has not only taken up his pen, but the cause of Hereford cattle. Not that they need any commendation—they are always, as was especially exhibited at the late Tredegar Show, an admirable breed. Whether they have a claim to that which is an undoubted mission of the Shorthorn, the improvement of other sorts, is a question of taste to the public; but in themselves they have, both as regards their form and certainly the butcher's stall, every reason to demand our praise. It is satisfactory that such a successful and wealthy exhibitor as Mr. Bailey (already so famed for his dogs, horses, and poultry) is taking them up in earnest, having recently bought the almost faultless bull, Tredegar. J. H. can not only write sensibly and in the spirit of a gentleman; but is himself possessed, as I know from inspection, of an excellent herd of his own of ancient descent and bearing a *remarkably even type*. They are rather small by comparison with others, but that defect can be accounted for, as in the case of the

Fawsley Shorthorn cattle, by the strength of their concentrated blood. In fact, it puzzles me how, within such a narrow area as the native meadows of the Hereford, the breed is kept up without damage to their constitution. Animals can possibly be inbred without danger to a deeper point on the soil of their inheritance than elsewhere.

Listening to a discussion upon dog-kind between some youths of mettle and authority upon the subject, I was startled to note the energy with which they insisted upon the necessity of a good animal's going back to some famous old strain, and that under such circumstances fox-terriers will make fifty or sixty guineas a-piece. A Berkshire boar has been sold before now for £120, and sheep at a far higher figure. In fact, the "blue blood" of any breed is essential for crossing with, and will fetch its price. Let this be an encouragement to the young breeder to begin with the right stuff, and to stick judiciously to it. On every side men are looking out for Berkshire pigs that carry well out at the stern, or, as it is technically said,

have their "tails well set on," not *in*, as is too usually the case. A drooping quarter implies the cut off of a lump of meat, a deficit which reduces the size of the breakfastable ham. It is quite time that the breeder should be attempting an improvement in that respect. One does see a goodly sample of creditable build occasionally, but they run rare. The Irish hunter gains jumping power from the "goose rump." But edible animals should have the Arab, or Yorkshire coach-horse, eroup.

I have recently seen a herd in which there are some most superior and taking animals of the Bites and Knightly cross, the elements of which sometimes command roughly. It is the property of Mr. F. Sartorius, at Rushden Hall, Higham Ferrers. He has also one of the most Fawsley-looking bulls of the right sort, level, stylish, and mellow-fleshed, that I have seen for a long time. He has been unfortunate in having a preponderance of bull calves, but his Waterloo and other fashionable females will swell a good balance, I anticipate, when his turn comes to sell off. The same week I had another peep at the Kimbolton herd, which is wonderfully well done, and does credit to the selection in the first instance. I don't know a herd of such superlative character which has grown up half as fast. I had not expected to see anything like what I did. To take a few only, the white Oxford Louise endorses the merit of her dam, the Marchioness of Oxford 3rd, and her famous sire Duke of Connaught. She has that first requisite, a broad back and loin, very long quarters, a thick, deep thigh, and splendid bosom. She is altogether, and at once, a most attractive heifer. But, most important fact, the bulls on service are all three exceedingly choice. The Third Duke of Underley, the Fifth Marquis of Worcester, and the Grand Duke of Morecombe, constitute the lot. The outward world shuddered when they heard and read of Lord Fitzhardinge's tremendous purchase at Dunmore, and yet almost more when the whispered tidings spread that the Duke of Manchester had given three thousand guineas for a Duchess bull calf to Lord Beattie. These bold ventures, with ordinary luck, amply answer. The Duke of Connaught is stated to have cleared himself, and this 3rd Duke of Underley has only to live an ordinary bull's life to do that well with a nugget for Kimbolton to boot, in a choice collection of his heifer stock. His sire, the 2nd Duke of Tregunter, first bought and used by our veteran leader, Mr. Bowly, of Siddington, was sold at his sale for nine hundred guineas, to Lord Beattie, who took him, after a short letting, into use at Underley. Like Marmaduke (that grand bull of old) he had a slight rise at the tail-end, which, however, he lived to outgrow—if not quite, almost wholly so. He attained great distinction as a sire, and now stands in the foremost ranks of such. His greatest credit has been possibly his heifers. The Third Duke's dam, 8th Duchess of Oneida, is a tubular, massive cow, who carried herself proudly the last time I saw her in the group, upon a grassy mound at Underley, although then labouring under the weight of an inert mass within, of which she was shortly and happily delivered, and is now in-calf again. The Third Duke, a thick-coated calf

of ample proportions, I saw enjoying his evening meal just directly after his sale. Next I looked him over at Kimbolton—a stripling, somewhat out of shape, a hobble-de-hoy in short trousers, and out at the elbows. He was a creature to hope about, but whose future it was impossible to predict. He is now some eighteen months old, and has grown *very even and shapely again*. I was prepared to find his head too feminine, but it is not so at all; his horns, at present throwing back, give him a milder look than if they were erred in front, like those the quondam prize-winners, Statistman and Skyrocket, had. As he licks fondly his owner's hand through the feed opening, he gives us the idea of being uneven; but when he is led out he is a Duchess bull all over, of the same type as the Dukes of Connaught and Rothsay, that is, shorter and more fully bosomed than the 7th Duke of York sort (which is also a kind of Duchess tribe ideal), but very level over, substantial, and yet full of that *thoroughbred refinement* which for generations these bulls have given to their offspring, from whatever dams. These three Dukes are very various in development, but still are sufficiently alike to pass for cousins. The 3rd Duke's vocation will be to mate admirably with such old but hitherto unfashionable tribes as the Kimbolton Poppies and Sonsies, a grand sample of which ancient Cumberland sort, purchased at Sir Wilfrid Lawson's, I saw amongst the herd, her colour a dark, deep roan. Three better bulls than the Duke of Manchester owns it were hard to wish for. Next we take the Grand Duke of Morecombe, who fidgets about a good deal whilst led. He has no occasion to seek to avoid inspection, for he is long, thick, even all over, and has a very sensible head. He is justly pronounced to be a very grand young bull, and heifers are beginning to resort to him from a distance. Of course that breadth of beam and levelled frame owe something to Baron Oxford and Priam. The 10th Grand Duke puts in a claim for some softening, and the 2nd Duke of Tregunter is to be congratulated on his son. Next advances the 5th Marquis of Worcester, a rich blue roan, having a wonderfully flat back and long quarters. He has a sweet head, yet fully masculine. He is very deep in his front, and wears an abundant coat. He is massive, thick, elegant. Simply I write as I said, "I don't see a fault—he is good enough for the Royal," where he possibly may be sent. What wonder his being so excellent when he gains his handling from the 3rd Duke of Hillhurst, when he boasts of the 3rd Duke of Clare for his grandsire, and the exquisite Clear Star for his great-grand-dam! With such famous ancestry he should assuredly be A 1, as he is. I have only to repeat that they are a noble trio, and that, good as the stock is already, with such sires in use, the Kimbolton herd must ere long teem with as choice youngsters as any herd can boast. There is already there a shapely lot, which is not now likely to deteriorate. I was as much delighted as surprised by what I saw; for the herd has been one of rapid and recent growth. They are done well—sufficiently so to delight the eye, and yet not so much so, I think, as to affect their fertility.

## BRITISH AND AMERICAN METEOROLOGY.

The Americans have, as is generally known, a Meteorological Department sustained by Government; and we have one also, but not likewise. The two organisations differ in many respects, but chiefly in this, that the former is worked more with a view to immediate public utility than the latter is. The American organisation is what its name indicates—a veritable weather signal office, issuing daily weather forecasts for the information and benefit of the public at large. In this respect it differs very materially from our Meteorological Office, which contents itself with supplying storm warnings at various seaports, chiefly beneficial to fishermen and coasting vessels, and in one case to collieries. Recently it has been induced by a special subsidy to supply *The Times* with daily forecasts. The information, however, which it gives generally to the public is *ex post facto*, and consequently of very little practical value excepting as regards climatology.

The difference between the two organisations will appear more striking if attention is directed to the work done by the American office. As we have already stated, its great features are its daily weather forecasts, and their wide dissemination throughout the country. This is accomplished through the press and by the issue of various publications comprising maps, bulletins, and reports. In 1874 it issued of these various documents no less than 4,494,320 copies, of which 3,491,016 were farmers' bulletins, and 470,622 weather maps. These publications the Astronomer Royal told the Treasury Committee which last year inquired into the conditions and mode of administration of the annual grant made to our Meteorological Committee, were the most extraordinary things of the kind in the world. "They contained," he said, "observations made three times a day, and they are brought together, and each of them has its own synopsis of what has been observed. Then it goes to probabilities of what is to come; then facts upon the wind and weather, and then general remarks as to verifications." These reports indicate the probable condition of the weather in the district to which they are sent, including not only notices of storms generally considered dangerous but, when possible, also giving indications of dry weather, light rains, and extremes of temperature. They comprise "synopses" and "probabilities," the former consisting of a synoptic view of the meteoric condition of the United States as gathered from the

data received in each regular report from the different observing stations; the latter of deductions made by the office from the data in its possession at the time of each report as to the meteoric conditions probable during the next ensuing eight hours. What are called "facts and verifications" are also given in these bulletins. The former state the atmospheric conditions immediately following the probabilities, and the extent to which the probabilities agree with these conditions is pointed out in the verifications. The office has thus always aimed to exhibit equally its successes and its failures. So far as the former are concerned, they are certainly most satisfactory, rising from an average of 69 per cent. in 1869, to a fraction over 83 per cent. in 1876. The percentage of verifications exhibits a proportion to the number of observing stations in the districts to which they refer. It is thus to a certain extent mathematically demonstrated that the rules applied for the deductions of the forecasts are practically correct, and that, with enlarged facilities, the percentage of verifications can be still further increased.

The faith of the public in the announcements of the Office is very strong. The close watch kept upon it, and the popular knowledge of the subject of its duties, cannot be better shown than by the quiet criticisms to which it is subjected when an error occurs in a work which at first was deemed impossible. It is, in fact, one of the most popular departments of the Government—so much so that the nation does not grudge over £140,000 annually for its maintenance. Practical people as they are, the Americans feel that this large amount of money is well laid out. They get something of immediate value as a return for it. The agriculturist derives benefit from its forecasts in his seed time and harvest. Physicians acknowledge its usefulness in guiding them in the treatment of their patients. In fact, all classes of the community acknowledge the very great practical value of the work so well done by the Washington Weather Signal Office. The members of the Treasury Committee already referred to, from the bearing of the questions which they put to Mr. Scott, the Secretary of our Meteorological Committee, seemed also highly to appreciate its work, and appeared desirous that its practical features should be adopted by that committee. For instance, the Astronomer Royal was asked if he thought it would be a desirable thing for our



Meteorological Office to do as the Americans do—to attempt daily forecasts and probabilities of the weather, and then to state whether they have been successful or not. “I think,” he replied, “it is the only way in which the thing can be brought to test, and ultimately to rule.” And why should we not have a weather signal office constituted and worked like that at Washington? A correspondent recently referred in our columns to the objections made to the accomplishment of this, and which were chiefly based on the fact that we had the ocean to the west of us, taken in connection with the fact that our weather came chiefly from that quarter. This difficulty of our situation has only been raised on *a priori* grounds. We have already had warnings of storms coming from America to us which have been sufficiently verified to warrant some effort and expense to attempt further and more complete experiments in that direction. Our correspondent also called attention in this connection to the opinion of a captain of a Cunard steamship that “if our office obtained daily or semi-daily reports from Washington, Boston, and Trinity Bay, N.F., and studied the rate at which the particular cyclone is travelling over the earth’s surface, a very accurate opinion must be formed of the approaching weather.” He could himself, he said, form a constant observation of the weather on his homeward trips, foretell very fairly the coming week’s weather while he was in Liverpool. This is the opinion of an experienced observer, and therefore of great weight as opposed to the objections raised against weather forecasts because of our geographical position. General Meyer, chief of the staff of the Washington Signal Office, has expressed an opinion similar to that just referred to. With such evidence before us, we must take leave to doubt Mr. Scott’s assurance that the warnings of storms leaving the American coast were not worth paying cablegrams for. Another objection raised is want of funds. This, however, can easily be remedied by confining the work of the office chiefly to land meteorology and only to that of the ocean when connected with it. We are glad to notice that the report of the Treasury Committee expresses the opinion that ocean meteorology should be transferred to the Hydrographical Department of the Admiralty. Were this done, nearly £4,000 of the grant made to the Committee would be available for much needed stations on the west coast of Ireland and elsewhere, and for cablegrams from the Washington Signal Office. The Government should also permit the free use

of the telegraph to the Committee. This is done by France, and by the Great Northern Telegraph Company. A saving of £3,000 would thus be made to the Office, making with that now paid on account of ocean meteorology a sum of nearly £7,000.

But something more immediately useful we should have than has as yet been supplied by our Meteorological Office, which is, as we have shown, very far behind the Washington Office in immediate useful results. Why should not our farmers be placed in as favourable a position as regards coming weather as those of America? And the same question may be asked on behalf of the public generally. In fact, the interests involved are of such magnitude and importance as to warrant the Government taking the work under its own supervision. In the United States it is placed under the control of the Secretary of War. With the example set before us by our practical American cousins, we should not rest contented with the present unsatisfactory position of our Meteorological Office. If it has the skill necessary to do the work which we have pointed out, it should be induced to use it. If it has not this skill, let it in some way be supplied with it. Immediate practical results we may fairly demand when they are practicable. This we believe they are, and we have, therefore, a right to expect them in return for the money we are called upon to pay for our present Meteorological Office, and which, if the results were more popular, could doubtless be doubled.

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GOLD IN INDIA.—The discovery of gold in South India, so long asserted by some Australian speculators, turns out to be a fact. In the coffee-growing district of Wynaad, sixty-two tons of the auriferous quartz, described as “Alpha stone from Wright’s level,” has produced above thirty ounces of rich gold, or an average of nine pennyweights per ton. The gold has been bought by a Madras firm, and specimens of the quartz have been submitted to the Governor, the Duke of Buckingham and Chandos. The Commissioner of the district has visited the works, and the result is that a company is projected to work the Alpha rock, with a capital of £150,000. A steady out-turn of gold, secured by capital and honest industry, would solve many of our most difficult Indian questions of finance and currency.—*Mayfair*.

AN INCOMPLETE AMUSEMENT. — The Squire : “Well, Mousso le Barrong, how did you like the Meet of the Queen’s Hounds this Morning?” Distinguished Frenchman : “O, ver much! Ze Paysage it vos beautiful; ze Ladies, zey vare sharmeengs; and ze Costumes vare adorables! But—zare vas no Promenade!—no Band of Music!—Nossing!”—*Punch*.

## THE STATE OF TRADE IN HULL IN 1877.

HULL, January 1st, 1878.—During the past year we have had fair homeward employment for steamers from the Baltic. Cronstadt opened in May at 2s. 9d. Linseed, 27s. 6d. Flax, for Hull, and the season closed at 4s. and 25s. Riga opened in May at 3s. 3d. Oats, 35s. to 37s. 6d. Flax to Hull, and closed at 2s. 9d. to 3s. and 40s. Alexandria cotton seed season opened in October at 21s. to 22s. 6d. to Hull, but fell to 14s. in December accepted by the "John Adamson," s.s. for Hull. From New York and Montreal many boats found good employment at 7s. 6d. to 8s. 6d. Wheat to U.K. During the Indian Rice Famine several steamers were profitably engaged on time for Indian coasting employment, which completely collapsed in October, when many charterers incurred heavy losses through being compelled to cancel on best terms. 138 steamers are now registered at the Hull Custom House, of 192,040 gross tons. For sailing ships Quebec opened at 81s. dry Deals to Hull, also 33s. Timber and 82s. 6d. Deals, closing at 77s. 6d. third floated. Cronstadt opened at 47s. 6d. to 50s. Deals, and the season closed at 52s. 6d. Higher Bothnia ports opened at 55s. to 60s. for Hull, and closed at about the same rates. The Hull Dock Company received dues in 1877 on 2,279,734 tons of shipping, against 2,258,701 tons in 1876 and 2,095,677 tons in 1875. The Albert Dock in December was completely blocked with shipping, which proves an urgent need of increased dock accommodation, and it is significant of the bright prospects of the port that this occurred at a time when many commercial interests were suffering from depression in trade.

WHEAT.—The import into Hull during 1877 was the largest ever yet recorded, viz., 953,390 qrs., against 635,812 qrs. in 1876 and 798,145 qrs. in 1875. The total import of Wheat and Flour into the United Kingdom has been 14,862,000 qrs., against 12,185,000 qrs. in 1876 and 13,985,000 qrs. in 1875, and afloat for the United Kingdom there are now 1,240,000 qrs., against 2,218,000 qrs. in 1876 and 1,800,000 qrs. in 1875. The supplies this year have again been drawn from numerous and distant sources. America, however, including California has sent us by far the largest share, and bids fair to become as important a purveyor to Hull as it has long been to Liverpool. Prices at the commencement of the year stood at 54s. to 57s. per qr. for Baltic white wheat, 53s. to 56s. for Californian and Oregon, 50s. to 53s. for Spanish and Chilian, and 41s. to 43s. for Egyptian, all per 480 lb., English red being quoted 48s. to 51s. per 504 lbs. Without fluctuating much, the tendency of markets was rather downwards during the early months of the year; in the latter half of March prices took a turn, and by the third week in April had risen 4s. to 5s. per qr. The actual outbreak of war between Russia and Turkey caused a further spring of 8s. to 10s. per qr., the highest point being reached about the 1st of May, when fine white foreign wheats were quoted up to 70s. and English red, which became very scarce, as high as 70s. to 73s., but it soon became apparent that the effect of the war upon our food supplies would be much less than had been at first imagined, and this latter advance was soon lost again. The markets now became dependent upon the weather, which up to July had not on the whole been unfavourable, and the crops both at home and abroad, though somewhat backward, promised very fairly, but at this critical period the weather

became broken, and continued more or less unsettled throughout July and August. In the South of England the harvest was secured in fair condition, though not of very fine quality, but North of the Humber, and to a great extent in Lincolnshire also, the cold, wet weather so retarded the maturing of the crops that even by the end of August very little corn was sufficiently ripe to be cut, and a more prolonged harvest period has not often been experienced. This could not fail to have its effect upon prices, and when by the end of September it was found that the harvest was still unfinished, while the ingathered corn was both small in quantity, inferior in quality, and in poor condition, prices had risen 3s. to 4s. per qr., and would probably have risen more but for the large foreign arrivals, those into this port averaging during the last six months of the year fully 20,000 qrs. weekly. Since then the value of good sound wheat has experienced but little fluctuation, and we close the year with Dantzig and Königsberg high mixed wheat at 58s. to 62s., Californian and Oregon 63s. to 65s., Spanish 56s. to 60s., Chilian 55s. to 59s., Egyptian 45s. to 46s., and good red foreign 52s. to 55s. per 480 lb., English old 53s. to 60s. and almost exhausted, new very irregular in quality, and making from 38s. to 52s. per 504 lb. The stocks in warehouses are estimated at 120,000 qrs. In connection with the food supply of Hull may be mentioned the great increase of provisions (bacon, hams, &c.) since the establishment of the "Wilson American Liners;" and the very large importation of potatoes (46,000 tons) since the 1st September has been a very welcome addition to the home crop, which was so diminished by disease.

BARLEY.—We have this year to record a much larger foreign importation of this cereal than last year, namely, 568,035 qrs., against 406,713 qrs. in 1876 and 451,733 qrs. in 1875, and most of it has been of malting quality, as the export from the Black Sea, whence the bulk of our supplies of grinding barley is generally drawn, has been obstructed by war during the last two-thirds of the year. Owing to short supplies in spring, the last malting season closed much earlier than usual, and prices continued to range high for anything offering of suitable quality. The new crop in this country suffered seriously from rain, and as some of the North European countries also have not escaped the effect of a wet harvest, prices have been well kept up for all fair malting qualities ever since the supplies of new commenced to appear on the market. The principal feature in the trade this year has been the introduction of malting barley to this country from North America, the quality of which, however, has not generally found favour with our maltsters. The home crop has suffered irretrievably, with almost the sole exception of some districts on the Norfolk coast, and a great part is only fit for grinding purposes. Prices for malting qualities have not experienced much fluctuation, rising 2s. to 3s. per qr. from the beginning of the year up to March, since when they have remained almost stationary, and notwithstanding the general inferiority of this year's to last year's crop, we close just 2s. to 3s. higher than we began for malting samples, the present values being 36s. to 42s. for English, 42s. to 44s. for Danish Chevalier, and 39s. to 41s. for Danish two-rowed, all per 448 lb., whilst on feeding barley the rise is 5s. per qr., 31s. to 32s. per 448

lb. being the value of Danish six-rowed and Black Sea. Stocks are 50,000 qrs.

**OATS.**—The supplies have been somewhat larger than last year, 291,230 qrs., against 206,017 qrs. in 1876 and 332,806 qrs. in 1875, and the demand has been a steady consumptive one. Prices rose 2s. to 3s. per qr. in May on the outbreak of the Russo-Turkish war, but have since relaxed, and are now 2s. to 3s. per qr. below those current at the beginning of the year, say 23s. 6d. to 21s. 6d. per 336 lb. for white Scanian. Stocks are estimated at 36,000, which is rather less than last year.

**BEANS** show a falling off in the arrivals, say 107,887 qrs., against 140,150 qrs. in 1876, and the bulk has again been from Egypt. Prices rose in May, when Egyptian (Saïde) reached as high as 39s. to 40s. per 480 lb., soon after dropped to 30s. to 31s., improved again in consequence of the unusually small rise of the Nile, and now stand at 33s. to 34s. per 480 lb., or about 3s. per qr. below their value at the beginning of the year. Stocks are small, being only 32,000 qrs.

**PEAS.**—Supplies are slightly in excess of last year, 28,794 qrs., against 20,870 qrs. This article has become altogether of little account in the trade of the port, its place being taken by maize. Prices have ruled steady throughout the year, and close as they began at 38s. to 39s. per 504 lb. for Feeders. Stocks are 5,000 qrs.

**MAIZE** continues to hold a prominent position in our imports, the figures this year being 363,432 qrs., against 486,513 qrs. last year and 212,641 qrs. in 1875. Prices have undergone considerable fluctuation; opening in January at 27s. to 28s. per 480 lb. for mixed American, receding to 25s. to 26s. during March, rising in May, like all other articles, and reaching 30s. to 31s., soon declining again 3s. to 4s. per qr., since more improving during the Autumn, and closing at the opening values of 30s. to 31s. per 480 lb. Stocks are smaller than last year, say about 30,000 qrs.

**LINSEED.**—Many causes have combined to make the trade in linseed of 1877 appear in figures less important as compared with seasons immediately preceding. Through a continuance of hostilities in the East, the Russian railroads have been to so very large an extent engaged in the transport of war material that to get produce down to the seaboard has been throughout a matter of difficulty and uncertainty, a fact which, combined with the blockade of the Black Sea, at once accounts for so reduced an import from Russia. India with an abundant crop has furnished us with comparatively large supplies, otherwise we might have seen our figures of import stand almost unprecedentedly low. The supply, however, has been fully equal to the demand, perhaps even rather exceeding it, inasmuch as the bulk of the recent importations have been taken to store for lack of buyers, the cause of which is no doubt to be traced to the unsatisfactory state of agricultural interests. A disastrously wet season not only seriously affected the potato crop, but created havoc in the quality and condition of all home-grown cereals; hence our farmer is by loss in this respect induced to seek a cheaper food than linseed cake, and turns his attention to cotton cake at nearly half the price. To review the course of prices during the year: We opened with fairly large stocks, being estimated at about 200,000 qrs., the value of Bombay being 54s. 416 lb., Calcutta 53s. 410 lb., and fine Petersburg 51s. 424 lb. For the first three months the demand was but small, and values gradually receded till about the middle of March, when Calcutta under pressure was done as low as 49s. 6d. 410 lb. L.A.T. direct

from ship, and Bombay even at 49s. 6d. 416 lb. A change however, now took place; Indian shipments fell off, holders gained confidence, which was strengthened by the dark aspect of politics, and during the months of April and May a considerable business was done, principally from warehouse. From 47s. 6d., the lowest point of fine Petersburg in March, there was a smart rebound in April, 4s. to 5s. being recovered in one week with a continued upward tendency until the middle of May, when quotations stood at 56s. for fine Petersburg, 59s. for Calcutta, and 60s. for Bombay. As one by one the mills closed for the summer a reaction set in, a gradual fall being experienced until the end of June, when fine Petersburg touched 50s. 6d. 424 lb., but here another feature intervened to check the downward movement, the deficit of import as compared with 1876 increased weekly, confidence became once more established, and when by the end of September the deficit had reached 120,000 qrs. short of the same period in 1876 values had recovered fully 5s. per qr. Basing calculations on statistics it was fair to assume that linseed must hold steady in price, but the trade generally was doomed to disappointment; no cake demand set in, and the effect of an indifferent harvest became all too apparent. With an average enquiry we should have closed the year with unprecedentedly low stocks, whereas for lack of demand all the Continental arrivals have been taken to store, and the year closes with a dull market at 51s. 424 lb. for fine Petersburg, 54s. 410 lb. for Calcutta, and 55s. 416 lb. for Bombay, our stocks being about 75,000 qrs. The very mild weather may also in a great measure account for the slackness of the last three months of the year; should a decided change to winter now set in, and continue, we may fairly look for an improved demand for linseed cake, which has always stood pre-eminent as an article of artificial cattle food.

**COTTONSEED.**—The import shows a further increase, being 169,022 tons against 139,368 tons last year. Shipments from the crop of 1877 commenced earlier than usual, and already the arrivals exceed last year at same date by fully 20,000 tons. Notwithstanding the large supply, the market is well maintained, with a gradually improving tendency since the middle of November, when it was at the lowest on the spot. The quality is not well spoken of as to its yield of oil. Little or nothing has been done for shipment after January, importers showing no disposition to enter into engagements further forward. The relatively high price this season without a corresponding improvement in the value of cake points to an indifferent result for the crusher. In January last the quotation for good sound seeds was £3 7s. 6d. to £8 10s. per ton. During February it declined to £8 2s. 6d., and in March, with heavy arrivals, business was done at £8; but before the close of April the price stood at £9 5s. to £9 7s. 6d., and in May at £9 15s. to £10 for best samples in warehouse, after which it declined to £9 5s. to £9, varying only for such qualities about 2s. 6d. per ton, until arrival of new crop in October, when £9 5s. was paid. November opened at £8 17s. 6d., and was 10s. lower a fortnight afterwards. During December prices improved to £8 12s. 6d. to £8 17s. 6d., and the nearest closing value on the spot is £8 15s. per ton.

**LINSEED OIL** on the 1st January, 1877, was 25s. 6d. to 25s. 9d. per cwt., and with slight fluctuation the month closed at nearly the same price, say at 25s. 9d. During February 25s. 3d. to 25s. 6d. was the prevailing quotation. In March we had to record lower prices, 23s. 9d. was the price on the

10th, but it changed about fitfully within a small range closing 24s. 1½d. at the end of the month. April was a month of gradual recovery, and by the middle of April 27s. 6d. was fairly established, and the closing price of this month was as high as 29s. 9d. During the early days of May 30s. 3d. was the price. It fell later to 29s. and to 28s., and closed at 27s. 3d. June saw prices ranging from 27s. 4½d. to 28s., falling to 26s. 9d., closing the month with 27s. 1½d. In July 28s. 9d. was the highest price attained; at the close 28s. 3d. During the entire month of August, with the exception of two or three days, the article gradually improved, closing at 29s. In September the improvement continued without intermission, the price on the last business day (Saturday) was 30s. 3d. Throughout October the market kept very firm, and closed at 30s. 4½d. In November a fall to 29s. 6d. took place, a slight rally improved it 3d. per cwt., but it ultimately closed at this price, 29s. 6d. Until after the first half of December we had a drooping market, and a little later on a slight improvement took place. As we write, just before the end of the month, 27s. 9d. records the exact value. The forward business in linseed oil has been of a less speculative character during the year, but there have been times when large transactions have been entered into. During some periods the price for forward delivery has been less than for current. At this moment there is not more than 1½d. per cwt. between the price of December, 1877, and January-April, 1878. The export is considerably less, being 13,416 tons compared with 18,536 tons in 1876.

REFINED COTTON OIL has become to a still greater extent than last year a favourite article, and has indeed for many purposes taken the place of linseed oil. On the 1st January 29s. 6d. was the market value, from which it soon advanced to 30s.; the month closed at the opening price, 29s. 6d. In February 29s. to 29s. 3d. was the prevailing price until nearly the close of the month, when it gave way, and ended 28s. to 28s. 3d. In March it fell to 27s. 9d., but rallied after the middle of the month, closing however at 28s. April was a month of marked improvement, and the price at the end of it was 30s. 9d. to 31s. In May the improvement continued, and during the early days 32s. was reached. From this price, however, a recession took place, and the price on the 30th was 30s. In June, after some trifling fluctuations, it closed at 30s. 3d. to 6d. During the month of July it improved gradually to 31s. 6d. In August a further slight enhancement in value occurred, and 32s. 1½d. was the nearest price at the end of the month. In September it rose to 33s. 6d., but fell 3d. per cwt. at the extreme end of the month. During October it fell gradually to 31s. 6d. By the 10th November 30s. 3d. was the price, but from this it rapidly recovered to 32s., showing a little weakness just before the end of the month, but closing at 32s. exactly. In December it has gone gradually down to 30s. 6d., which precisely represents the price on the 29th. This article has come much more into favour for speculation, with regard to which it now fairly competes with linseed oil. The export contrasts better with last year than linseed oil, the figures being 12,011 tons in 1877 against 12,763 tons in 1876. Compared with last year less than half the quantity has gone to Spain, and not one ton since the imposition of increased duties by the new Spanish tariff.

RAPE OIL.—During the whole of this year the trade in this article has been small, no rubsen seed having been crushed in the port: the refiners have been entirely dependent

upon foreign supplies for the best brown oil. We commenced the year with foreign brown at 39s. 9d. per cwt. in casks, and Black Sea 36s. 6d. per cwt. naked. By March the price had fallen 5s. per cwt., but before the end of September it was again as dear as at the commencement of the year. The year closes with no stocks of Black Sea oil and limited supplies of German brown at 38s. 3d. per cwt. in casks.

OLIVE OIL.—The year opened without any oil on sale, £50 10s. per ton being the nominal quotation for Gallipoli, and at this price sales of early arrivals took place, the value afterwards gradually declining till May, when Gallipoli was £47 per ton. Unfavourable news arriving from the producing countries in August, prices rose to £51, and to £53 in September, at which price small sales were made; since then the market has been rather quiet at £52 to £52 10s. per ton for Gallipoli, other kinds ruling in proportion.

FLAX.—The import of the year is £10,338 tons, against 6,893 tons in 1876, showing an increase of 50 per cent; but a considerable portion of this has gone forward to other ports and has not been consumed in the neighbouring spinning district. On the whole, this branch of trade has not been a satisfactory one either to the importers or to the spinners, the demand for the yarn having ruled dull throughout the year at unremunerative prices, hence not only a great quantity of machinery has stood idle, but short time has also been resorted to. There seems no immediate prospect of any improvement to the spring trade unless brought about by a better state of things in the United States and other consuming countries. There has been no great fluctuation in price throughout the year, and the market closes at about the quotations last given. Some of the fresh crop of Riga flax has arrived here, but taking the whole of the marks the quality is disappointing.

HEMP.—The import is 8,506 tons, against 8,634 tons in 1876, showing a slight deficiency. The trade in Russian hemp has ruled quiet throughout the year; the early arrivals of winter dressed Riga goods went readily in consumption, but the bulk of the summer dressed being of coarse quality and wanting in softness has not met much enquiry. The crop of 1877 is favourably reported on, and as shipments of the winter dressed sorts are expected to be made in January-February, via Pillau, the trade will soon have an opportunity of testing the accuracy of the reports. Taking the shipments of Petersburg heap together as a whole the quality has been very poor and disappointing to the trade; some few parcels have arrived of excellent quality, and these have been readily bought up. From Königsberg the shipments have, as a rule, given satisfaction, although there have been imported several parcels not up to the standard shipments. The year closes with a quiet market at our quotations.

OIL CAKES.—The consumption of LINSEED CAKES during the past twelve months has certainly been very much below the average of many previous years. This is no doubt owing in a great measure to the unprofitable seasons which farmers have lately had, and their consequent indisposition to expend more than is absolutely necessary on these cakes, cotton cakes having been used to a great extent in their place. Prices during the year have ruled low, and the trade to crushers generally has been unsatisfactory. The year opened with best pure cakes at about £10 5s. per ton, at which they continued till the latter part of February, when they gave way about 2s. 6d. per ton, and remained thereat till the middle of April, when a rally took place of 5s. per ton, £10 7s. 6d. being then the

value. During May and June prices steadily declined, and £9 15s. was reached by the end of the last named month; a reaction then set in, and £10 7s. 6d., the highest price of the year, was again reached in the second week of August, but was not maintained, £10 5s. being the value in the following week and continuing so up to the present time, the year closing at the same price at which it opened. RAPE CAKES.—Of feeding qualities there has been a remarkable dearth during the year, the market remaining bare of supplies up to October, when small arrivals of German rubsen seed enabled a limited quantity of these cakes to be made, which sold at the very high price of £3 to £5 5s. per ton, and values continued to range about those figures to the present time, £3 being to-day's value. COTTON CAKES.—A very large business has been done in these cake, larger probably than in any previous year. The abundant supply and low price of maize, however, had a powerful influence in keeping down quotations. The year opened with £5 13s. 6d. per ton as the value, and a gradual fall took place till £5 2s. 6d. was reached in the last week of March. In April a great change took place, owing to excitement in the seed market, and four weeks respectively showed quotations £5 5s., £5 10s., £6 10s., and £6 5s. The second week of May gave the highest price of the year, £6 15s., from which time quotations gradually receded to £6 at the end of July. At the beginning of September £5 15s. was the value, since when they have ranged between that figure and £5 10s., the year closing with £5 15s. as the quotation and only limited stocks in the mills.

PERUVIAN GOVERNMENT GUANO (RAW).—Imports for the year 1877 amount to 11,000 tons, as compared with 17,000 tons in 1876 and 3,300 tons in 1875. The demand has been good, sales exceeding those of 1876 by 1,000 tons and being greater than in any year since 1872. This has no doubt arisen from the improved condition of the guano, which has been generally dry and of fair quality. OHLENDORFF'S DISSOLVED PERUVIAN GUANO.—Owing to the drier condition of the raw guano sales have declined somewhat in this district, and to assimilate the price of this valuable manure more nearly to that of the raw guano, Messrs. Ohlen-dorff & Co. have now reduced their price £1 per ton, present quotation being £12 10s. per ton for quantity with guarantee of 8 per cent. ammonia and 23 per cent. phosphates, which will no doubt enable agriculturists to use it more freely in the future.

NITRATE OF SODA.—Stocks being heavy at the commencement of the season, imports have been small, being only 2,450 tons against over 10,000 tons in 1876, but deliveries have gone on so briskly that we close the year with a stock of only about 1,400 tons.

TAR.—The arrivals this year from the Baltic are very small indeed, consisting of 5,207 barrels, from Wilmington, U.S., 8,423 barrels, and from Archangel 6,979 barrels, total import 20,609 barrels, against 31,615 in 1876. During the first quarter of the year prices ruled steady, 21s. to 22s. being the value of Stockholm, and 20s. to 21s. of Archangel. In April forced sales of speculators' tar in London caused the price of Stockholm to recede to 18s. 6d. and Archangel to 16s. 6d.; prices soon however rallied, and from May to the beginning of August Stockholm ruled at 20s. to 21s. and Archangel 17s. Later on in August, arrivals coming in more freely, the market became depressed, and 19s. was accepted for Stockholm and 16s. 6d. Archangel. In consequence of much smaller arrivals into the U.K. than were anticipated, prices

since the month of September have ruled steady, viz: at 21s. to 22s. for Stockholm and 17s. to 17s. 6d. Archangel, and these may now be considered their nearest values. American tar, which occupies so prominent a feature in the import this year, is essentially a distiller's article, and the barrels being about one-third less than Stockholm its value is now about 14s. to 15s. per barrel. The stock of all kinds is about 8,700 barrels.

TURPENTINE SPIRITS.—The direct import is mostly from America, and consists in all of 5,606 barrels, or 894 tons. Early in the year the value was 34s., which has never been reached again during the year; from February to May, with slight variations, prices ruled about 25s. In June, when the arrivals of "new" commenced, the price rapidly receded to 23s. 6d., but rallied again during the following three months, and 27s. to 28s. was its nearest value in September, consequent on diminished stocks. Large arrivals coming in again during the month of October the price declined to 25s., since which the market has kept moderately steady, with 24s. 6d. to 25s. about its present value.

ROSIN.—The import this year is mostly from American ports, viz., 18,518 barrels or 2,365 tons, and only 30 tons from Bordeaux; total import 2,395 tons. French competition with America in this article, as also in spirits turpentine, may now be regarded as ended so far as regards the supply into this country. Early in the year 6s. 6d. to 7s. was the value of common strained, 7s. 6d. to 8s. 6d. for medium, 9s. to 12s. fine, and 12s. to 14s. for extra pale soapers qualities. From March to June prices ruled lower, viz., 5s. 6d. to 5s. 9d. for common strained, but for the better sorts prices remained about the same. In July common strained receded to 5s., with 6s. 6d. to 7s. for medium, 8s. to 8s. 6d. fine, and 10s. to 12s. extra pale soapers. During the last three months rather better prices have been obtained, viz., 5s. 9d. to 6s. for common strained, 7s. to 7s. 6d. medium, 8s. 6d. to 9s. fine, and 12s. to 13s. extra pale soapers, at which quotation the year closes.

PETROLEUM.—The direct import of this cheap and valuable article for lighting purposes is about the same as last year, and consists of twelve cargoes, all from New York; total import, 23,915 barrels, or 1,099,870 gallons, against 28,419 barrels or 1,125,760 gallons last year. Of the import this year, two cargoes consisted of "Naptha" or "Mineral Spirit," a lighter and more volatile description for burning purposes. The year opened with a drooping market, 1s. 8d. per gallon for Petroleum and 1s. per gallon for Naptha were the prices in the month of January; in February the prices had receded to 1s. for Petroleum and 11d. for Naptha. In June the lowest price during the year was reached, viz: 10d. to 10½d. Petroleum and 8d. to 8½d. Naptha. In September prices somewhat rallied, and 1s. 1d. became the value of Petroleum and 9d. to 10d. Naptha. Supplies having come forward more liberally than was expected, prices, the last three months, have ruled steady, and although we are in the middle of the season when the largest consumption is taking place, petroleum cannot be quoted at more than 1s. per gallon and Naptha 9d. to 10d. —*Incorporated Chamber of Commerce and Shipping.*

COOKED OR UNCOOKED FOOD.—The experiments to determine the relative value of cooked and uncooked meal in feeding pigs at the Maine, U.S., Agricultural College are being continued. Seven years' experience gives a verdict in favour of the uncooked food as being the most profitable.—

*Irish Farmer's Gazette.*

## SAMUEL DOWNES &amp; CO.'S ANNUAL CIRCULAR.

LIVERPOOL, 2nd JANUARY, 1878. — In our monthly circular of November, 1876, and August, 1877, we ventured to direct the attention of our readers to a question often asked, "What is the value of Turkish commerce to Great Britain?" and showed in the latter one that our cotton trade with Turkey proper was greater than with any other foreign country. We stated that British exports to Russia, which has a population of 69 millions, were valued at £8,500,000, whilst to Turkey, with 31 millions, they were £6,380,000 in 1876, and we now add to Russia, they amounted in 1875 to £11,348,000, and to Turkey, £6,346,000. The reader will observe they indicate a declining trade with Russia, and a stationary one with Turkey. Therefore it was contended that England had a large pecuniary stake at issue in this Eastern war. It was also asserted that Russia imposed prohibitory duties on British manufactures, whilst barbarous Turkey imposed nominal ones, and that if Russia acquired Constantinople, or even one Turkish port in the Black Sea or Levantine Coast, she would introduce the same scale of import duties which she now enforces on the shores of the Baltic. It is idle to suppose that Russia would act otherwise. If the Emperor dared to do so there would be a loud outcry on the part of her manufacturers that would prove irresistible even to him. It therefore follows that the possession of Constantinople by Russia would prejudicially affect British exports to Turkey, reducing them from 6½ millions to a nominal amount. Such was the line of reasoning in our August circular of last year, and the article was extensively quoted by the *London and Provincial Press*, *London Morning Post*, *Public Opinion*, *Manchester Courier*, *Chester Chronicle*, and many other journals, and to all we tender our acknowledgements. Our object in writing the last paragraph is not to indulge in perhaps a pardonable egotism, but to indicate how well served the Russian Government is by her diplomatic agents and spies in the various towns of the United Kingdom. It is essential to restate the foregoing, in order that the reader should understand what we are now going to narrate. On November the 7th, two months after the issue of our circular, a gentleman connected with the press kindly sent to us the following extract from the *St. Petersburg Gazette* of the preceding date—the official journal of the Russian Government—"That British commercial interests were far greater in Russia than Turkey. The amount of British import and export to and from Russia being nearly £32,000,000, while to and from Turkey they figure at £13,000,000." The official character of the paragraph is the more evident that the foregoing was wired to this country by Reuter's Telegraphic Agency on the date it appeared in the *Gazette*. Our contention was based on the well-known axiom that the export trade of a state is of more consequence to it than the import. The export trade to Turkey averaged 6½ millions per annum in 1875 and 1876; let the reader capitalise it, say at ten or fifteen years' purchase, and it is worth 60 to 90 millions. ¶Were we wrong in affirming, in the early part of this article, that English manufacturers had a large pecuniary stake at issue in this Eastern war? We will venture to add that an English Ministry, of whatever political colour, that would allow so valuable and increasing a branch of our export to be sacrificed, or partly sacrificed, would incur

more than a grave responsibility, they would merit impeachment. If the trade be lost, how and where is it to be replaced? The manufacturers, who have little to gain and much to lose, are yet anxious to retain this commerce at this time of keen competition, whilst a group of extreme enthusiasts, the majority of them have everything to gain and nothing to lose, are in favour of throwing it to the winds in the interests, as they allege, of "justice, freedom, and humanity." Such is the summary viewed through commercial spectacles, and we leave the reader to draw his own inferences.

COMMERCE AND AGRICULTURE.—A dull and unsatisfactory trade has been the feature of the year. The unfavourable weather in the summer and autumn months greatly damaged the hay, corn, and potato crops, and it will be obvious that the cultivators of arable farms have had a disastrous year. Strikes in the rural districts have been less troublesome, but not so with towns and manufacturing districts, where they have told very injuriously. We will give one instance. To this town iron girders have been introduced from Belgium; it was more advantageous to import than to produce. Yet, within one hundred yards of the spot where these are now erected there are two manufactories, the proprietors of which could not successfully compete. And why? Because the rate of wages is lower in Belgium than in Great Britain. It has been advanced that commercial affairs will improve when the Eastern war ceases. The improvement will be an evanescent one, and there can be no sustained amendment until the rate of wages for skilled and unskilled labour is lower. It is greatly to be regretted that the parliamentary chieftains in the State do not tackle this question—only two have, Mr. Bright and Mr. Roebuck; the others shrink from the duty, for the reason that the first party (this is written irrespective of party) which has the courage to do so would wean, and detach from itself a portion of the working men's voting power. Thus are the interests of a great nation sacrificed to the interests of party.

HONORARY DISTINCTIONS TO AGRICULTURISTS.—On two occasions during the last few years we have advocated in our annual circular the desirability of the Crown conferring honorary distinctions on enterprising practical farmers, &c., who, by their expenditure of time and money, have contributed to cheapen the cost of producing food in this country. In the first instance it was during the premiership of Mr. Gladstone, in the second one during that of my Lord Beaconsfield. We think it was made manifest that these experiments had lowered the cost of producing corn fully 2s. 6d. per qr., some think more. These practical experimentalists have, therefore, benefited not merely Great Britain, but the Universe. One Government has acted on the suggestion. The King of Sweden has, within the last few weeks adopted it. Perhaps the present English Cabinet will imitate the example, not an unwise proceeding in these days of election by ballot.

NITRATE OF SODA is firmer on the spot, the closing price is 15s. to 15s. 3d. for under 5 refraction, and 15s. 1½d. for 5½ to 6 refraction. The stock is 150,000 against 401,000 in 1876 and 330,000 bags in 1875. The total shipments from Iquique from 1st January to 31st October were 180,000 against 291,000 in 1876, and 283,000 tons in 1875. In round numbers there will be about one-half the quantity in Great Britain

in the ensuing spring: in the face of that fact is the present price of 15s. 3d. to 6 for February delivery unduly high?

Superior quality of Peruvian Government Guano, 10 to 13 of ammonia, light in colour, we offer at £11 5s. to £13 per ton; Peruvian Guano, phosphatic, and with a lesser quantity of ammonia, £7 13s. 3d. to £9 10s. per ton; both guaranteed and delivered from the Mersey Dock Board Warehouses a Birkenhead. Owing to the high values now insisted on for Guano and Nitrate, there is a steady and increasing demand for foreign Bone Meal and Dust at £7 10s. to £7 15s. per ton and prices will not be lower for six months. River Plate Bone Ash, Superphosphate of Lime, &c., offering at the quotations. American Fish Manure inquired for, but no stock; the value is £5 10s. for "half-dried," 6 per cent. of ammonia, and £7 to £7 10s. for "dried scrap," with 9 to 10 of ammonia. Sulphate of Ammonia firm, at £19 12s. 6d. to £20 10s.

OILCAKES.—The demand has been very moderate for some weeks, which is ascribed chiefly to the large quantities of damaged wheat injured during the last harvest. At the close of November this market was bare of linseed cake, but 36,000 bags, &c., have arrived within the last few days, and prime thin, in barrels, sold at £10 2s. 6d. to £10 7s. 6d., with fair Western in bags, at £10 to £10 2s. 6d.—at which we offer. More inquiry for American decorticated cotton seed cake—fair realising £7 12s. 6d. to £7 15s., best at £7 17s. 6d. to £8—, the wealthy north-country graziers purchasing to hold over. There is a great eagerness evinced to buy only of the bright yellow coloured; and this we contend is unwise. As remarked in a former circular, we attach little importance to colour; the great points are the quantity of oil and flesh-forming material, sweetness, effectual decortication of the seed, and regularity of the quality. At a recent meeting of the Central Farmers' Club it was affirmed "that the use of a daily feed of 3lb. of this cake and 3lb. of Indian meal, at a cost of less than 6d. per day, would generally be amply repaid in the increased use of butter alone, to say nothing of the improved condition of the cows, the reduced consumption of other food, and the extra value of the manure." We refer those readers who file our circular to the one issued on March 22nd, 1873, wherein is an admirable receipt for a cheap nutritious cattle food. Locust Beans, £5 15s. to £6 per ton, in bulk. Foreign Molasses suitable for cattle feeding, we can offer at 9s. 6d. to 9s. 9d. per cwt. We are open to sell two parcels of prime thin oblong Linseed Cake, expected within the next ten to twenty-one days from the United States, and which we shall dispose of at very reasonable prices.

LINSEED.—An irregular market, with sales of Bombay at 55s. 6d., in quantity ex-quay; the future of it is partly influenced by politics. Of American Red Cloverseed few sales reported during the last few days. Fine State is worth about 49s. to 51s., and fair to good Western 46s. to 47s. per cwt.

Price of SUPERPHOSPHATE OF LIME.—To the following narrative we desire to direct the observation of our readers.—The Editor of *The Chamber of Agriculture Journal* writes to us:—"I have had two or three complaints that the prices in your weekly list of Fertilisers, &c. (which we occasionally publish), are much below the market value—that Superphosphate, for instance, is given 30s. per ton below the market price." The statement will amuse and surprise our readers. The most conclusive reply is to say we are prepared to deliver 500 to 1,000 tons at the prices we have quoted, and for months past, in our weekly list, viz.—a Superphosphate of Lime, guaranteed to contain 26 per cent.

soluble, at £3 5s. to £3 7s. 6d., and 35 per cent. ditto at £4 10s. to £4 12s. 6d. per ton, in bulk, nett cash, and free to rail or vessel, at the depot, which is within 9 miles of Liverpool. We will deliver in February or March next, at the buyer's option. No order to be for less than five tons, and the price of that quantity will be £3 7s. 6d. and £4 12s. 6d. per ton, respectively. To be tested by Professor Voelcker. This offer is open until the 31st inst. If required in bags a small extra charge is made. We have reason to know that our weekly reports are extensively read by landowners and farmers, and also dealers, and the latter seem to appreciate them (judging by the extent of their orders) more than either of the other two classes. The necessity of a weekly report is evident when a correspondent of this Journal—whether agent, manufacturer, or bailiff we care not—inferentially admits that he is charging, or connives at the charge to his buyer, or employer, of 30s. per ton more than the market price! What extortionate profits are obtained from needy or uninformed agriculturists is the obvious moral of this narrative, and we repeat what we have before stated, that it is more advantageous to certain buyers to purchase through brokers.

## ANNUAL REPORT ON FOREIGN RAGS.

COTTON RAGS.—The past year has been marked by continued depression; scarcely one ray of light has appeared to brighten the gloomy prospect, nor can we see anything in the immediate future to encourage a hope of improvement. The over-production of paper has flooded the markets, and caused a keen competition among paper-makers, with a consequent reduction in value of paper, which, combined with an abundant supply of Esparto and other paper-making fibres, has naturally affected the prices of rags, and inevitably led to a decline in values. Accordingly, importers who have refused market rates on arrival have generally had to accept lower prices after incurring storage expenses. The depreciation is most marked in 1st whites, prices of which have given way 20 per cent.; 2nd and 3rd whites, 10 to 15 per cent.; blues and colours, 10 per cent. Prices for medium and lower grades are now on a par with the lowest touched during the past fifteen years, while 1st whites are considerably lower than they have been for the last twenty years. Shippers who have acted upon our advice, given from time to time during the year, have no cause to regret doing so, as we have almost invariably recommended them to buy with caution, and with due regard to the strong tendency towards lower prices.

JUTE CUTTINGS, BAGGING, AND ROPES.—In our last Annual Report we quoted a strong demand with favourable prospects for some months. After spring the American markets became less animated, the demand fell off, and prices have gradually declined ever since. We now quote jute cuttings at 9s. 6d., which, compared with the top price this year (14s. 6d.), shows a fall of 30 to 40 per cent. Similar remarks apply to bagging and ropes, but the decline has not been so large, and prices generally are coming to a point at which these grades can be dealt in without much fear of loss.

WOOLLENS.—The chief supply has been from Turkey, a large portion being army clippings. When the war commenced one or two buyers thought new blue coarse clippings would be in demand for army clothing, and prices were run up to 25s. per cwt. in anticipation, which proved to be a mistake as they have since come down; last sales were at 17s., but future imports are likely to be worse in quality, and we fear

this price will not be maintained. Other sorts, such as 1st white stockings, merinos, and fine new cloth clippings, have declined considerably, while coloured softs have nearly maintained their price. On the whole, we should think shippers have not much cause to complain, most of the imports having been sold ex-quay on arrival, thus saving storage expenses. Prices may now be considered safe for one or two months, but we look for lower values as summer approaches.

We quote present values of cotton rags as under :

	Egyptian.		Smyrna.		Constantinople.		Beyrout.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1st whites..	—	—	15 0	17 0	14 0	14 6	14 0	14 6
2nd whites.	—	—	12 0	14 0	11 6	12 0	11 6	12 0
Ord. whites	8 9	9 3	9 0	10 0	8 0	8 6	9 0	9 6
Blues .....	8 6	9 0	8 6	9 0	8 6	9 0	8 9	10 0
Colours ...	7 0	7 6	7 6	8 0	7 6	8 0	7 6	8 0
					s. d.		s. d.	
Sicilian white linens.....			12 0	to 16 0				
„ cotton .....			10 0	14 0				
„ coloured „ .....			7 0	8 0				
Venetian white cotton .....			10 6	14 0				
„ coloured.....			7 0	8 0				
Spanish, 1st white cottons ...			15 0	17 0				
„ 2nd do. do. ....			10 6	12 0				
„ Colours do. ....			7 0	8 0				
Bombay gunnies .....			6 0	8 0				
„ Hemp bagging .....			12 0	12 6				
„ White cottons .....			7 0	8 6				
„ Colours do. ....			3 6	4 6				

J. JOWETT & Co., Rag Brokers.

35, Moorfields, Liverpool, January 1st, 1878.

THE LINSEED AND OIL TRADES.

We have again the pleasure to send you our Annual Circular, its retrospect differing from that of most other trades, as a fairly remunerative return has resulted to crushers from the articles in which we are interested, whereas business generally has been exceedingly dull. Supplies of Linseed have been short, owing to the blockade of the Black Sea and Azov ports, although ample to the present time. Smaller stocks, however, are held than is usual at this period, and unless shipments from India are larger than we are led to expect, we may run short ere the season is finished. Small shipments of Azov seed were made previously to the blockade, also a moderate quantity via Northern Russian ports, the latter chiefly direct to Continent.

LINSEED early in January showed more firmness, arrived Calcutta making 52s. 6d., but later, with a very slow cake demand, it declined to 51s.; distant shipments also dropped from 54s. 6d. to 53s. Five Azov cargoes arrived off the coast during the month, and sold at 54s., 53s. 6d., 53s. 3d., and 52s. 6d. respectively. 51s. was the value of arrived Calcutta at the commencement of February; with free supplies it soon receded to 50s., but at the close of the month a recovery to 50s. 6d. was established. March to May shipments made 51s. 6d. to 52s. 3d., and some 15,000 bags Bombay February-April, steamer shipments, sold at 54s.; during the month an arrived Turkish cargo realised 51s., and a floating Kertch cargo 51s. 6d. We had a dull trade nearly all March. Calcutta on the spot declined to 48s. and 49s. 6d.; March-May shipments to 48s., but towards its close there was considerable activity, and some improvement in value. Bombay cargoes made 49s. 6d. c.i.f. to Continent. In April a large amount of

business was transacted, the serious aspect of affairs in the East causing considerable speculation, and from 48s. 9d. on the spot Calcutta advanced fully 10s. per qr., at the end of April 53s. 6d. and 59s. being paid ex warehouse, and a like advance for seed to be shipped. A spring Azov cargo sold at 50s. c.i.f. to Continent, and for seed afloat 53s. 6d. c.i.f., afterwards 56s. c.i.f. up to 53s. c.i.f. was paid. For some time in May, with few arrivals, ready Calcutta was maintained at 59s. 6d. and 59s., but it declined to 55s., by the close of the month, and forward seed dropped from 59s. to 52s. 3d., and afterward recovered to 53s. Azov cargoes made 58s. U.K. and 57s. c.i.f. Continent direct. In June, with little or no Cake demand, the value of Calcutta dropped to 52s. for spot parcels, and fluctuated between 54s. and 53s. for shipments; so an Azov seed, shipped via St. Petersburg, made 52s. 6d. c.i.f., and a coast cargo 52s. c.i.f., both for the Continent, also steamer lots at 53s. 9d. and 53s. 6d. U.K.

The market opened with a dull tendency in July, spot Calcutta offering at 53s. to 52s. 6d., but improvement in Oil and scarcity of arrivals caused a run upon warehouse parcels, and prices went up to 54s. 6d. by the end of July; forward business was done at 52s. up to 54s. during the month. An Azov cargo afloat sold at 53s. U.K. One floating to Amsterdam at 54s. c.i.f., and two arrived cargoes, made 53s. U.K.

For a short time in August 54s. remained the spot value of Calcutta, but becoming scarce it improved to 55s.; afterwards, with free supplies, the advance was lost, and at the close of the month the value had again become 54s. Forward sales were made at 53s. 6d., advancing to 55s., but by the close of August 54s. had been accepted. Some Azov seed off the coast made 55s. 9d., and autumn shipments, via the Baltic, sold at 56s. c.i.f. to Continent. 54s. was obtained, and shipments for Hull direct 56s. to 56s. 6d. Azov, for shipment via Riga, made 54s. c.i.f. Continent.

In October 55s. 6d. to 55s. were the opening prices of Calcutta, but, with free supplies, temporarily declined to 54s.; afterwards 55s. to 55s. 6d. was again paid; by the end of October the value receded to 54s. 6d. Several forward sales of Bombay seed were made this month at 56s. 6d. c.i.f. Continent for seed-loading, and 56s. 6d. to 56s. 9d. were the prices of March-April, steamer shipments, delivered U.K., as well as November-December shipments at 53s. delivered U.K. Azov cargoes, shipment at Riga, made 57s. to 57s. 6d., and parcels floating to Hull 56s. 3d. to 56s. In November, with some arrivals, the value of Calcutta dropped to 54s. ex steamer, and at about this price it remained steady through the rest of the month. Forward seed generally dull, with a lot of steamer seed offering; business done at 54s. 6d. to 54s. Cargoes of Azov seed via Riga sold at 57s. 6d., also 55s. 6d. c.i.f. Continent, and a parcel to Hull at 56s. Free arrivals of Calcutta in December soon reduced the value to 51s. 6d. and 51s. 3d. Forward seed was quite neglected except during a short interval of political excitement, when some sales were made of steamer shipments at 51s. 9d. to 52s. 6d., and by sailers at 52s. 6d. to 53s.

Stocks in mills are small. The stock of seed in warehouse here, and afloat in the docks, amounts to 80,000 qrs., at Liverpool 7,500 qrs., and at Hull there is about 120,000 qrs. in importers' and crushers' hands.

Afloat there is about 400,000 qrs., consisting of almost entirely East India seed.

London has imported 793,000 qrs., consisting of 777,000 qrs. East India, Baltic 9,000 qrs., Black Sea and Azov 3,400 qrs., Archangel 1,600 qrs., and sundries 2,000 qrs.



The aggregate import into the United Kingdom is made up of 1,125,000 qrs. East Indies, 26,600 qrs. Black Sea and Azov, 325,000 qrs. Petersburg, 40,000 qrs. Archangel, 75,000 qrs. Riga (including 10,000 qrs. sowing seed), 100,000 qrs. Revel, Memel, Königsberg, &c., and remainder sundries.

The Black Sea and Azov cargoes, coming to direct U.K. ports, and calling on the coast for orders, consisted of about 64,150 qrs., which were discharged as follows, viz.:—Hull 8,900 qrs., London 3,400 qrs., Dover 2,950 qrs., Bristol 2,700 qrs., Bridgwater 2,500 qrs., Stockton 2,450 qrs., Aberdeen 2,000 qrs., Sharpness 1,600 qrs., and Leith 200 qrs.; 21,450 qrs. went to France, 10,500 qrs. to Belgium, and 5,600 qrs. to Holland.

LINSEED OIL was in fair request, at 26s. 9d. to 27s. at commencement of January, continuing steady thereat for a week or two, but was quoted 25s. 6d. to 26s. 3d. at the close of this month, with almost a cessation of export inquiry, although the make was small—prices dropped to 25s. by the end of February. 25s. to 24s. 3d. were the values in March, with a recovery to 24s. 6d. at its close. With the war excitement in April it advanced rapidly, and improved to 31s.; this having subsided, part of this rise was lost in May, and before the month was out 27s. 9d. to 27s. 6d. had been accepted. It fell to 26s. 9d. in June, but rallied to 27s. 6d. after; and during July, with a very small make, a rise to 29s. and 29s. 3d. took place. An advance to 30s. and 30s. 3d. occurred in August, at about which it remained steady until the end of the month. Early in September, with continued scarcity, price improved to 30s. 6d., and a further 10s. per ton by the second week, at which it continued steady until its close. 31s. was paid in October, with a fall to 30s. during that month, and before its close 31s. was again made. With a larger supply the value gave way in November to 29s. 3d., with a slight rally of 10s. to 15s. for a short time, and closing at 29s. 3d. A decline to 27s. 9d. occurred in December.

LINSEED CAKES.—English made were in limited demand in January, the consumption being far below that usually looked for at this time, £11 being the nearest value of the best makes. There was no alteration in prices in February, the consumption showing little or no improvement. This state of things continued throughout March, with some consumptive demand. 5s. advance was obtained in April, and £11 5s. to £11 paid in May, and a slow sale in June and July reduced quotations to £11 to £10 15s. There was a very small demand in August and September, as usual during harvest operations, and rates were without change, and remained current until the end of the year, with a little better demand in the last two months.

Of foreign the import into the United Kingdom in 1877 amounts to 155,000 tons of all descriptions. The consumption in January was comparatively small, prime brands of American selling slowly at £10 10s. to £11 5s., a relapse to £10 to £10 15s. took place in February; £9 10s. to £10 10s. were the rates in March and April, and about these rates were current in May, June, and July, with very small consumption; during August there was no change; 5s. more was obtainable in September, and £10 to £10 15s. have been current since, the trade altogether having been of a quiet character.

RAPESEED.—The market was very strong at the beginning of the year, but later there was a falling off in demand, and brown C. dentata on the spot from 60s. declined to 53s. by close of January, with little inquiry; a fall of 2s. occurred in Febru-

ary, and it was dull during March at 55s. to 54s.; the state of political matters in the East in April caused a recovery to 56s. again, but this subsided, and a fall to 53s. occurred by the middle of June; after this, with news of a very deficient Continental crop, an active export inquiry set in, prices advanced to 60s. by the end of July, with a very firm market, a further improvement of 2s. to 2s. 6d. occurred in August, 62s. to 61s. were the values in September and October with a slow sale, and during November it fell to 58s., and this price has been about its value since.

RAPE OIL fluctuated in January a good deal, the value of English grown Oil being 38s. 9d. to 39s. at the commencement, advancing to 40s. quickly, but at the end of the month it was quoted at 38s. 6d. This was paid early in February, but not maintained long, and 37s. 6d. accepted at its close. Early in March several "bear" operations reduced the value to 35s., after declining to 34s. 6d.; an improvement occurred in April to 36s. 6d., but this advance was lost in May, when it fell to 34s. 6d. again. In June there was a further drop to 34s., but it improved to 34s. 9d. at the close of this month, and in July, with the strong demand for Rapeseed, an advance in its price, Rape Oil followed suit, and 37s. was paid at the end of July, and by the close of August an advance to 39s. was established. 39s. to 38s. 6d. were the values in September, and during October it declined to 37s., and, with little variation, this was the price in November; a slight advance occurred in December, end-to-day 37s. 6d. is the nearest quotation.

RAPE CAKES from East Indian Seed were quoted £4 15s. to £6 all January, with a moderate sale only. £5 12s. 6d. to £5 15s. was paid in February, £5 10s. to £5 5s. were the values in March and April. £5 10s. to £5 15s. in May, and 5s. advance in June and July. £6 2s. 6d. to £6 5s. were given in August with a better demand, and the same prices in September. £6 to £5 17s. 6d. were quoted in October, and £5 15s. to £6 in November—during December the demand remained steady at £6.

COTTON SEED.—The import of this article in 1877 into the United Kingdom amounted to 265,000 tons. Considerable business was transacted in January: spot seed made £8 5s., and advanced to £8 12s. 6d. Free arrivals towards the end of the month dropped the value to £8 2s. 6d.; however, at its close, 2s. 6d. more was obtained. £8 7s. 6d. to £8 12s. 6d. were paid for shipments, £9 5s. to £8 2s. 6d. were the spot values in February, with sales of March shipments at £8 7s. 6d. to £8 8s. 9d. Several coast cargoes were placed at £8 7s. 6d. to £8 6s. 3d. and £8 5s. The market was quiet during March, £8 5s. and £8 3s. 9d. paid for coast cargoes, and £8 to £8 2s. 6d. accepted at Hull. An improved demand was manifest in April, coast seed directly advanced to £8 10s., and the war excitement speedily enhanced value to £9 15s. on the coast, while £10 was obtained at the end of the month for warehoused parcels—the latter price was given early in May, both for warehouse seed at Hull and for Strait shipment to this port, and for 3 coast cargoes £10 1s. 3d. was given, but before the end of the month £9 10s. had been accepted for spot parcels. In June prices became easier; coast seed sold at £9 2s. 0d., also new crop November shipment to outports made £8 5s., later shipments £8 2s. 6d. During July seed was very quiet at £9 to £9 5s., both on spot and for coast cargoes, but a good deal of business was transacted in the new crop, say £9 to £9 2s. 6d., October shipments, and at £8 5s. to £8 8s. 3d., November dispatch. Some east arrivals in August sold at £9 8s. 9d. to £9 10s., and large sales of new

seed were made, say for November to January shipments, at £8 2s. 6d. to £8 3s. 9d., and £8 5s.; also October shipments at £8 12s. 6d. to £8 15s. The spot quotation in September was £9 5s. to £9 2s. 6d., with sales of October shipments at £8 15s., at £8 11s. 3d., and November-January at £8 3s. 9d. to £8 6s. 3d., also September dispatch at £9 to £9 5s. A good inquiry continued through October—spot at £9 2s. 6d. to £9 1s. 3d., and new seed early October dispatch, at £9 2s. 6d. to £9, all the month £8 17s. 6d. to £8 15s., November £8 10s., and December cargoes made £8 7s. 6d. In the first week of November, with free supplies, prices became somewhat easier, £8 7s. 6d. accepted on spot, but an inquiry to cover oversold contracts soon checked the fall, and repurchases were made at £8 10s. to £8 15s. for forward shipments. A firmer tone showed itself in December, spot seed made £8 12s. 6d. to £8 17s. 6d. at Hull, and here £8 15s. to £8 11s. 3d., and early cargoes at £8 17s. 6d. to £8 18s. 9d., later on in the month £8 16s. 3d. accepted for cargoes December shipment, £8 15s. to £8 17s. 6d., the closing spot values both here and at Hull.

COTTON OIL advanced from 27s. 9d. at the opening of January to 28s. 9d. by the middle of the month. The make being large and sales pressing, the improvement was soon lost, and by the close of January it had declined to 27s. 6d., and by the end of February 26s. was accepted. In March 25s. to 6d.

25s. 3d.; there was considerable improvement in April, when it ran up to £29. A fall of 20s. per ton occurred in May, and 28s. to 27s. 6d. were the values in June, and, with good export demand, 29s. 6d. was established at the end of July, and 30s. was obtained in August; with a very good demand it advanced to 31s. in September; but, with a slow sale, a fall to 29s. occurred in October, and this was about the value in November; with a moderate sale in December at 28s. 9d. down to 28s.

COTTON CAKES were in considerable demand all January, and of ready sale at £6 per ton; this was about the value in February. A slow sale in March reduced the price to £5 15s. In April an improvement of £1 per ton occurred, and £7 was the nominal value during May. During June £6 15s. to £6 5s. were the quotations, and throughout July £6 5s. to £6 10s. A decline of 5s. to 7s. 6d. per ton occurred in August, and £6 to £6 5s. were the values during September and October. A good sale was experienced in November at £6 2s. 6d. to £6 7s. 6d., as also in December. The consumption is the largest ever known, for, with an import of 265,000 tons of seed in the United Kingdom in 1877, against 230,000 tons in 1876, there are no stocks held worth noticing, showing how large a quantity has been used.—ASHTON & EDWARDS & CO., *Old Broad Street, London, [Jan. 1st 1878.*

## FREE TRADE IN LAND.

Mr. Joseph Kay has published the following letter in *The Manchester Examiner*. Others will follow:—

With your permission I wish to explain, as simply, clearly, and shortly as I can, the facts of a great subject, which will henceforward until its settlement more and more draw to itself the attention of the public—I mean the subject of the Land Laws.

It is surrounded by so many technicalities, and by so many statutes and decisions of the courts—the law is so difficult even for lawyers to understand; such a vast literature of rubbish has grown up around it; so many thousands of cases have been argued and reported upon its meaning; and lawyers are so unwilling to put their own hands to the work of reform—that it is not wonderful that the most singular mistakes should be made by many public speakers in dealing with this question, and that the real reforms, which are needed, should till be wrapped in so much obscurity. And yet I believe that this subject is capable of a simple and intelligible statement, and that the facts in which the unprofessional public are interested are few and easy of comprehension. I am, however, almost astonished at myself for venturing on the above statement when I reflect that I have known the deed of settlement of one estate to require many months for its preparation; to cover nearly a barrow load of paper when written out preparatory to being engrossed on parchment; and to cost over £400 for the conveyancer's charges alone, without reckoning either the solicitor's charges or the cost of the necessary stamps. And yet with all this cumbrous, costly, and scarcely intelligible verbosity, the title of such an estate is scarcely ever free from some doubt or question. I propose to try to explain:—

1. The actual condition of things which the present Land Laws have produced.

2. What the actual existing laws are under which this condition has been produced.

3. The different state of things which exists in foreign countries.

4. What remedies we ought to seek.

THE ACTUAL CONDITION OF THINGS WHICH THE PRESENT LAND LAWS HAVE PRODUCED.—To ascertain this we must consult some extraordinary and interesting returns, which have been recently prepared—I mean, of course, the so-called "Down's Books." These returns were moved for in the House of Lords, on the 19th Feb., 1872, by the present Earl of Derby—himself one of the largest of the English landowners—who in moving for the returns showed clearly what his motive for wishing for them was, by stating his belief that the number of landowners in the United Kingdom was nearer 300,000 than 30,000, as has been constantly stated; that it was a popular fallacy to suppose that small estates were gradually being absorbed in the larger ones; but that "it was true that the class of peasant proprietors formerly to be found in the rural districts was tending to disappear." It was therefore with the expectation, if not with the object, of making out these propositions that the return was demanded of and granted by the assembly of the greatest landowners of the United Kingdom. So far as giving us an approximate idea of the size and number of the great estates, these returns are as interesting as they are astounding; and astounding they most certainly are, for they disclose a state of things existing in Great Britain and Ireland which has no parallel in any other civilised country in the world. But even in professing to state the size and number of the great estates, they do not tell us the whole of the story, for they do not include in the alleged sizes of these estates the acreage of any woods or plantations, or of any waste or common lands,

all the vast extent of which property is not added to the estates of their owners. "Domesday Books," therefore, only give the sizes of the estates after deducting the immense area covered with woods, plantations, waste, and common lands.

So far as showing the number of the owners of small agricultural estates, or as they used to be called "yeoman proprietors' estates," the "Domesday Books" are utterly worthless, if not utterly misleading, for not only do they mix up in the number of "owners of one acre and upwards" all the large number of small building plots purchased by members of the middle and shopkeeping classes, on which to erect houses or villas, a great proportion of which are leaseholds for 99 years, but they also mix up in the same number and reckon as owners of land all holders of land on leases for terms exceeding 99 years. That is, in order to swell the number of small owners, they have reckoned leaseholders as owners! It is difficult to conceive a more misleading statement. I will try to explain why I say so. First of all, it should be remembered that at the end of these terms of 99 or more years, the lands held by these leaseholders return to the great landowners, together with all that has been expended upon them, and together with all the improvements in value which has resulted from this expenditure. A leaseholder has never the same feeling towards, nor the same full interest in, the land he so holds as he would have if he knew that it was his own property. But more than this, the land held for these terms of 99 years or more is almost always subject to various kinds of covenants and conditions—such as to expend upon it a certain sum of money for buildings or other kinds of improvement; or to expend at certain periodical times on restorations; or to insure; or to cultivate in a particular kind of way; or not to use the lands for certain named and specified purposes; or not to shoot the game; or to allow the landlord to enter to inspect, or to shoot the game, or for other purposes; or not to cut any timber, or not to remove fences, or to keep up erections on the land; or to observe some other agreed duties. Many of these leases contain agreements that the landowners shall have the power to enter and take possession if any of these covenants is broken.

Such a holding as this is less like real ownership than a horse hired by anyone is like a horse which belongs to him, for, at any rate, when anyone hires a horse he is not bound down by covenants as a leaseholder is. I say, therefore, that it was ridiculous and misleading in the extreme to include these leaseholds for 99 years and upwards among the freeholds, or, in other words, among the small estates belonging out and out to the occupiers themselves. If we could possibly ascertain the number of yeoman proprietors actually owning out and out small farms, we should find that number a very small and, as Lord Derby admits, a constantly decreasing one. Even the House of Lords did not venture to propose that these 99 years' leaseholds should be reckoned as freeholds. The nearest approach to such a proposition was made by the Marquis of Salisbury, who "urged that the 999 years' leaseholds ought to be included in the returns." But when we come to consider the number and size of the great estates, we find the returns of extraordinary interest. Although the full size of these great estates are not shown, on account of the omission of woods, waste lands, and commons, the returns are indeed so startling that one is lost in astonishment that Lord Derby should have deemed it for the interest of his brother-landowners to disclose the truth.

I shall only attempt to state some of the more remarkable results, merely observing that each one is worthy of serious reflection, and that its full significance can only be grasped by trying to form some approximate idea of the meaning of these figures. The total area of England and Wales is, after deducting the quantity within the metropolitan area, 37,243,859 acres. How is this vast extent divided among the inhabitants? 66 persons own 1,917,076 acres. 100 persons own 3,917,641. Less than 280 persons own 5,425,764, or nearly one-sixth of the enclosed land of England and Wales. 523 persons own one-fifth of England and Wales. 710 persons own more than one-fourth of England and Wales. 874 persons own 9,267,031 acres. Just think how small a number 874 persons are in a church or town hall, and then try to realise what the figures 9,267,031 signify. And it is to be remembered that in none of these calculations are the extents of woods, commons, and waste lands included. But to continue, in the county of Northumberland, which contains 1,220,000 acres, 26 persons own one-half the county. One Englishman owns more than 186,397 acres, another more than 132,996 acres, and another more than 102,785 acres. A body of men, which does not probably exceed 4,500, own more than 17,493,200 acres, or more than one-half of all England and Wales.

In Scotland the returns are still more startling. The total acreage of Scotland is 18,946,694 acres. One owner alone has 1,326,000 acres in Scotland, and also 32,095 in England, or a total of 1,358,548 acres. A second owner has 431,000 acres, a third owner has 424,000, a fourth owner has 373,000, a fifth owner has 306,000. Twelve owners have 4,339,722 acres, or nearly one quarter of the whole of Scotland; or, in other words, a tract of country larger than the whole of Wales, and equal in size to eight English counties, viz., Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, Cornwall, Cumberland, and Derbyshire. 20 owners have each more than 120,000 acres. 24 owners have 4,951,884 or more than one quarter of Scotland. 70 owners have about 9,400,000 acres, or about one-half of Scotland. 171 owner, have 11,029,228 acres. While nine-tenths of the whole of Scotland, that is, of the whole of 18,946,694 acres, belong to fewer than 1,700 persons. The existence of these great properties in Scotland has led to the depopulating of great tracts of country in order to create great deer forests. There is no return of their acreage, but the Hon. Lyulph Stanley calculates that much more than 2,000,000 acres have been cleared of hundreds of thousands of sheep, and depopulated, in order to make room for deer; or, in other words, the homes and farms and food of thousands of families have been destroyed in order to feed the deer and encourage sport, and this in a country which is alleged to be so crowded as to make it absurd to suppose that any alteration in the Land Laws would enable the middle or labouring classes to acquire land.

But let us turn to Ireland. Here, also, the framers of the returns have reckoned leaseholds for more than 99 years as freeholds. And here, also, it is impossible to ascertain from the returns the number of yeomen proprietors who exist in the island. No doubt the number, spite of the sales of lands under the Encumbered Estates Act, the Land Act, the Bright clauses, and the Disestablishment Act is very small. But whatever the number, the returns do not enable us to ascertain it for the reasons already given. Now certainly one would have said, *a priori*, that if there was any country in the world in which it was desirable to have a large and widely distributed body of yeomen proprietors, that country was Ireland. Such

proprietors, wherever they exist, are always found to be conservative in the best sense of the word, deeply interested in public peace and order, self-denying and saving, prosperous and anxious to promote the good education of their children. In all countries where the Land Laws have allowed or promoted the existence of such proprietors these results have invariably followed. Similar laws would be followed, as I believe, by similar results in Ireland. But not only are there very few such proprietors in Ireland, but the system of great estates adds in Ireland, to its other evils, one which is not experienced to any great extent in England or Scotland—namely, the evil of absenteeism. A large proportion of the great landowners of Ireland reside in distant countries, carry away the revenues of their Irish lands into those countries, and instead of spending those revenues among their Irish tenants and neighbours, in the promotion of Irish industries and in the improvement of their Irish tenants, they spend them among other people, while their Irish tenants are left, without the support or countenance of their landlords, to the tender mercies of agents, who are often strangers to Ireland. But let us see what light these returns throw upon the division of land in Ireland. The total area of Ireland is 20,159,678 acres. Of this—452 persons own each more than 5,000 acres. 135 persons own each more than 10,000 acres. 90 persons own each more than 20,000 acres. 14 persons own each more than 50,000 acres. 3 persons own each more than 100,000 acres. 1 person owns 170,119 acres. 292 persons hold 6,458,100 acres, or about one-third of the island. 744 persons hold 9,612,728 acres, or about one-half of the island. Taking the acreage of the 12 largest owners in each of the three kingdoms, we have the following result: In England the 12 largest owners hold in the aggregate 1,958,883 acres; and their respective acreages are 186,397, 132,996, 102,785, 91,024, 87,515, 78,542, 70,022, 68,066, 66,105, 61,018, 57,802, and 56,600. In Scotland the 12 largest owners hold in the aggregate 4,339,722 acres; and their respective acreages are 1,358,548, 431,000, 424,000, 373,000, 306,000, 302,283, 253,221, 220,663, 194,649, 175,114, 166,151, and 165,648. In Ireland the 12 largest owners hold in the aggregate 1,297,888 acres, and their respective acreages are 170,119, 156,974, 121,353, 118,607, 114,881, 101,030, 95,008, 94,551, 93,629, 86,321, 72,915, and 69,501. In the United Kingdom the 12 largest owners hold in the aggregate no less than 4,440,467 acres, as the able summary published in *The Times* states. Two-thirds of the whole of England and Wales are held by only 10,207 persons. Two-thirds of the whole of Scotland are held by only 330 persons. Two-thirds of the whole of Ireland are held by 1,942 persons. Of the remaining one-third a great part will, at the termination of the leaseholds for the present remainders of the original term for 99 years and upwards, revert to these great owners, with all the improvements made upon them by the expenditure of the leaseholders.

Mr. Froude, the enthusiastic advocate for the present system of Land Laws, says frankly, "The House of Lords does own more than a third of the whole area of Great Britain. Two-thirds of it really belong to great peers and commoners, whose estates are continually devouring the small estates adjoining them. This statement by the landowners' one-sided and eager partisan that the great estates, vast as they already are, are "continually devouring" the few remaining small agricultural properties is borne out by the admission of one great landowner, Lord Derby, that the class of peasant proprietors formerly to be found in the rural districts was tending to disap-

pear." The statements are only too sadly true. There is no doubt that England once possessed a large class of independent, well-to-do, self-supporting yeoman proprietors. Old writers treat it as one of the boasts of old England that she had so many small freehold yeomen. Where are they now? By our system of Land Laws we have been cutting away the base of our social pyramid, while nearly all other civilised countries have been pursuing an exactly opposite policy.

Since the French Revolution of 1789 the greater part of the land throughout the republics of Switzerland and France, the empires of Germany and Austria, and the kingdoms of Holland, Belgium, and Italy, has been released from its feudal fetters, and has in every such case begun immediately to break up into smaller estates. In all those countries the consequence has been, what it would be in Great Britain and Ireland, the division of the land into estates of all sizes and the creation of a class of conservative, industrious, prosperous, and independent yeoman proprietors.

Lord Derby shows us by his returns what the condition of the large estates is in Great Britain and Ireland, although he avoids showing what the effects of all this has been upon our small farmers and upon our agricultural labourers.

It would be a most interesting subject of enquiry, had we only the means of following it out, to ascertain how each of the great estates came to be formed—how many were created by the industry and personal efforts of some ancestor; how many were the grants of sovereigns to their favourites; how many were gradually amassed by successive marriages of convenience; how many were obtained by ambitious statesmen in the troublous times of our rough island story by the attainder and death of rivals; how many were either created or immensely increased by grants of the vast possessions of the religious houses and of the Roman Church; how many were the results of our fierce and bloody civil wars and struggles. It would indeed be a curious and instructive study. But they exist, and no one wishes to interfere with the just rights of property. The only question we all desire to have answered is, Is it for the common weal that the laws which affect land, and which, as I and many others affirm, have the same effect here that similar laws used to have on the Continent of Europe—viz., to keep the land tied up in great estates, and to prevent it coming into the market as much as it otherwise would do—should be retained upon the statute book of Great Britain and Ireland?

Before leaving this division of our subject, let us for a moment consider what effect these laws have on the class of the peasantry in Great Britain. In the countries in which these laws have been repealed, the peasants and small leasehold farmers know that if they exercise sufficient self-denial and thrift, and if they are successful in laying by their savings, they may look forward to the time when they may purchase a cottage, a garden, or a small farm of their own. This knowledge is an immense incentive to exertion, self-denial, and economy. Throughout the greater part of Europe, and in the most thickly-populated provinces of those countries, in provinces where land sells for agricultural purposes at prices equal, and even higher, than in England, tens of thousands, nay millions, of the peasants and small farmers have worked their way upwards to the position of independent yeoman proprietors. How strangely different is the case in Great Britain! How many peasants can call their cottages or their gardens their own freeholds? How many have the slightest security

of tenure, even of the smallest cottage, except the will of their landlords? Nay, more, how many small farmers, no matter what their industry, their thrift, or their self-denial, can ever hope to win the smallest freehold of their own? One of the most interesting bodies of men in our island used to be the small "statesmen," or freehold farmers, of Cumberland and Westmoreland, a set of independent yeomanry of which any country might have been proud. Within the last 50 years they have been disappearing before the "devouring maw" of the great owners, who buy regardless of rent or profit, and often merely for the purpose of swelling their already vast possessions.

But, it is said, this will always be the case—the great estates will always devour the small; a small farmer or a peasant will never be able to compete with a rich owner in the auction room; the small freeholder will never sell unless it is better for him to do so; no laws will stop this tendency of things in Great Britain. I believe this to be the greatest possible fallacy. It is contradicted by the experience of all other countries. The existence and small number of these vast estates create an unnatural and unwise competition amongst them, each to emulate his neighbour to increase his possessions. Each great owner knows that political influence, social influence, position among other great neighbours, depend to a great degree in this country on the extent of landed possessions. When, therefore, a small freehold adjoining one of these vast estates comes into the market, owing to death, or embarrassment, or other cause, it constantly happens that the agent of the great landowners comes into the auction room and buys up the small freehold, wholly regardless of the question whether the sum paid can ever return any reasonable amount of interest or not. So the poorer bidder, inasmuch as he must consider what return he could hope to make on his outlay, finds himself nowhere in the struggle. I could mention the names of great proprietors who have for long years acted on this principle simply with the view of enlarging their estates. "In some counties," as Mr. Lefevre states, "all the land which comes into the market is bought up by the trustees of wills directing the accumulation of land; while in most parts of the country, if a small freehold of a few acres comes into the market, it is almost certain to be bought up by an adjoining owner, either for the purpose of rounding off a corner

of his estate, or for extending political influence, or still more often by the advice of the family solicitor, who is always in favour of increasing the family estates. On most large estates there will be found the remains of several manor houses, either converted into farmhouses or labourers' cottages, showing that in former times the number of resident squires must have been far more numerous.

If our laws did not keep the great estates out of the market, when many circumstances would otherwise often bring them into it; if the laws did not assist the landowners to preserve their estates from the natural consequence of spendthrift and speculative successors, of bad or ignorant management, and of immoral, gambling, or improvident children; if the laws did not keep the great estates together, in spite of all changes of circumstances which occur to make it expedient in an owner to sell; if the laws of primogeniture, wills, and settlements were altered; and if the dead man's arrangements were not allowed to bind the land long after his death—many of these estates would come into the market, and would, in order to fetch the best prices, divide and sell in smaller plots, just as they have done to some extent in Ireland under the Encumbered Estates and Land Acts, in spite of primogeniture and settlements; and just as they have always done in foreign countries to an immense extent, where primogeniture and settlements have either been done away with or greatly modified. Besides, the very knowledge that a great proprietor could not tie up his estate and secure it from sale for many future years would of itself diminish this exaggerated longing to acquire land for the purpose of founding a family and acquiring social and political influence. Even the richer and greater owners would consider whether the price asked would be a good investment or not. But if all this is not true—if no alteration of these laws would prevent the accumulation in a few hands, and the long continuance of the same estate in the same family, then of what possible use can these Land Laws be?

By these Land Laws, as it seems to me, we not only injure our small farmer and peasant classes, and reduce them below the level of such classes in the countries where these laws have been repealed, but we also at the same time deprive the country of the immensely valuable element of a contented, prosperous, intelligent, and conservative rural population.

## DAIRY FARMING IN SCOTLAND.

At a meeting of the Western District of Mid-Lothian Agricultural Association a paper was read by Mr. Hamilton, of Cairns, on "Dairy Farming."

Mr. HAMILTON said:—In drawing your attention to this subject I am aware it is one that is losing favour in this district, and would by no means recommend it on all soils or situations within the bounds of this Association; but there are others in the district where, distant from police manor, it might be adopted with advantage, to consume the fodder and turp on the farm. It is not my intention to enter into minute details as to whether it might be advantageous or otherwise. This must be left to each individual to judge for himself. Such is the situation of the farm, the conditions of lease, &c., &c. However, there are some things, to insure a profitable return I cannot pass over—viz, good house accommodation for the cows, the preparing of their food, and the

produce for the market, and to promote, as far as possible, the health and comfort of the cows. I would recommend the number in each byre not to exceed 12; a good supply of pure water; and their pasture, if practicable, as near the byres as it can be got. With a good stock of Ayrshire cows, and the details wrought out in a proper manner, the dairy should pay as well, if not better, on many farms than any other system of farming that I am aware of—the present prices and future prospects of the produce being all in their favour, having less foreign competition to meet with in the market than any other product of the farm. With our daily increasing population the demand for dairy produce will also increase; and I am of opinion, were it more extended in the country, the cows pastured in the fields during the summer months, the manure made on the farm when it is wanted, the milk and butter sent to large centres of population by rail or otherwise, it would be

found of superior quality to that of town dairies, with less disease. I now give what I consider a fair estimate of the expenditure and income of *each cow* on a farm where a dairy of, say, 30 are kept as a regular stock, four or five queys taken in annually, and a like number of old cows sold off. I am aware both the produce and expenditure will vary considerably on one farm from another, but I have taken what I consider a fair average:

Annual income of each cow—

600 gallons of milk at 10l. ....	£25 0 0
12 tons of dung at 7s. 6d. ....	4 10 0
	£29 10 0

Annual expenditure of each cow—

Pasture grass .....	£4 0 0
Vetches or clover.....	1 0 0
Meal, &c., &c. ....	4 0 0
Turnips, 3 tons at 12s. ....	1 16 0
2 tons oat straw 60s. ....	6 0 0
$\frac{1}{2}$ ton of hay 80s. ....	2 0 0
7 $\frac{1}{2}$ per cent. to uphold stock .....	1 10 0
Working expenses .....	3 0 0
Marketing produce .....	2 0 0
Cost and upholding of dairy utensils .....	0 10 0
Profit .....	3 14 0
	£29 10 0

Valuing the cows at £20 each, these figures, if found correct, show a profit of about 18 per cent. on this department of the farm, and I would say an indirect profit in resting the land; besides, it gives the farmer another string to his bow in a season such as this, when the arable portion of many farms will show a decided loss. However, I trust the meeting will criticise the figures freely, as by doing so we are more likely to arrive at a correct estimate.

Mr. GEORGE GLENDINNING was at a loss to understand how 12 tons of dung could be raised in accordance with the tabulated figures.

Mr. GLENDINNING (Hatton Mains) pointed out that the scientific dairymen in Ayrshire and Lanarkshire, to whom Mr. Hamilton referred, had a different system altogether from ordinary farmers. The dairymen did not use the same quantity of turnips for one thing, and he contrived to have a great deal more done than he paid for straw.

Mr. P. AULD considered the estimates in regard to keep were far too low, and went on to cite a number of cases in which the balance was all on the wrong side of the ledger. For a dairy of 30 cows a man required a capital of £620, made up as follows: 20 cows at £18, £360; horse and cart, £40; dairy utensils £50; cash in hand to start with, £10. That was about it, for when they managed to tide over three days they got more cash in, and they required no credit. The income derived from those 30 cows was set down at £750. Then, on the other hand, the interest on £620 at 5 per cent. was £31; two-and-a-half women, £36 16s.; one man, a horse and a quarter, £106, grass £120, draft £150, meat £120, ten acres of turnips at £10, £100; two deaths of cows £36, loss from murrain, £20, total £773 16s.—leaving a balance against the dairy farmer amounting to £23 16s. That was what had actually taken place. In another case, with about the same amount of capital, the income from 30 cows was valued at £720, interest £31, draft £260, cake £66, grass £45, tares £24, turnips £80, cows dead £40, murrain £25, labour £200, total £771—leaving a loss of £51. In a third case

the figures were, income of 14 cows at £24, £336; expenditure—draft £73, meat £22, labour £130, grass £60, turnips £64, loss from murrain £30, interest £17, total £401—leaving a loss of £65. In a fourth case, where 18 cows were kept, there was a loss of £2 8s. In one of the cases quoted, Mr. Auld remarked that a man had been struggling for the last 50 years, keeping the shaft in the mill and starving a wife and family.

Mr. McDOWELL (Malcolmston) did not think it was right to place such instances (where stall feeding was resorted to) side by side with the kind of dairy farming to which Mr. Hamilton referred. In the main the estimates of Mr. Hamilton were pretty nearly correct, though he (Mr. McDowell) took exception to the items in regard to turnips, straw, and dung.

Mr. GLENDINNING (Hatton Mains) thought they would hardly succeed in making farms pay without a dairy. The first thing a man should do in taking a farm was to get a wife to manage his dairy. Mr. Auld had told them that a man starved his wife at dairy farming. They had only to look at the flourishing farms of Lanarkshire or Ayrshire to find out whether it was so or not. His impression was that in Lanarkshire, Ayrshire, and Kirkcudbrightshire they could not get so much off turnips as they could off dairies. He agreed there were different methods of feeding, but take a regular dairy, where the cows went yield every three months, and where there was comparatively little feeding, he believed 32lb. of turnips was all the average of them got per day. Many of them, in his opinion, could not pay their rent unless they kept a dairy, and, the moment they gave up the dairy they might give up the farm.

Mr. AULD said the price of milk quoted by Mr. Hamilton was above the average. It was strange how so many had been obliged to give up dairies, while others who kept no dairy managed to pay their rents.

Mr. GLENDINNING (Hatton Mains) said he thought he could furnish a reason why so many had given up dairy farming. He was an old dairyman himself, and had churned milk 40 years ago, but when they got a little too full in the purse they did not want to take upon them the trouble and attention a dairy required.

Mr. AULD said he did not refer to Lanarkshire or Ayrshire, but to their own neighbourhood.

Mr. GLENDINNING (Hatton Mains): I take Butelaud.

Mr. DAVIDSON (Dean Park) referred to the statement that farmers would receive an indirect benefit from their pasturage by cows. He did not think the land improved in condition when grazed by cows. On ordinary rotation pasture failed when grazed by cows.

Mr. BARR (Broomhouse) said he had never had any difficulty with the dairy, but the horses and men ate up everything that grew on the place.

Mr. GLENDINNING (Hatton Mains): That is just for want of management.

Mr. MELVIN, jun., observed that much depended on the locality.

Mr. HAMILTON admitted that a good deal depended on localities and the situation of a farm. He maintained, however, that resting the land was a benefit. Referring to the objections of Mr. George Glendinning, he said he did not value turnips so highly as the last-named gentleman. They were sometimes a total failure, and he would substitute a little extra food. Mr. Auld had referred to stall-feeding, but the subject in hand was dairies kept regularly on the farm. As to giving draft, he prohibited it. He agreed with Mr. Glendinning that

many of them seemed in this matter to be getting above their profession. He maintained that with proper management in certain localities dairy cows would pay quite as well as any stock. Regarding the use of crosses, he was aware that some liked a first cross between a Shorthorn bull and an Ayrshire cow, but there was, in his opinion, no cow or class of cattle

from which they could obtain as much milk and butter for the food they consumed as could be got from the Ayrshire cow.

The opinion of Mr. Glendinning, and that of the majority of the meeting, was that dairy farming might probably be carried on on high farms where cows or breeding stock were kept.

### POULTRY FATTENING FAIRLY TESTED.

"Master says they chicken are eating their heads off," observed Jones, our new bailiff, or "odd" man, as he was generally called, as he passed by on his way to the pig-sties, with a pail full of that delectable compound known as hog-wash on each arm. I was feeding the fowls, about 90, all ages and sizes. "Yes," I said, picking up a stick and trying to make the old rooster let the young ones eat their maize in peace—"yes, they do eat a great deal—I suppose they ought to be fattened. You spiteful thing, leave off." This last remark was not addressed to Jones, but to the old rooster, as, evading me, he began pecking indiscriminately at every chicken he saw eating. Enforcing my observation with a tap from my stick, he started away and began crowing defiantly at the world in general, and me in particular, but was too anxious to eat up all the maize he could find, before anyone else could get it, to crow very long. When Jones came back I told him I should have a dozen chickens shut up, and asked him to see that the fattening-coop was in order. He promised he would do so, and also come in the evening after the fowls had gone to roost, to catch the doomed chickens, and put them in. A very quiet, civil, obliging man was Jones, very different from his predecessor, who never had time to do anything in the poultry yard, for "he couldn't abide they chicken—more plague than profit." Of course I knew how to rear poultry for the market profitably; for had I not read all the great authorities upon the subject? and did they not all point to the same conclusion that the way to be wealthy was to rear as many fowls as possible? And as that involved early rising, why "healthy and wise" must follow as a matter of course. When I went into the hen-house next morning, carrying a great bowl of ground oats mixed into a thick batter with skim milk, there was a great bustle among the twelve chickens imprisoned in a coop, like a plate-rake fastened against the wall. I put some of the food into a little trough attached to the front of the coop, and kept on feeding them as long as they could eat, then left them well supplied with water. This I repeated at dinner time, and again just before tea. Matters went on very well for about ten days; then I found by looking at my books that the chicks ought to be crammed. There were also very elaborate instructions how the cramming should be performed; nothing could be easier (on paper). I fastened on a large apron, mixed the ground oats into a dough, rolled it up into rolls about the size of my middle finger, made a basin of gruel, and then commenced

operations. Taking a chicken out of the coop I sat down with him in my lap, dipped one of the rolls into the gruel, and then found I had hit the bird's wings loose. He flapped and fluttered them about, upsetting some of the gruel over me, and screaming all the time a loud and piercing protest against his ill-treatment. I caught hold of his wings at the back with one hand, and began putting the slippery roll down his throat with the other. That certainly stopped his cries, but he gulped and strained in a disagreeable manner before he could swallow it. As soon as that was down I tried another; half of it went down his throat, and left half of it sticking out of his beak; he tried to swallow it, the gruel was running down his neck feathers, his comb turned from red to purple, he was evidently choking, so I tried to help him by pushing my finger into his beak, but he only gasped and swallowed more ineffectually than before. I began to feel much as bad as a sailor would on a rough sea. Then, with a sudden effort the bird wriggled out of my grasp, and lay on the floor apparently dying. It was dead! Bashing out into the open air I ran against my much worse half, who exclaimed, "Whatever is amiss; have you seen a ghost?" "No," I returned faintly, "but I've killed a chicken; there he is, in there—do see after him, for I can't go near the thing again." The bare thought made me shudder. Just then the identical gruel-besmeared, drizzle-tailed, half-choked bird came out of the door. He had got rid of his horrid mouthful somehow, and sucking his feathers was rejoicing in his newly-recovered liberty, showing no signs of dying before he was obliged to do so. My husband began to laugh. He said, "You look more dead than the chicken; what have you been doing? You are covered with meal and some sticky stuff." I explained how matters stood, and quite agreed with his verdict, "That sort of thing would never do." Who could go about all day in that state of dirt and discomfort? and to change ones dress three times a day was not to be thought of, even if one had the moral courage to try again after such a dismal failure. I confess I had not. So after changing my dress I went in search of Jones's wife, who had been a servant at an old-fashioned farm house and understood such matters. She agreed to finish cramming them at the rate of 6d. per head. The process occupied eleven days, making altogether three weeks from the time since they were first cooped. One Thursday morning Jones killed them all, and I tried my hand at getting them ready for market, but I found it should be all day, and they were to

be sent to London that afternoon. Mrs. Jones was ealed in to help for half a day. "How much ought they to fetch?" I asked, as she was carefully packing them in the hamper. "Well, ma'am," she replied, "the higgler would give about 3s. 9d. for such chicken; may be you'll get more in London. You see autumn's a bad time to sell; they're cheap just now. Spring chicken fetches more, but this place is too cold and damp to rear them." The hamper was sent off, and in a day or two I had a cheque from the salesman; they had realised £2 6s. 6d., which, deducting £1 the value of the meal

they had consumed, 3s. for carriage and commission, and 6s. 9d. for Mrs. Jones's work, left a balance of 16s. 9d. I afterwards found the higgler would have given 2s. each for them just as they were running about, so that I had lost 7s. 3d. by fattening them. Judging by the books I ought to have had a handsome profit. My advice to people about to fat chickens would be the same as *Punch's* famous advice to people about to marry, "Don't." I shall not try the experiment again just yet.—NELLY SMITH in *Sussex Express*.

### THE IMPORTATION OF LIVE STOCK INTO AUSTRALIA.

A matter of considerable interest to British stock-breeders will be found in the conditions under which it has been proposed to open Australian ports to our pedigree stock. Coming, as it does, at a time when public attention is being earnestly directed to the advisability of freeing our own flocks and herds from contagious cattle diseases, the deliberations of our colonial friends and customers on the momentous question as to the means whereby they may venture to import our stock without at the same time importing our contagious diseases of animals, are of great importance to the higher branches of our agricultural industry. The time will come, and we trust it is not far distant, when we shall have to consider the terms upon which we may safely import the blood we have exported, with the advantages which fresh soil and climate can give it, in safety to our own flocks and herds: and the difficulties with which our best customers in Australia, Canada, and the United States have now to contend will eventually be our own. It should scarcely be necessary to point out that the most remunerative branch of pedigree stock-breeding at home is the export trade with the Colonies, the United States, and the Continent of Europe. Mr. Booth, in his evidence before the Cattle Plague Committee, stated, of his own knowledge, that orders for £100,000 worth of English stock were then waiting execution, on account of the diseased state of this country. Happily the question at issue, so far as we are concerned, rests on the broad basis of the public weal, and not merely on a class interest; but the country cannot with greater impunity ignore the interests involved in agriculture than agriculturists can afford to neglect their own welfare. The whole subject demands the careful attention of farmers, and of all classes of the community.

Mr. Alexander Bruce, Chief Inspector of Stock to the Colony of New South Wales, has addressed

an important communication to the Executive Committee of the Colony, on the question of admitting British stock to Australian ports, and has laid before the Society rules and regulations under which he believes such importations might with safety be permitted, which we publish herewith. Mr. Bruce deals first with the necessity for importing fresh blood, a question which would seemingly require no discussion but for Mr. Carr's attempt to show that colonial stock had attained an excellence beyond which it would be vain to attempt improvement which could not be attained by breeding *inter se*. If England lays no claim to such a position in respect of her breeding stock—as the recent purchase of a heifer bred in America from, one of the most valued strains of English blood, at an enormous price, would seem to indicate—it requires no argument to prove that Australia has not yet arrived at a state of cattle-breeding independence. In treating this part of the subject Mr. Bruce displays a knowledge of the breeder's art which will be read with interest here, representing to Colonial stockowners that by purchasing English blood of the same strains as are there most valued, a result may be arrived at which would otherwise be unattainable, and professional breeders be enabled to breed more closely than they could do with safety from Australian stock. Assuming the necessity of such importations, Mr. Bruce propounds his scheme for overcoming disease risks, which is simply a long quarantine after a shipment and voyage in which severe restrictions are to be carried out. This it is supposed would suffice to preclude the possibility of either Cattle Plague, Foot-and-Mouth Disease, or Sheep-pox, being introduced into the Colonies. The incubatory stages of these diseases are generally understood and acknowledged to be such as would ensure the development of each of them during an ordinary mail-packet passage to Australia.



lia. But Mr. Bruce suggests that the journey be made in a sailing-vessel, as occupying longer time, and also as avoiding the risks arising from a steamer's larger store of ships' live stock, and from calling at various ports. The number of pedigree cattle is also proposed to be limited. A careful and suitable quarantine is proposed to extend over a period of three months, and a periodical veterinary supervision of three months after the expiration of the quarantine. "If, therefore," argues Mr. Bruce, "the stock were inspected when they left England, the disease would most assuredly break out before the voyage was well begun. . . . There is no veterinary surgeon of any standing in Europe who would not say that it was utterly unknown for either of these diseases to lie latent in the animal one-eighth of the time occupied by the voyage. . . . If, again, an animal were to leave the vessel with the seeds of the infection in it, an eighth of the term of quarantine could not pass before the disease showed itself, and it would be impossible that an animal could, even in that case, leave the quarantine with the disease incubating in its system." Then with regard to the conditions of shipment, Mr. Bruce proposes to depend on the certificate of the seller as to the animals having been free from contact with infection, and on isolation during transit from the farm to the ship. For details of the plan we must refer our readers to the extract we publish from Mr. Bruce's paper. It appears that the great majority of the Intercolonial Agricultural Societies are in favour of resuming live stock importations, and it is highly important that something like unanimity of opinion should exist on the subject, as the action of the Colony will affect the whole of Australia.

So far as the diseases in question are concerned it would be difficult to suggest a better plan than that proposed by Mr. Bruce; in fact, it covers the whole ground, and embraces every practicable and reasonable precaution, and we hope to see it successfully carried out. We cannot condemn the quarantine in this instance, although we attach very little importance to it. Quarantine, like charity, should begin at home. The safety will lie in the care which is taken on this side, and on protection from infection during the transit—not on lengthened quarantine and supervision for diseases with short incubatory stages. It will be observed that Pleuro-pneumonia is not mentioned by Mr. Bruce, because, unfortunately, it is not an unknown disease in Australia. The long quarantine may possibly be directed against that particular disease. A system of isolation carried

out by breeders here in perfect good faith—as it undoubtedly would be, notwithstanding Mr. Curr's unworthy suspicions—and under the veterinary inspection if required, would be of far greater value than lengthened quarantine there. If stock are started healthy, and protected from infection during transit by resorting to the cattle-float and horse-box, there would remain but one apparent danger—ships' stores. It is evident that this is a very serious one, for, to ensure safety these stores must be subjected to as rigid restrictions as the stud stock. On this ground Mr. Bruce proposes to ship on sailing vessels; otherwise the shorter passage by mail steamer would be in every way preferable.

With regard to these ships' stores Mr. Bruce tells us that "While the ship remains in harbour the stock are under the supervision of the inspector and in charge of the Customs' officer, who allows no cattle or sheep to be landed—but pigs were omitted from the Act of 1871, and cannot be retained. A measure rectifying this and other defects in that Act was, however, introduced in Parliament, as far back as 1873, and will, no doubt, be passed as soon as the business of the House will allow, as the Government is fully impressed with its urgency." Great care, however, will have to be exercised here in shipping these ships' stores, if any, and live stock should not be taken in during the voyage. Apropos to this, a case of great interest was mentioned by Mr. Bruce, and commented on by the Chairman of the New South Wales Agricultural Society, Dr. R. L. Jenkins, in the discussion which followed the reading of the paper. It appears that in 1870 Foot-and-Mouth Disease was introduced into Australia, although veterinary opinion here is somewhat sceptical as to the facts. Mr. Bruce speaks of the circumstance as having occurred from the skins of diseased sheep being used during rough weather to pad the cattle stalls during a storm off the coast of Australia, and says that these sheep had been "killed for the use of the passengers shortly after they left London." Dr. Jenkins, however, speaking of the same circumstance, says that the padding was made out of "the skins of sheep which had been killed and the carcasses thrown overboard in consequence of their being virulently affected with Foot-and-Mouth Disease." Mr. J. Stewart, a veterinary surgeon, of Darlinghurst, Sydney, mentions the case in a communication to *The Veterinarian*, giving the wrong date, and triumphantly pointing it out as a clear case of some kind of disease being "engendered" on ship-board from the want of pure air! The disease was

promptly stamped out, as it was also in the Colony of Victoria, after the destruction of two herds of cattle. In the latter case it was introduced by a single animal. Dr. Jenkins, who was the owner of one of the animals in question, argues that the facts of the case are opposed to the theory of the long voyage being a complete safeguard against a disease which is said to "pass through all its stages in some three weeks;" but we do not regard it at all in that light. The facts, as we understand them from the evidence, are simply that Foot-and-Mouth Disease was embarked with the ships' stores, and that the contagium was conveyed to the stud cattle by the direct agency of the infected skins shortly before the termination of the voyage, the disease being developed by the time the animals were landed at Dawes' Point. That part of the matter is clear enough. But this case of Foot-and-Mouth Disease on board the *Paramatta* is nevertheless of great interest and importance, inasmuch as it goes to prove that the contagium of Foot-and-Mouth Disease is not so perishable as it is supposed to be by some authorities. If Mr. Bruce is correct in his statement as to the sheep being killed soon after the ship left London, we have the fact of the contagium of the disease—the spores, or germs, or whatever may constitute contagium in its resting stage—lying dormant for the greater part of a voyage which Mr. Stewart speaks of as having occupied ninety days. To have this matter authenticated in detail would be of the greatest interest. Of one thing our Colonial friends may rest assured, namely, that the greatest care will be taken on this side to ensure the success of any measures they may adopt; and, judging by our own unfortunate experience they have more to fear from Foot-and-Mouth Disease than from Sheep-pox or Cattle Plague.

The following are the conditions under which Mr. Alexander Bruce, Chief Inspector of Stock for the Colony of New South Wales, advocates the opening of Australian ports to British stock:—

1. That importations be only allowed from countries in which there is little or no foot-and-mouth disease, and no rinderpest, sheep-pox, nor any other infectious disease in stock, not known in Australia.

This not only reduces the risk from foot-and-mouth disease to a minimum, but limits it to that ailment alone; and that disease is frequently at such a low ebb in England as to admit of importations under these safe conditions.

2. That the seller of stock grant a certificate of soundness, which should be endorsed as correct by the district inspector

This aims at the assurance that the stock are sound when they start for the seaport—a most important guarantee against their bringing the infection here.

3. That the stock are not conveyed to the port in ordinary cattle or sheep trucks, nor put into a stable by the way.

This would also tend very materially to prevent the stock being infected in reaching the port of shipment.

4. That a duly qualified veterinary surgeon examine the stock—including those for the ship's use—prior to shipment.

In carrying out this duty the V. S. would see that the seller's certificate, endorsed by the district inspector, was produced; and otherwise satisfy himself that all the stock to be put on board the vessel was free from infection.

5. That stock are only carried by sailing vessels, and in limited numbers.

The object of this is to lengthen the probation, and diminish the risk there is on steamers through their making short passages, carrying more "ship's" stock, and calling at different ports.

6. That no forage or fittings which have been in contact with the stock, hides, or skins are landed from vessels from places outside Australia.

The necessity for this precaution is obvious, and it is one which can be easily enforced.

7. That the captain and attendant on the stock make declarations as to their number and health, and that the captain daily record in his log the health of the stock.

Not only are these declarations very valuable, but they afford a good opportunity of obtaining full information in regard to the stock.

8. That the stock are examined by a V. S. and an inspector immediately on the arrival of the ship.

After a probation of a three (3) months' voyage such an examination as this would of itself, in ninety-nine cases out of every hundred, be sufficient precaution against the introduction of disease.

9. That the stock are washed and disinfected before leaving the ship.

This would completely remove any outward taint from the stock, and the quarantine would detect any inward.

10. That there be two thoroughly isolated quarantines, suspected and probationary.

If proper sites be selected, islands or peninsulas, there could be no risk whatever of disease spreading from the quarantines, and they would make the matter a certainty.

11. That the stock, including the ship's stock, be conveyed from the vessel to quarantine by water.

The object here is obvious.

12. That the stock should be placed and remain in quarantine for a period of not less than three months.

With such a period of probation, during which the stock would be constantly under the supervision of the inspector, and frequently under that of the Chief Inspector, it is utterly impossible for disease to exist and not be detected, supposing the stock had been incubating the disease when quarantined.

13. That, on the expiry of the term of quarantine, the stock be examined by a veterinary surgeon and the Chief Inspector, and, if sound, discharged.

This would be a mere formal inspection for the purpose of granting the necessary certificate.

1. That the stock, after leaving quarantine, be visited and inspected periodically for three months after they leave the quarantine.

Although it is not for a moment to be suspected that the stock would show any symptoms of disease, this precaution, which is taken in regard to intercolonial sheep, should be so also in the case of these stock.

There are thus some fourteen different precautions which, in the event of importations being resumed, it is proposed to take to prevent the introduction of disease, and this almost any single one of them faithfully carried out would do, especially as the effect of the first precaution will practically be to remove all risk from rinderpest and sheep-pox, and, at times, also from foot-and-mouth disease, while the whole of the risk which can possibly occur will be that arising through the existence of a few isolated cases of that disease in the country from which the stock are intended to be shipped.

When again these precautions are considered as a whole, as in fact they would always operate, it must be evident that it is practically impossible for the infection to be brought to our shores, and utterly impossible for it to reach our stock; for before this could happen every one of these precautions would have to fail, and there are some of them—such as the proba-

tion on board ship and in the quarantine—which are self acting, and therefore could never fail.

It might perhaps be said that the precautions I propose have been unnecessarily multiplied, and I believe that one-half of them might be omitted with safety; but, although this is the case, I think the right course to take is not to throw a single chance away, and to take every precaution, especially as those I propose in addition to the quarantine would entail but comparatively little trouble or expense on the importers of the stock, while they on the other hand have all along declared that they are prepared to go any length in that direction, and to submit to any restriction, in order to ensure that disease is not introduced with the stock.

From what I have said it will be gathered that I take an entirely opposite view of this matter from my friend, Mr. Curr, and that I am of opinion, as I trust I have shown—

1st. That there is the greatest possible necessity for the renewal of importations; and, 2nd, that stock can, at times, under proper regulations, be imported from Great Britain, Canada, and the United States without the least risk of introducing disease.

ALEX. BRUCE, Chief Inspector of Stock

Sydney, October 23, 1877.

## CHAMBERS OF AGRICULTURE. GLOUCESTER.

The twelfth annual meeting of this Chamber was held at the Ram Public Room on Dec. 31, and influentially attended. Mr. Edward Bowly, of Siddington, presided. The annual report stated the extent and nature of last year's business, and referred at some length to the experimental work of the Chamber. Professor Wrightson having conducted a series of nine yearly experiments and now left the neighbourhood, was about to issue a detailed statement of the results achieved. To that gentleman, for the able energetic manner in which he conducted the experiments, and for undertaking to publish a report, the Chamber tendered a hearty vote of thanks. It was announced amidst applause that Professor Sheldon had kindly promised to continue the experimental work for the ensuing year. To Professor Church, for his services in a valuing artificial manure and feeding stuffs, a vote of thanks was also tendered. The finances of the Chamber, in respect to the general and experimental funds, were shown to be highly satisfactory, so much so, indeed, on the last head that no subscription would be asked for for the ensuing year. The report was received and ordered to be circulated. Mr. W. J. Edmonds, of Southrop, was elected president for 1878. Messrs. T. R. Hulbert and H. Ruck, and Professor Sheldon were added to the committee. Mr. R. Ellett was re-appointed hon. secretary, and Mr. J. Snowsall hon. assistant secretary.

The meeting then passed on to the subject for discussion, "Landlord's Right of Distress for Rent," introduced by Mr. W. J. Edmonds, in what the *Gloucestershire Chronicle* describes as a brief and able paper. He reviewed the subject from the points as affecting landlords, farmers, and the public. Upon all he submitted reasons for concluding that any change of the present system of landlord's priority would be inimical to all interests, which he contended were identical, for the welfare and advantage of one meant the welfare and advantage of all. He concluded by proposing the following resolution,

viz.:—"That this Chamber considers that it would be unwise to disturb the law of landlord's right for distress for rent as at present existing, believing that it satisfies the landlord as to the safety of his rent, and adds to the security of the tenant's capital invested in the soil, thus conducing to the public benefit."

Mr. C. BOWLY, to give a fillip to the discussion, spoke against the resolution, and the reasons adduced to substantiate it, arguing that he saw no reason why the first principle of farming should be different from the principles applied to commerce generally.

Mr. T. R. HULBERT supported and seconded the resolution, which met with the approbation of Mr. H. RUCK and also of Mr. R. ELLETT, who spoke in favour of an alteration in the law in the event of making the claims of different classes of creditors uniform—not giving a landlord the power of only claiming for one year's rent, while in case of his death his executors could recover for almost any amount they chose to assert was owing. He argued that there was a very material difference between the renting of land and purchasing commercial goods, and that it advantageously justified the distinction which the law at present recognised. The resolution was passed, and a vote of thanks to the retiring President terminated the proceedings.

## LEICESTERSHIRE.

Sir Archibald Palmer, Bart., presided, and Mr. A. Fell, M.P., Mr. W. N. Heygate, M.P., and Mr. S. W. Clowes, M.P. were present at a meeting of the Leicestershire Chamber of Agriculture on Saturday, December 29, at the Bell Hotel, Leicester. Mr. Willson, the Secretary, introduced the subject of the recommendations of the Select Committee on Cattle Plague and Importation of Live Stock, and these were discussed *seriatim*. All were eventually adopted with the

exception of five. Mr. Pell, M.P., took objection to the first: "That, as a statutory arrangement, the importation of all animals from Russia, and of cattle from Germany (except Schleswig Holstein), and Belgium, be prohibited, whilst that of other animals from these last two countries, and of all animals from the rest of Europe should be subject to the provisions of the same schedule, power being reserved to the Privy Council to prohibit the importation of animals from other countries if they think fit." The hon. member confessed that he could not fathom the meaning of that suggestion, more especially as to the "schedule;" but Mr. Heygate thought they might safely swallow it, seeing that it was the only recommendation that had been carried unanimously. However, the Chamber decided to ignore it altogether. Mr. Willson moved the adoption of the eighth recommendation, that in the case of pleuro-pneumonia the compensation for the slaughter of animals, whether suspected or diseased, should be at the same rate as in the case of cattle plague, but should be payable out of the local funds. Mr. Wright seconded the motion. Mr. Gatty moved, as an amendment, that the compensation for animals slaughtered for pleuro-pneumonia should, as in the case of those from cattle plague, be paid from the imperial funds. Mr. Forster seconded the amendment; but on being put to the Chamber it was negatived by a majority, and the motion carried. The ninth clause, "That stock exposed in Islington market should not be allowed to leave the Metropolitan district alive," was also ignored. Upon the eleventh, which deals with the extension of the restrictions applicable to Great Britain, to the Channel Islands and Ireland, Mr. Gatty moved the addition of the words, "and that steps be taken to ensure the more careful treatment of cattle in their transit by sea." Mr. W. Wright seconded the motion, which was adopted. Mr. Pell called attention to the twelfth recommendation, "that no further restrictions should be placed upon the importation of foreign animals in respect of foot-and-mouth disease and pleuro-pneumonia unless orders be enforced throughout Great Britain that the movement of all cattle in infected districts be prohibited, fairs and markets restricted, and the movement of cattle in infected yards be stopped and regulated.

#### MONMOUTHSHIRE.

A general meeting of the Monmouthshire Chamber of Agriculture took place at Abergavenny on Dec. 31, the President, Sir Henry Jackson, Bart., M.P., in the chair.

Mr. R. STRATTON, of Duffryn, read a paper on "The Agricultural Situation and the Meat Question." He said he did not possess any particular knowledge authorising him to speak with authority on the subject; he had brought it forward because it was a subject uppermost in the agricultural mind at the present time, and one which might be usefully discussed at meetings of this kind at this particular moment. There was nothing like looking an evil in the face, and therefore it was wise to inquire into the best way of dealing with their dilemma. The present situation of agriculture and its future prospects caused great anxiety to those connected with the land, it being a matter of equal concern to the landlord and the tenant whether prosperity or adversity was to be the farmers' portion—and it was a labourers' question as well. Farmers could not go on losing money for any length of time; therefore, if things did not improve, rents must come down, and wages would surely be reduced. Elaborate arguments

were not needed to prove that agricultural affairs were in a bad way, for on every hand they heard complaints of bad seasons, bad crops, ever-increasing expenses, deficiency of capital, scarcity of stock, farms to let, and bankrupt farmers. The last harvest was one of the worst ever known in this country, and instead of obtaining the high prices which might fairly be calculated upon, farmers had to submit to comparatively low prices in consequence of the enormous crop of grain in America—a crop extraordinary for magnitude as ours was for deficiency. The amount of money to be paid for American grain was probably not less than £100,000,000, and if that sum found its way into the pockets of British farmers no doubt there would not be such an outcry against hard times. The agricultural returns showed a falling-off in home stock amounting to 146,208 head, or 2½ per cent. since last year, and there was a falling-off in the number of sheep also. Monmouthshire was no exception to the rule. The returns from that county disclosed a falling-off for the year of 1,844 cattle, the numbers being 42,222 in 1876 and 40,378 in 1877. In sheep the falling-off amounted to 1,620, the 36,770 owned by farmers in 1876 having decreased to 35,150 in 1877. The returns to which he referred also showed a continual increase of permanent pasture, amounting in nine years to 922,000 acres, and it might naturally be expected that there would be an increase in the number of cattle and sheep; yet the fact was that they had a decrease. What was the reason of that diminution? It was not owing to any other cause, in his opinion, than the foreign diseases which had been so rife for some years. In this county alone the actual loss in flesh from these causes amounted to £50,000 in one year, and the total loss in Great Britain in the same period he estimated at £12,000,000. He did not mean to say that farmers had actually lost this startling amount, for there had been a certain proportion of increase in the price of meat, though, of course, farmers did not reap full benefit, as the foreigner had his share. The consumer had suffered the most, and hitherto this had been a consumers' more than a farmers' question, though farmers had suffered individually fearfully, and no one could understand the vexation and misery of having a valuable flock or herd decimated by foot-and-mouth disease except him who had experienced it. But the question no longer concerned the consumer most, and the farmers' fancied monopoly in the meat trade was only fancy. A new trade in dead meat had sprung up, having a great effect on prices in England, and instead of the "Roast beef of Old England," the cry now was the "Roast beef of New England." The competition would be as keen in meat as in grain; stock and grain farmers were now in the same boat, and they would have all their work to ride securely through the storm. Beef could be profitably produced at 3½d. per lb. in the Western States of America, and notwithstanding middling meat sent over—and some spoiled—the great bulk came over in good, fair condition, and experience would make those employed in the trade more perfect in their arrangements. No doubt there would always be difficulty in the summer time, but practically there was no difficulty during, at least, six months in the year. Then large supplies might also be expected from the Continent of Europe and from Australia; therefore farmers in this country must make up their minds to lowering prices, and set about considering how to produce meat at a lower price. Now, he would say at the outset that if farmers were to remain subject to foot-and-mouth disease and cattle plague, farmers might as well throw up the sponge at once, for under such condi-

tious stock-farming in this country, with its high rents, excessive rates, and dear labour could not possibly succeed. In fact, under the new conditions, it would be impossible to make a do of it unless the country got legislation on the basis of the report of the Select Committee which inquired into this subject last summer. The Bill promised would be opposed by those who would rather see the collapse of British agriculture than have the great principle of Free-trade menaced. He did not say this in any party or political spirit, for Chambers of Agriculture had nothing to do with such things, and they wanted all party feeling dropped in bringing about an act of common justice and political economy. He hoped that the President would set an example to his party by supporting the Government Bill if it went far enough to secure the stamping-out of foreign infectious diseases in the shortest possible time, the slaughter of all foreign fat stock at the port of debarkation, and the quarantine of store stock, in order to prevent these foreign diseases. If the Bill did not go far enough he trusted Sir Henry would endeavour to amend it. Of other disabilities which affected the farmer he would mention two. First there were the scandalously inefficient modes of transit of Irish cattle, whereby cruelty and loss were inflicted. It was high time that the Government enforced a system of transport, more in accordance with the spirit of the age. Then another preventable cause of a serious loss to farmers was the gadfly. The damage done by this insect must amount in the aggregate to a large sum annually. He estimated the damage done to cattle by the gadfly at £1 per head, and therefore the effect of the destruction of the fly—which could be easily effected by puncturing the tubercles of infected beasts or dressing them with chemicals in the spring—would be very great. In the course of further observations Mr. Stratton recommended English farmers to lay themselves out for providing for the summer meat supply, which they could do at 7d. per lb., against 9d. in the winter. He advocated the cake and corn feeding as the most profitable, and he said that if this plan was adopted many beasts would come out in prime condition in October which were now sold in summer but little better than they were in the spring. One benefit of the American meat trade was that it caused a decrease in the number of American dairies, by which English dairymen would gain, because labour was cheaper here than in the United States. Having gone into statistics to show the profitableness of raising stock for the meat market, the speaker said the English climate was perhaps the best in the world for that purpose, and if care and discretion were used there was no reason why British farmers should not succeed well in competing with the world.

There followed a brief discussion.

Mr. FOTHERGILL, Mr. WILLIAMS, and Mr. RAWLINGS agreed that Mr. Stratton's paper was a very valuable one, and each speaker declared that farmers did not want protection except against the importation of disease.

The PRESIDENT also pointed out that before Parliament would legislate in the direction pointed out by Mr. Stratton it must be shown that the measures indicated would be successful in stamping out foot-and-mouth disease and cattle plague. If farmers were able to prove their argument, then they would have a very strong case indeed.

The above excellent summary is taken from *The Hereford Journal*. *The Hereford Times* contains a full report of Mr. Stratton's able paper, which is a very long one.

"PAX VOBISCUM!"

Let her come in! The New Year cannot bring  
 A guest more welcome, or a friend more needed,  
 Whilst echoes of our Christmas chants yet ring,  
 Is her benign appeal to pass unheeded?  
 Hath "Peace on Earth" lost meaning in their minds  
 Who mouth the text at this our holiest season,  
 But whom the red mirage of War so blinds  
 To the high beacon-lights of ruth and reason?  
 Let her come in! Her claim is not the first,  
 Whilst evil lives to slay, and wrong needs righting.  
 There is a peace whose calm is more accordant  
 Than e'en the fiercest storm of righteous fighting.  
 But once the stern hath stricken—for the right,  
 As most men hold—and ancient wrong lies broken,  
 Let Peaceful Counsel bring her guiding light,  
 And sheathed sword twined with olive for a token.  
 Let her come in! Midst shipwreck's shocks and strains,  
 The hand of reason may well leave the rudder;  
 But thinking on those blood-dyed Eastern plains  
 The hardest hater of hoar wrong might shudder.  
 Not blood, not vengeance, is the Christian cry,  
 Death to the wrong, but not the wrong-doer's slaughter!  
 Carnage is scarce so fair that we need fly  
 To hail the red-armed Fury as "God's daughter."  
 Let her come in! Whilst loud the joy-bells greet  
 The opening Year, a woful world may listen  
 To hear the gentle fall of those fair feet,  
 At whose soft sound Hope's sad eyes well may glisten.  
 Princes and Politicians, here's a guest  
 Whom roughly to repulse were blindest folly.  
 Let her come in, while with glad welcome's zest  
 We twine her olive in our Christmas holly. —*Punch*.

FLAX CULTURE IN VARIOUS COUNTRIES.—The following statistical summary may afford a very approximate idea of the quantity of flax grown throughout the world:—

Country.	Year.	Acres.
Austria .....	1876 .....	253,323
Belgium .....	1876 .....	140,901
Denmark .....	1871 .....	17,686
Egypt .....	— .....	15,000
France .....	1873 .....	263,630
Germany .....	1874 .....	530,642
Greece .....	1867 .....	957
Hungary .....	1875 .....	19,903
Holland .....	1875 .....	49,952
Italy .....	— .....	201,033
Russia .....	— .....	1,923,568
Sweden .....	1873 .....	37,500
Ireland .....	1876 .....	132,878
Great Britain ...	1876 .....	7,640
		3,599,643

The whole acreage is in all cases much larger than above stated, inasmuch as reliable statistics are not to be had in several countries, while those countries which chiefly carry on flax-growing for the sake of the seed have not been included in the above summary. Thus, for instance, the Bombay Presidency has about 85,000 acres, while some 206,305 statute acres are also grown for seed purposes in the United States.—*Journal of Applied Science*.

## AGRICULTURAL SOCIETIES.

### BOROUGHBRIDGE.

The quarterly meeting of this Society was held on Saturday, January 5th, at the Crown Hotel, Boroughbridge, Mr. A. S. Lawson, Aldborough Manor, President of the Society, in the chair.

Mr. PAVER CROW read a paper on "Weeds." Mr. Crow, after some preliminary remarks as to the definition of weeds, said the weeds in grass land were much fewer in variety and less injurious than in arable, because some plants which were treated as weeds in arable land were useful additions to the collection of plants which formed pasture land. The thistle was the most common, and it was perhaps impossible to entirely destroy it, but by mowing it off every year just before it flowered, and once or twice afterwards, its numbers might be considerably reduced. The buck thistle was a biennial plant, and easily destroyed by being cut down early before flowering. He had found great difficulty in getting rid of the common nettle, which generally grew in beds where hedges had been some time removed. He had tried several methods of diminishing it, but the most effectual was pulling the stalks whenever they were strong enough to draw out by the root. Cattle were sometimes seriously injured by eating the leaves of the autumn-flowering crocus, but it was easily destroyed by carefully pulling the leaves every spring. The seed was concealed beneath the surface of the ground, and on the withering of the flowers in the autumn the stalk rose the following spring, and brought the seed up with it to be ripened by the sun, so that the seed was destroyed by pulling the leaves. The common hemlock, although rarely seen in pastures, was often objectionably plentiful in meadows, but it seemed to quite disappear on the fields being grazed by either cattle or sheep in early spring. The wild rampion was very objectionable if eaten by dairy cows, as it gave a most disagreeable flavour, like onions, to milk and butter. He had not seen much of that plant, but he thought draining went far to eradicate it. There were several annual and biennial weeds common to grass land, such as St. John's wort, but they were all easily pulled by the hand, and only required attention to be practically extirpated. With regard to arable land, the most troublesome weed which agriculturists had to contend with was couch grass. He could tell them nothing new as to how they should deal with it, but he was sanguine that the application of steam power, by enabling them to cultivate their stubbles earlier in autumn, would help them to contend more successfully against it. With respect to the red poppy and charlock, he knew of no way of reducing the numbers of those plants than the hoe and hand-weeding, and inducing as many seeds as possible to germinate by autumn cultivation, when they were destroyed by subsequent ploughings. Knot grass, cockle, shepherd's needle, hayrill, wild oats, and many other annuals could be only treated in the same way as poppies and charlock. Colt's foot flowered very early in spring, and was a most obstinate weed to contend with, for every part of its root produced a plant, and penetrated to a great depth. The best mode of reducing it was to cut off the crowns in the early spring. The common barberry, although scarcely to be classed as a weed, was much disliked in the districts where it grew indigenously in the hedges, because it was supposed to

injure crops of wheat adjoining to a considerable distance by a fungus or mildew, peculiar to the barberry, and which was blown from the plant to the wheat. When arable land had been long neglected, and successive crops of poppy, charlock, and other weed seeds had been deposited year after year, the quickest, cheapest, and most effectual method of clearing it was to plough it any time during winter, and leave it until sowed until about the middle of May, by which time the couch grass would have put forth all its adventitious roots. The thistle would be ready to burst into flower, and all the poppy and charlock seed within the influence of the sun would have germinated. On being again ploughed, all the annuals were at once annihilated, and the perennials, being in their most vigorous growth, were more easily and completely destroyed than when nearly at rest in autumn. He did not recommend this mode of cleaning land except in extreme cases, and was certain that the best and cheapest way of preventing the growth of weeds was the liberal use of manures, and the production of heavy crops of cereals and roots. Weed seeds were too easily detected to be often sown with cereal crops, but they were so similar in size and appearance to clover seeds that it was almost impossible to separate them. The most respectable seed merchants asserted that it was next to impossible to buy a sample of cloverseed free from dockseed, but this might be remedied in a great measure by the cloverseed growers either pulling out or cutting off the dock before seeding, and before reaping the crop, in which case they would obtain a much better price for their seed. The only way of eradicating the dock was hand-weeding. Sorrel was largely sown amongst cloverseed. The dodder, if kept to itself, soon perished, but when it could twine round clover the original root died, and the plant lived thenceforward by striking its roots into the stalks of the clover or flax. This plant destroyed large patches of clover, but it did not ripen its seeds so far north as that district, or if it did it rotted in the earth before the next crop suitable for its continuance was sown. He had tried to destroy dodder by digging a trench round the patches, and then covering it with straw and burning, but the circles not being wide enough, he was unsuccessful. His chief object was to see whether any means could be devised to induce cloverseed growers to take more pains to keep cloverseed from being mixed with weed seed. He was by no means sure that couch grass seed was not sown along with rye grass, for there was generally an abundant crop of couch in fields where rye grass had been plentifully mixed in sheep pastures. The Seed Adulteration Act would by no means remedy the careless neglect of the seed grower, and seemed to him to apply to the wilful admixture of killed or other seeds after they left the hands of the growers.

Mr. DENT thought the subject of the paper was a very proper one to be brought before the Association at the present time, because agriculture, like every other trade or profession, being in a very depressed state, a great many agriculturists, both landlords and tenant farmers, had come to the conclusion that very much greater liberty was needed in the cultivation of land by the farmer. He thought the doctrine that the farmer should be allowed to grow what crops he chose and to sell whatever produce he grew was gaining ground daily, and

ould, he believed, in the end meet with acceptance from most intelligent men, whether they were landlords or tenant farmers. Undoubtedly if the tenant-farmer was to be allowed to grow what crops he liked, the landlords must stipulate that he did not grow one thing, and that was weeds. Because of all the evils that could afflict a farm preponderance of couch grass in arable land showed poverty of cultivation, and that the land had not been treated in the manner it ought to have been. However beautiful weeds might be in their right position, they were a most disagreeable object to the landlord or tenant who had to cultivate the land. For his part, he thought, as a rule, a great many farmers were somewhat too careless as to the quantity of weeds they allowed to grow in the outlying places of the farm. Men who would be ashamed to see any quantity of weeds growing in their turnips, and who would be most particular to keep the yellow ragwort, or even thistles, from coming into flower in their pasture lands, would neglect the hedge-rows, ditch-sides, and by-lanes, or parts of the high road adjoining their farms. Those were prolific sources of weed-growing which farmers were too careless about. There was a proverb which contained a good deal of truth, that "One year's seeding takes seven years' weeding." He was satisfied that if they had freedom of cultivation, which he believed was now the thing which was particularly necessary in agriculture, great attention would be paid to the displacement and getting rid of weeds. He thought they very often sowed a great deal of weeds with clover and rye grass. He agreed with Mr. Crowe that in land where the most manure was applied there was the smallest crop of weeds. Where there was a poverty in the treatment of land, where there was a want of expenditure of capital in manure, there was very often a poor root crop and a superabundance of weeds. He would ask them whether sufficient was done in the way of looking after the by-ways and roadsides adjoining the farms to see that thistles, ragwort, and other weeds of that kind whose seeds spread rapidly were not allowed to flourish. In conclusion, Mr. Dent said he hoped the year 1878 would be a more advantageous one to the farmers than that which had just passed, for he felt that it had been a very gloomy time, and one for which they would require two or three very good years to recoup them for their losses.

Mr. Ford said that so long as land was cultivated there would be weeds. Strange to say, the very act of cultivation brought forth weeds. Land which had not been disturbed for a long period, when broken up was soon covered with weeds, and he attributed that to the fact that the ground, by being broken, was rendered more susceptible to receive the pollen which was wafted about at certain times of the year; that pollen falling on grass land did not take root, but in arable land it found a habitat suitable for propagation. Professor Buckland had said that a single sow-thistle would produce 19,000 seeds, and a red poppy 50,000, which, allowing for the various causes of mortality, would leave an abundant surplus for the reproduction of those weeds. He suggested that the suppression of weeds in waste places should be enforced by legislation.

The Rev. C. H. SALE said the thistle should be cut off before it flowered, because if the flower was allowed to form it would ripen after it was cut down. They had heard a wrinkle about crow's foot. It was a weed they could scarcely get rid of, and he had seen the roots eight or ten feet deep. The only way he knew of destroying nettles was to beat them well when the stalks were hollow; and if a shower of rain came

soon afterwards they would rot. He thought it would be difficult to exterminate them by pulling up, as he had seen the roots five feet deep. He felt that there must be some way of dealing successfully with red poppies and ketlock. He had observed that some years scarcely a poppy could be seen, whereas other years they were abundant, and that made it appear as if there was some peculiar condition favourable to their growth. He thought sowing land with salt would effectually kill poppies.

Mr. BENNETT recommended the cutting of thistles before the top was formed, a plan which he had found very effectual. He had also been successful in destroying couch grass with frequent use of the hoe until fallow time. Ketlocks could only be destroyed by summer fallow.

Mr. HARTLAND said on light land they had a difficult weed to deal with in spur weed, in which turnips would not thrive at all, and the only way to get rid of it was to lime it.

Mr. LANCASTER said his practice in dealing with wild oats was to fork it out.

Mr. BRODGEN thought salt would not kill poppies unless it was in such quantities as to nearly kill the wheat.

Mr. T. SCOTT thought it was almost impossible to purchase clover seeds without weed seeds to some extent. With respect to deep cultivation, there was no doubt if they cultivated land and moved the subsoil which had not been subject to the sun's influence for a long time, there must be a great amount of weeds. There was nothing became a farmer better than to clean out his hedge backs. He quite agreed with Mr. Ford that some legislative enactment should be made in respect to the compulsory destruction of weeds in waste places. With regard to killing weeds, he thought there was nothing like the horse hoe and poppy extirpator. Ragwort was easily destroyed by pasturing sheep, but it was difficult to get rid of thistles.

Mr. DENT said they did not require any more legislation as to dealing with weeds, as the road surveyors now possessed all the powers necessary.

Mr. CROWE, in replying, said salt would destroy any plant, and the poppy among the wheat, for the very reason that the wheat would stand more than the poppy.

Votes of thanks were passed to Mr. Crowe, to Mr. Dent, and to the president, and the proceedings terminated.

#### HIGHLAND AND AGRICULTURAL.

The monthly meeting of the directors of this Society was held in their chambers, No. 3, George IV. Bridge.

OFFICE-BEARERS.—The following are the names of the noblemen and gentlemen to be proposed by the directors at the general meeting on the 16th current, to fill the vacancies in the list of office-bearers:—Vice Presidents—The Right Hon. the Earl of D. Keith, K.T., M.P.; the Right Hon. the Earl of Galloway, the Right Hon. the Earl of Stair, K.T.; the Right Hon. Lord Herries. Ordinary Directors—The Right Hon. Lord Polwarth, John H. Dickson of Corstorphine, Saughton Mains, Edinburgh; James Maxtone Gesham of Redgorton, Battleby, Perth; James Hope, Duddingston, Edinburgh; James Kennedy of Soudaywell, Brandleys, Saughbar; Charles Scott Plummer of Sunderland Hall, Selkirk; Andrew Kalston, Glamis House, Glamis. Extraordinary Directors—Robert Vans Agnew of Barnbarroch, M.P.; W. G. Carruthers of Dumont, Lockerbie; John Gilchrist-Clark of Spedloch, Dalton, Thornhill; Patrick Dudgeon of Cargen, Dumfries; Robert Jardine of Castlemilk, Lockerbie; Christopher Johnstone, Dinroddie Lodge, Lockerbie; Well-

wood H. Maxwell of Munches, Dalbeattie; Mark John Stewart of Blairderry, M.P., Ardwell, Wigtownshire; Lieut.-Colonel George G. Walker of Crawfordton, Thornhill.

**GENERAL MEETING**—The programme of business for the anniversary general meeting on the 16th was arranged as follows:—Election of members; election of office-bearers; accounts for 1876-77; Argyll Naval Fund accounts; thanks to be voted to local committee, etc., of the Edinburgh Show; arrangements for Dumfries Show, 1878; motion by Mr. Thomson, Holmes, as to election of the local committee in charge of the annual shows; requisition from Perth district for show in 1877-9 petition to House of Commons in regard to cattle disease; reports on district shows and on cottage competitions; contents of Volume X. of the Society's Transactions; agricultural education bye-laws, and report of examination for burrsaries; report of minor examination of veterinary students; premiums awarded in 1877 and offered in 1878 in the agricultural and forestry departments.

**NEW MEMBERS.**—The list of candidates for admission as members at the general meeting was submitted, and the secretary stated that additional names could be received up to the morning of the 16th.

**FINANCE.**—The secretary laid on the table printed extracts of the accounts for 1876-77, signed, in terms of the bye laws, by two members of the Finance Committee and by the auditor.

**TRIAL OF TURNIP-RAISING MACHINES.**—The following report of the trial of turnip-raising machines was read:—

"The trial of turnip-raising machines selected at the Edinburgh Show took place on Tuesday, the 4th December, on the farm of Niddrie Mains, when four machines appeared on the ground—namely, from Brigham and Co., Berwick-on-Tweed, two machines; from John Gregory, Westoe, South Shields, one machine; and from Duncan Ross, Academy Court, Inverness, one machine. The turnips operated upon were of the Swedish and hybrid varieties, and a fair crop. The shaws were wet, and the ground in a damp condition, owing to recent rains, so the machines were put to rather a severe test.

"Mr. Brigham's machine, with circular saw for cutting the shaws, was found not to be in a working condition, and was therefore laid aside. The other machine by the same maker, cutting two drills at once, was tried both on the Swedes and hybrid turnips, going over about a quarter of an acre. The shaw-cutting apparatus in this is somewhat similar to the knives of a reaping machine, being driven from the wheel by pinions and a crank rod, the bar being suspended on springs attached to the frame of the machine. This contrivance enables the knives to rise and fall according to the size of the turnips, and to adjust itself to some extent to the proper height for operating on the neck of the turnip shaw. It is too heavy for one horse, but can be drawn easily by two. Had the shaw-cutting arrangement been limited to one instead of two drills at a time, this part of its work would no doubt have been done in a more successful manner. The many chances of irregularity both in the size and shape of ridges, and in growth of crop in two parallel drills, greatly add to the mechanical difficulties which the machine has to contend with in practice in the field. Its price is £15.

"Mr. Gregory's machine also takes two drills at once, and was tried on the same quantity of ground and variety of turnips. The shaw-cutting apparatus here is a knife fixed to the frame, but as it has no self-adjusting power to suit the inequalities of the turnips, it is apt to pass over the shaws of

the smaller ones without cutting them. The price of this machine is £8.

"Mr. Duucan Ross's machine, taking one drill at a time, was also tried in the same way. This machine has a double knife projecting in front, which catches the neck of the turnip as it moves along the drill, cutting the shaw off. This knife is fixed in a moveable frame, which is balanced in such a way as to rise and fall according to the height of the turnip. The price of this machine is £5 8s., and can be made to take two drills at £9 9s.

"The three machines tried are all nearly alike in their performance as regards the root-cutting, which is done by a knife firmly fixed in the frame passing under the turnips so as to cut the roots; and the committee being satisfied that this was equally well done by all the machines tried, their direction was mainly directed to the shaw cutting; and that operation being satisfactorily done by Mr. Ross's machine, and not by either of the others, and his mode of balancing the knife so as to suit the height of the turnips being simple and effective, they recommend the directors to award to Mr. Ross the minor gold medal."

The Board approved of the report.

**DUMFRIES AND PERTH SHOWS.**—The SECRETARY stated that at a meeting of members held at Dumfries on the 19th December, to consider the prize-list and regulations for the Dumfries Show, it had been suggested that the amount of the prizes for Cheddar cheese (56 lb. and upwards) should be increased from £12 to £30 or £50; and that at a meeting held at Perth on the 28th December, the classes of stock for the proposed show at Perth in 1879 had been approved of, subject to the following suggestions:—(1) That a section should be added for cross oxen of any age; (2) That a premium should be offered for the best foal shown with mare in section 5; (3) That in place of offering a premium for the best thoroughbred stallion, a prize should be given for the best Clydesdale horse, to serve in the district of the show in season 1879; (4) That Cotswolds and Lincolns should be shown in the same class; (5) That short-woolled sheep should be shown in one class; (6) That there should be sections for half-bred and for cross-bred wether hogs above one shear; (7) That in place of premiums for best-woolled tups, prizes should be given for the best five fleeces of the Cheviot, black-faced, and Leicester breeds; (8) That in the last section for cheese the words "flat make" should be deleted.

The board resolved to offer eight prizes for Cheddar cheese (56 lb. and upwards) at Dumfries, namely:—£10, £8, £6, £5, £4, £3, £2, and £1—in all £39; and that there should be three prizes of £5, £3, and £2 in each of the other four sections for cheese. In regard to the suggestions made at the Perth meeting, it was agreed to adopt the whole except the first and second.

**ESSAYS AND REPORTS.**—Various premiums were awarded for reports in the agricultural and forestry departments. The names of the successful competitors will be intimated at the general meeting. Several subjects were expunged and new ones added to the list for 1878.

**A WHITE ELEPHANT.**—An important personage has lately died at Siam in the shape of one of the King's white elephants, and according to custom it was buried with the highest funeral honours. One hundred Buddhist priests, we are told, officiated at the ceremony, and the body was conveyed to its last resting-place accompanied by a procession of thirty State barges.—*Allen's Indian Mail.*



## METEOROLOGICAL NOTES.

NATIONAL LIFEBOAT INSTITUTION.—During the year 1877 the National Life-boat Institution rescued 841 lives and 35 vessels from destruction. In the same period this Life-boat Institution granted rewards for saving 200 lives by boats, so that 1,041 lives were saved through its instrumentality. Since its foundation this Society has contributed to save 25,400 persons, and it has granted 978 gold medals with £54,000 in money.—*Times*, 1st January, 1878.

Rainfall, 1877, in Jan. at Camden Town, London, as noted by Mr. G. Symons, 4.71 inch, maximum temp 56.4 on 19th, minimum temp 28.5 on 23rd.—Feb: R 1.78 inch, max temp 58.5 on 7th, and lowest 25.3 on 28th.—March: R 2.38 inch, max temp 59.4 on 29th and 23.5 on 1st Jan.—April: R 2.59 inch, max temp 64 deg. on 1th, min temp 33.4 on 29th.—May: R 1.91 inch, max. temp. 63.0 on 26th, min. temp. 29.2 on 4th.—June: R 0.42 inch, max temp 84.7, min temp 44.7 on 7th.—July: R 3.94 inch, max temp 87.1 on 31st, min temp 43.6 on 6th.—Aug: R 2.23 inch, max temp 82.9 on 20th; min temp 42.4 on 24th.—Sept: R 0.83, max temp 73.3 on 11th, min temp 36.1 on 25th.—Oct: R 1.97 inch, max temp 67.5 on 14th, min temp 30.9 on 19th.—The Jan R at Maudstone, Se'borne, Hitchin, Babury, Bury St. Edmunds, Norwich, Bridport, Barnstaple, Bodmin, and Cirencester, respectively, was: 4.74, 6.03, 8.28, 3.74, 4.21, 2.95, 2.49, 6.49, 5.23, 8.33 inches.—For Feb: 1.83, 1.91, 1.76, 1.72, 3.05, 2.52, 1.31, 3.31, 3.27, and 2.01 inches.—For March: 3.23, 2.91, 1.99, 2.12, 2.62, 2.36, 1.84, 2.88, 3.56 and 2.49 inch respectively.—April R 2.57 3.43 3.31, 2.64, 2.29, 3.90, 3.32, 5.67, 3.32, and 2.49 inch respectively.—For May: 2.26, 3.25, 2.52, 3.31, 1.54, 1.91, 2.10, 2.95, 6.02, 2.05 inch respectively.—June: 0.77, 0.73, 0.98, 0.89, 1.53, 1.57, 0.81, 1.42, 2.11, 1.05 inch.—For July: 1.85, 5.19, 3.23, 4.52, 3.11, 3.25, 2.12, 4.80, 4.93, 3.98 inches.—For Aug: 2.58, 3.86, 3.02, 4.30, 3.76, 3.20, 5.09, 6.38, and 6.31 inches respectively.—For Sept: 0.73, 1.44, 1.79, 2.22, 1.49, 3.05, 2.40, 3.18, 3.75, and 2.10 inches respectively.—For Oct: 2.13, 3.21, 1.38, 1.64, 1.34, 1.71, 2.19, 3.91, 3.69, and 2.33 inches respectively. As to these 10 towns, the R return for Norwich is deficient for April and August.—At Shifnal Jan R was 3.81 inch; Teabury, 3.54; Leicester, 3.11; Boston, 3.03; Grimsby, 2.81; Mansfield, 4.15; Manchester, 5.01; York, 3.20; Skipton Arncliffe, 11.17; N. Shields, 3.08; Borrowdale, Seathwaite, 25.65 inch.—Feb: R for these places, respectively, 2.72, 2.09, 2.17, 2.09, 2.10, 2.40, 4.29, 2.09, 6.58, 1.53, 14.42 inches.—March: R ditto, 2.56, 2.10, 1.84, Boston, 1.45; Grimsby, 2.35; Mansfield, 2.57; Manchester, 2.43; York, 2.93; Skipton (Arncliffe), 4.89, N. Shields, 1.70; Borrowdale, Seathwaite, 7.74 inches of R.—April: 2.34, 3.01, 3.07, 3.19, 3.33, 2.90. (No returns for Manchester.) York, 3.53; Skipton, 4.33; N. Shields, 3.53; Borrowdale, 5.43 inch.—May: 2.32, 3.32, 2.15, 1.41, 1.31, 3.40, 2.76, 2.29, 3.73 2.23, 10.92, inches of R respectively fell.—June: 1.06, 1.27, 0.83, 1.17, 1.50, 1.57, 2.35. (No return for York.) Skipton, 3.47; N. Shields, 1.09; Borrowdale, 10.51 inches of R fell respectively.—July: R 5.63, 3.33, 2.64, 2.82, 2.23, 2.55 inch of R. (No return for Manchester.) York, 2.99 Skipton, 7.71; N. Shields, 2.43; and at Borrowdale, 15.45 inches of R respectively fell.—In August at these places, 5.00, 4.89, 2.57, 2.92, 4.12, 4.73 inches of R fell. (No return for Manchester.—At York, 4.46; Skipton, 7.11; N. Shields, 6.32 and at Borrowdale (Seathwaite), 11.79 inches of R fell.—In Sept, at these 11 places respectively (except at Manchester, with no return): 2.63, 2.22, 1.52, 2.18, 4.82, 3.53, 3.20, 4.24, 1.76, 8.96 inch of R fell.—In Oct: ditto (Manchester no return) 2.30, 2.32, 1.37, 2.24, 1.72, 1.84, 3.02, 9.15, 2.61, and 22.92 (Seathwaite) inches of R fell respectively.—At Haverfordwest, S. Wales, the Jan R was 8.98 inch.—At Aberdovey, 5.71; Llandudno, 5.14 inches.—In Scotland, in Jan, at Dumfries, 7.96 inch of R fell; at Hawick, 6.43; Kilmarnock, 5.48; Cas-

tle Toward, 7.53; at Mull, 5.31; St. Andrew's, 4.45; Grandtully, 6.72; at Braemar, 4.43; Aberdeen, 3.31; Gairloch, 4.38; Portree 8.26; Inverness (Cullooden), 2.39; Helmsdale, 2.82; and at Sandwick, 3.43 inches of R fell.—In Feb: for these 14 places, the return of R. was respectively, 2.66, 2.55, 4.42, 7.12, 6.17, 1.50, 2.34, 3.03, 2.63, 6.53. (Portree no return.) 3.12, 5.53, 4.33 inches of R.—In March: 2.21, 1.98, 2.51, 2.92, 2.73, 1.87, 2.33, 2.19, 2.24, 3.12, 4.18, 1.66, 2.82, 2.31 inches of R fell respectively.—In April: 2.93, 3.39 (Kilmarnock no return), 3.80 (Mull no return); 2.55, 3.79, 1.93, 3.03, 1.45, 1.77, 1.88, 2.16, 1.44 (at Sandwick) inches of R fell respectively.—In May: 3.20, 2.66, 2.14, 1.71, 2.63, 1.55, 2.63, 1.55, 2.62, 1.89, 2.90 (no return for Gareloch); 3.57, 2.37, 2.39, and for Sandwick 2.73 inches of R fell respectively.—In June: the return was respectively, 2.66, 2.17, 3.76, 5.63, 7.33, 3.10, 4.26, 5.76, 3.69, 6.50, 8.47, 3.18, 3.06, and for Sandwick 3.38 inches of R fell respectively.—In July: 4.79, 4.70, 4.09, 4.84, 5.31, 2.75, 2.94, 3.29, 3.04, 4.56, 6.22, 2.81, 2.89, 2.85 (Sandwick) inches of R fell respectively.—In Aug: 6.95, 7.58, 3.76, 6.79, 4.15, 6.85, 5.03, 6.29, 6.55, 4.81, 4.91, 5.06, 5.16, 2.50 (Sandwick) inches of R fell respectively.—In Sept: 2.37, 1.67, 1.81, 2.36, 2.57, 2.20, 2.13, 2.10, 1.80, 2.50, 3.80, 1.41, 1.21, and at Sandwick 1.63 inches of R fell respectively.—In Oct: 6.27, 4.88, 5.04 inches of R fell at the 3 places firstly named. No return for Castle Toward, Mull, 7.52; St. Andrews, 3.55; Grand Tully, 5.38; Braemar, 5.66; Aberdeen, 2.14; Gareloch, 6.41; Portree, 11.37; Inverness, 3.79; Helmsdale, 4.61; and Sandwick 4.57 inches of R fell.—In Ireland, for the 11 months, Jan to Oct inclusive.—The Rat Galway was 6.90, 3.22, 2.50, 3.34, 3.53, 2.11, 3.20, 5.22, 2.42, and 5.63 inches of R respectively.—At Edenfel (Omagh) 6.79, 3.40, 2.43, 1.92, 2.46, 3.46, 4.31, 5.74, 2.27, 4.07 inches of R fell.—At Killaloe: 6.06, 4.72 (March no return), 3.56, 1.92, 2.48, 3.48, 4.31, 5.77, 2.77, and 4.07 inches of R fell respectively.—According to Dr. Allnatt, of Frant, Sussex, the year 1877, as he observed it, 594 feet above the mean level of the sea, denoted these meteorological phenomena, viz.,—Jan: A nearly unbroken series of excessive temperature, which lasted, with one solitary exception, from 1st to the 31st inclusive; gales on the 14th and 20th, 25th, 29th; rainfall, 2.83 inches in excess.—Feb: Excess of R., 1.52 inches, much ozone; gales on the 4th in Scotland, and a hurricane on 20th; winds westerly, rough, and boisterous.—March: 7th, a gale, N.E.; and on 17th a storm in Scotland—a month of moderate ozone; on 2nd the temp. rose 13.7 deg. from 22 deg.—April: A month of elemental perturbation; hurricane on 4th in Herts.; on 5th and 6th storms in Scotland; on 15th an Atlantic gale "invaded the English Coast"; excess of rainfall 0.22 inch.—May: A wintry month, 23 days below average temp; wall-fruit trees much injured; gales on 17th, 27th, 28th; much snow in Scotland on 4th; the highest thermal point of this month only reached 3.6 deg. beyond the average, and the monthly mean was 6 deg. below 50 years' computation.—June: A dry month, commencing with an equatorial gale; much heat on 3rd, when thermometer stood 67 deg. in shade, and 71 deg. on 4th; Solar radiation on 3rd, 131 deg.; deficient R.—July: A genial month, with abundant R., and thunderstorms; on 15th, south wind and heavy showers; much heat on 29th, 30th, 31st, much ozone; Thermometer in shade on these days, 78, 76, 80 deg. of Fahrenheit respectively.—August: Many thunderstorms, and excess of R; much heat on 14th, 19th, 21st, shade thermometer stood at 85 deg., and 22 days were in excess; winds chiefly equatorial, with gales on 3 days.—September was an unseasonable month, with deficiency of ozone; a moderate gale on the 12th, with monthly deficiency of R 0.81 inch below the computed value for 35 years.—Oct. produced much atmospheric disturbance with destructive gales; on 8th and 11th gales prevailed, and on 21st and 23rd, with R; a fierce gale prevailed on the 28th; excess in

R., and much ozone during this month.—November: Many gales and tempests prevailed; Atlantic cyclones also; these tempestuous winds were preceded by symmetrical radiating cloud modifications in the N.W. angle, "and the radii have been supposed by physicists to exert a specific influence on telluric magnetism." But Dr. Allnatt suggests: "May not these manifestations of the positive and negative section of the statical magneto-electric conditions in the higher regions of the atmosphere affect by induction the earth's surface?"—Dec. was much calmer; monthly R upwards of one inch-and-a-half in excess; a moderate gale with rain on the 14th; on 20th and 24th another moderate gale from S.W. But: "On Christmas day the open weather completely broke up, the night thermometer registered 25 deg., and the mean of the day was 8.6 deg. below the average; to 29th, depression occurred; barometer sank from 29.30 inch to 28.80 inch. The respective thermometrical night registers were 25, 27, 25 deg; the diurnal means were from 6.7 to 8.6 below the averages; on 29th, temp. rose from 6.7 min. to 8.8 deg. max., a rise in 12 hours of 16 deg; on 31st a north wind reduced the temp. to the normal Christmas average; the weather in this vicinity (Banbury) was much the same, and on the 30th pelting showers of rain with much wind, inundating the roads, occurred; fine on the 31st." Dr. Allnatt in his table, gives the mean temp. for Dec. 1877, and for 59 years respectively, as follows:—For each day, viz: 42.3, 42.6; 42.6, 42; 42.41; 42.11, 9; 42.3, 43.1; 45.12; 42.6, 42.2; 37.3, 41.4; 43.49, 8; 35.40, 5; 31.34, 5; 45.49, 3; 36.3, 49.3; 34.49, 5; 35.10, 6; 41.6, 49.4; 41.49, 1; 37.3, 43.6; 31.39, 6; 38.39, 6; 40.39; 43.38, 2; 40.38; 34.38; 25.6, 37.2; 32.36, 7; 29.3, 37.1; 30.36, 7; 43.37, 1; 47.34, 8; 38.38, 2.—The R at Frant, in Dec, was 3.50 inch.—The Dec. 1877 R, for these 32 pieces respectively was as follows, viz.: Cuxhaven, 2.23; Sumburgh Head, 5.13; Stormaway, 6.78; Thurso, 3.87; Wick, 3.02; Nairn, 1.33; Aberdeen, 2.66; Leith, 1.66; N. Shields, 1.53; Scarborough, 2.27; York, 2.14; Nottingham, 1.90; Ardrossan, 6.64; Green-castle, 5.80; Donaghadee, 3.0; Kingstown, 2.03; Holyhead, 4.17; Liverpool, 2.88; Valentia, 6.55; Roche's Point, 5.29; Pembroke, 3.05; Portishead, 2.27; Plymouth, 2.66; Hurst Castle, 1.65; Dover, 2.77; London, 1.51; Oxford, 1.60; Cambridge, 1.73; Yarmouth, 1.95; Jersey, 3.08; and Paris, 1.86 inches. In the Regent's Park, London, the 1877 R was as follows, viz.:—Jan 5.06, on 25 days; Feb 1.90, during 18 days; March, 2.22, 9 days; April, 2.53, 16 days; May, 2.54, 13

days; June 0.47, 7 days; July, 3.59, 17 days; Aug, 2.29, 16 days; Sept, 0.82, 12 days; Oct, 1.93, 11 days; Nov, 3.79, 22 days; and in Dec., 1.57 inch during 17 days.—Total 28.71 inch during 201 days.—The 12 months R at Camden Square, London, was 28.17 inch [during 195 days, including 3.88 inch for Nov., and 1.59 inch during December.—During these years, 1858-77 inclusive, 20 years, Mr. Symons noted the R as follows, viz., respectively, 18.87; 23.21; 32.24; 22.27; 27.59; 21.59; 16.93; 29.48; 31.60; 26.29; 23.49; 25.42; 21.32; 25.02; 33.83; 22.67; 18.82; 28.14, 26.16; and for 1877, 28.17 inch. It appears that the 1877 R was about 12½ per cent. above the average.—January produce 1 more than twice the usual R.—The months January-April inclusive produced 111 inch instead of 6 inch of R.—May and June were dry months.—The excess of the year, 3.15 inch, is nearly that of Jan.—The chief daily R was on 11th Nov 0.88 inch.—In Ireland, at Cahirciveen, in Jan 7.40 inch of R fell; Feb. no return; March, 4.81 inch; April, 6.34; May, 3.52; June, 2.39; July, 2.84; Aug no return; Sept 3.02; Oct 5.36 inch.—At Cork, for these ths, 8.08; 2.56; 2.99; 6.45; 3.80; 1.43; 6.08; 3.23; and 7.18 inch respectively.—At Dublin the R was, for Jan, 8.63; Feb, 1.29; March, 2.64; April, 5.03; May, 2.10; June, 0.96; July, 3.21; Aug, 4.78; Sept, 2.01; Oct, 2.11.—In Feb., at Haverford, Aberdovey, Llanllunio, and Cardiff, the rainfall was, respectively, 3.77; 4.75; 4.11; and 2.79 inch.—March, 4.06; 3.01; 2.92; 2.66 inch.—April, 5.92; 2.54; 2.30; and 1.29 inch.—May, 4.12; 3.32; 2.32; 2.47 inch.—June, 2.91; 3.69; 1.59; and 1.48 inch.—July, 4.43; 6.03; 5.28; 1.94 inch.—Aug, 6.07; 6.98; 5.77; 5.70 inch.—Sept, 3.92; 2.59; 4.39; and 3.25 inch.—Oct, 6.22; 4.69; 3.36; and 4.59 inch, respectively.—In London, sunshine and rising barometer were noted on the 31st Dec.—If any reader desires to record a notable storm, etc., it should be forwarded to Mr. G. J. Symons, the Meteorologist, 62, Cannon Square, London, for insertion in his monthly magazine.

I am, yours faithfully,

Swalecliffe, Oxon.

CHRISTOPHER COOKE.

P.S.—The Wantage R in 1877 was 29½ inch—between 3 and 4 inch above the average; Jan, Aug, Nov, rainy; June, dry; May frosts destroyed the fruit. At Glasgow, of 4,670 days 4,259 were dry and 3,411 rainy; in 1872 there were 295 rainy days—the rainiest year of 21 years; in 1879 there were 274 dry days at Glasgow.

MARK TWAIN'S IDLE EXCURSIONS.—We prowled on several hours, sometimes by the sea-side, sometimes in land, and finally managed to get lost, which is a feat that requires talent in Bermuda. I had on new shoes. They were No. 7<sup>s</sup> when I started, but were not more than 5<sup>s</sup> now, and still diminishing. I walked two hours in those shoes after that before we reached home. Doubtless I could have the reader's sympathy for the asking. Many people have never had the headache or the toothache, and I am one of these myself; but everybody has worn tight shoes for two or three hours, and know the luxury of taking them off in a retired place and seeing his feet swell up and observe the firmament. Few of us will ever forget the exquisite hour we were married. Once when I was a callow, bashful cub, I took a plain unsentimental country girl to a comedy one night. I had known her a day; she seemed divine; I wore my new boots. At the end of the first half-hour she said, "Why do you fidget so with your feet?" I said, "Did I?"—then I put my attention there and kept still. At the end of another half-hour she said, "Why, do you say Yes, oh, yes!" and ha! ha! oh! certainly! very true?" to every-

thing I say, when half the time those are entirely irrelevant answers?" I blushed, and explained that I had been a little absent-minded. At the end of another half-hour she said, "Please, why do you grin so stealthily at vacancy, and yet look so sad?" I explained that I always did that when I was reflecting. An hour passed, and then she turned and contemplated me with her earnest eyes and said, "Why do you cry all the time?" I explained that very funny comedies always made me cry. At last human nature surrendered, I secretly slipped my boots off. This was a mistake. I was not able to get them on any more. It was a rainy night; there were no omnibuses going our way; and as I walked home, burning up with shame, with the girl on one arm and my boots under the other, I was an object worthy of some compassion, especially in those moments of martyrdom when I had to pass through the glare that fell upon the pavement from street lamps. Finally, this child of the forest said, "Where are your boots?" and being taken unprepared, I put a fitting finish to the follies of the evening with the stupid remark, "The higher classes do not wear them to the theatre."

## PEDIGREE AGAINST QUALITY.

Our correspondent, Mr. W. H. Sotham, has sent us the following article, an abridgment of one which he has published in an American paper:—

It is a sad mistake for a man to extol his steeds, herds, or flocks to court popularity; neither is such a man aware of the injury he does to the community he professes to instruct by so doing. Every practical breeder is aware that there is diversity of character in almost all breeds, and that it is the skill of the breeder that conveys it to perfection; he forms a perfect type of his own, and breeds to it. Men's judgment will vary in this type, but there is but one standard for a profitable animal, destined for the shambles, which is the final end of all, and he who breeds to that higher standard of excellence is the man to be upheld.

No man can arrive at this exalted station unless his skill has taught him to reach that standard of perfection uniformly throughout the whole herd, stud, or flock, regardless of breed.

There are some families in all breeds superior to others more especially in the Shorthorn cattle, and it requires the most consummate skill to obtain uniformity; very few possess that skill. Pedigree and speculation have turned men's brains, and men of money, who knew not the value of it or how it was obtained, have, in their recklessness, overpowered enterprise. These fancy men, in their madness for pedigree and "in breeding," have been deceived by hidden out-crosses, which converts pedigree into a hodgepodge character, and has turned those who worshipped it into ridicule. But no practical man can be mistaken.

Dukes and Duchesses stand high on the human record; therefore the nobility must sustain these titles in Shorthorns, regardless of the hidden crosses in their pedigrees. Although they have improved them, it would be considered degrading were the facts brought to light; still these cannot be hid from a practical man of judgment.

A cow, heifer, or calf, with from 5,000 to 40,000 dollars tied to the tail, with a pedigree of pure Bates' Duchess, no matter how inferior the animal, must be sustained, and the rich "commoner," jealous of nobility, feeling himself equal in purse, and shut out from the aristocratic circle for the want of title and a registered pedigree, is determined to vie with them, regardless of price, in obtaining fanciful ones for his Shorthorn herd; heads it with a Duke, with 4,000 guineas on his horns, and then a Duchess or two, with an equal sum at their tails, thus putting his herd on an equality in the fancy things, no matter how uneven his herd might be.

I never knew a speculator, with money or an estate to back him, with a hobby for fancy, that had a uniform herd; hence the Duchess mania, notwithstanding Mr. Bates, in his confession in "Bell on Bates," admitted that the cross he made with the West Highland heifers was not only an improvement on his Shorthorns, but even on his fanciful Duchesses.

No better apparent proof could be given of this to thinking, practical men, familiar with that breed, than the Duchess heifer purchased by Col. Colipping, at his and Mr. Spears' sale at Chicago, for 15,000 dollars: a good judge might have taken her for a superior West Highland heifer in colour, shape, and quality. An original "pure Bates' Duchess" never produced so thick and mellow a hide as did she; her neck, vein, and shoulder points were purely Scot. It was plain to me that the object of Mr. Bates, in making this cross, was

to reduce the long, coarse legs, the ragged shoulder points, improve the neck vein, lower the high hips, spring the fore ribs, so as to change the paunch into a straighter underline, thus giving symmetry to the original "pure Bates' Duchess."

But where, or where, is pedigree? and why were such exorbitant prices given for it? Will some of the agricultural editors who have been pulling the Duchesses and Thomas Bates' explain this? Will some of the buyers themselves enlighten us? It would be beneficial to breeders and the country if this explanation could be made satisfactory.

It is this mad speculation that has brought on this panic in Shorthorns, and has caused so many heavy failures. A Duke or a Duchess must be had, at fictitious prices, regardless of the inferiority of the animal. The pedigree and the title were all in all.

I have before cited Mr. Abram Renick's Kentucky herd as an example, and will do so again, as I think such a one is worthy of making an impression on breeders. His cows and heifers all look as if they had been ran in the same mould, in symmetry, quality, and substance, colour varying. In examining his pedigree you will find an approved mixture of Stevenson, Booth, Bates, and Knightly. He never allowed fancy to betray his judgment, neither would he allow a large, coarse bull to enter his herd, by which the majority of breeders have been led astray in Dukes, with their extended haunches more particularly. Although Mr. Renick is using, at present, a Duke bull, he has none of the general coarseness and paunchy character of the Dukes. He possesses the apparent element of Booth in his forequarters. Pedigree would not have tempted Mr. Renick to have purchased this bull had not the animal suited the type he had formed in his mind, thus modeling the nucleus of his herd, established his uniformity, and a name so well and favourably known among all breeders.

## THE EVILS OF THE LIVE CATTLE TRANSIT.

We are told upon good authority that, since the adoption of the abattoir system of slaughtering cattle by wholesale, fully 90 per cent. of the meat consumed in New York is so unhealthy as to be totally unfit for food. A large portion of the cattle have come from Texas, or Kansas, or Colorado—a rough journey of one or two thousand miles. Before the recent improvements in stock cars they were half starved on the way. The loss of weight on the journey is usually from 10 to 20 per cent. 5 per cent. of the hogs and sheep are smothered to death. The bulky steers are maimed and bruised. But, even if the animals arrived sound and whole, the fact would still remain that they come in such an exhausted condition that they are totally unfit for food until they have had time to recover from their fatigue. Every one who has travelled by rail from New York to a Western city knows how tiresome the journey is. It must be far more so to unreasoning animals packed together like herrings, without choice or opportunity to change their position, and scared at finding themselves thus whirled away. Nervous excitement always produces more or less fever, which consumes the vital forces and dries up the juices of the body. After such a journey, rest is absolutely necessary to restore health to the vital functions. But it is a well-known fact that, although a steer ordinarily loses from 100 to 150 pounds on the journey

from Texas or Colorado, the dealer carries the shrinkages to the account of profit and loss, and turns the animals into meat without more than a few hours' delay.

There can be no doubt that the noticeable deterioration in the quality of our meat within a few years is chiefly owing to this cause. The abattoir system has well-nigh swept away the ancient and honourable guild of butchers of the past, who used to scour the country round for fat cattle, and drive them to the city or ship them by canal or steamboat. They were connoisseurs, and, after passing their hands over an animal, bought with unerring judgment. The butcher of to-day has to take what he can get. He has no longer the profits and perquisites of the slaughter-house. It is his interest to hold his tongue and sell what comes to him. He buys the best-looking meat he can get for his money, and sells what the market affords. But the old butchers shake their heads, and own that meat is not what it used to be.

Now, it would be a great misfortune if this state of things were a necessary result of the abattoir system. Since its adoption the odious slaughter-houses have been driven from the crowded parts of the city. It is a saving in time and money, and by concentrating the business at points convenient to the railroads has tended to encourage the raising and shipment of cattle, until now their transportation pays better than any other Western freight. The trouble is that there are no safeguards thrown around this important industry for the protection of the public. Ignorance and cupidity are allowed free course. We question whether there is a great city in the world, outside of the United States, where such an important part of its food supply, and one so subject to abuse, is left without any adequate inspection. It is as though we abolished the quarantine and left the gates of the city open for yellow fever—because there are diseased animals continually coming to the abattoirs, and who knows where they are going? The origin of the plague—the most terrible scourge known to the human family—is attributed to the use of diseased animal food. We have inspectors of grain who get forty cents a car-load for inspecting this innocent commodity, which does not come within the province of the sanitary authorities. But the Board of Health have confessed their inability to control or check the fraudulent sale of skimmed and swill milk which is going on under their noses. They plead that their appropriation is insufficient to employ more than one milk-inspector, and of course it will go no further towards providing for the thorough inspection of cattle, even if all the abattoirs around the city were within their control. Some means certainly should be adopted to give people a little more confidence in what they are eating.

Take the abattoir at Sixty-fifth Street, for example. Its cattle are turned for a few hours into muddy and rocky yards, where hogs and goats would not find existence tolerable. The New York Central Railroad, which brings the cattle to this abattoir, stretches through miles of interval land in Winchester county, suitable for grazing cattle, where they could be turned out for a few days' rest and recuperation. A steer that loses from 100 to 150 lb. weight in the journey from Texas or Colorado, and arrives in a fevered condition, would regain enough flesh in a few days to more than meet the expense of detention, so that the consignee would lose nothing by paying some regard to the public welfare. But such provision cannot be expected of the private corporations that carry on this business. They will do exactly what they are compelled to do to protect the public health, and nothing more. It is time that they were taught that the public have some rights which they are bound to respect.—*New York Sun.*

## EXPERIMENTS AT THE BROWN INSTITUTION ON THE COMMUNICATION OF FOOT-AND-MOUTH DISEASE FROM DISEASED TO HEALTHY ANIMALS.

By W. DUGUID, M.R.C.V.S., Veterinary Surgeon to the Institution.

In a report already published in the *Journal* of the Royal Agricultural Society, Dr. Sanderson gave an account of some preliminary experiments on foot-and-mouth disease, which appeared to show that under certain circumstances its communication by mediate contagion is more difficult than is usually supposed. In the experiments in question, the infecting material was obtained at Deptford, either from live animals or (in one case) from an animal just slaughtered. In all these cases the appearances of the disease were so characteristic that, although nothing was known of the previous history of the cases, no doubt could be entertained of their nature.

Opportunities have since offered themselves for repeating the most important of these observations, particularly those relating to the infecting power of the discharge from the mouth. For this purpose material was obtained, not from infected cattle just imported from the Continent, but from animals in the Metropolitan Cattle Market, reported by the inspector as affected with foot-and-mouth disease.

As before, three of the experimental animals at the Brown Institution were fed, February 1st, 1877, with hay which was more or less soaked with the discharge from the mouths of the diseased animals. Subsequently, March 22nd, a fourth animal was treated in a similar manner. All of these acquired foot-and-mouth disease; the time of incubation in the several cases being thirty-six hours, two days, two days, and three days, the first indication of the disease being afforded by the increase of bodily temperature. In each case the rise of temperature was followed after one day by the first appearance of the mouth eruption, which, twenty-four hours later, had assumed the vesicular form.

The following table exhibits the progress and duration of the disease:—

Number of Animal.	Temperature.			Eruption.	
	First Rise.	Maximum Reached.	Restoration to Normal.	First Appearance.	Full Development.
I.	48 hours.	4th day.	7th day.	3rd day.	4th day.
II.	48 "	4th "	7th "	3rd "	4th "
III.	3rd day.	5th "	8th "	4th "	5th "
IV.	36 hours.	4th "	6th "	3rd "	4th "

The times stated in the table are reckoned from the day on which the animals were fed on the soaked hay.

The range of temperature was as follows:—

Number of Animal.	Normal.	First Rise.	Maximum.
	deg.	deg.	deg.
I.	101.99	102.5	104.8
II.	101.99	103.8	105.2
III.	102.0	103.1	105.6
IV.	101.55	102.2	104.5

The restoration of the temperature to the normal might be evidently taken in this disease as a good sign of convalescence, for although at this period the scars on the mucous membranes were very obvious, the animals had already begun to feed and ruminate naturally.

On the sixth day of the disease in the animal last experimented on, hay, soaked with discharge collected from the mouth, was given to two other healthy animals (the two three-year-olds), without any effect. It is interesting to notice that although the stable-man who was employed in attending on the diseased animals had charge at the same time of four healthy ones, none of them were affected.

In order to obtain information as to the risk of communication of foot-and-mouth disease by litter removed from infected sheds, the bullock No. IV. was littered for eight days (*i. e.* the whole time of their illness) with the straw removed twice a-day from Nos. I., II., and III., but it did not show any signs of infection.

The promptitude with which the same animal was attacked several weeks after, when fed with soaked hay, proved that this immunity was not dependent on insusceptibility. Finally, the two remaining animals not used in previous experiments were littered in a similar manner with the straw removed from No. IV. during the whole time of its illness, but again without effect.—*Veterinarian.*

### THE LATE LORD KINNAIRD AS AN AGRICULTURIST.

It was as a pioneer in agricultural matters that Lord Kinnaird was most widely known. As a landlord he was like many more, "just hard enough." At the same time he was respected by his tenants and by very many more. His lordship farmed very extensively. Besides having 1,200 acres regularly in his own hands, several other farms were occasionally in the proprietor's occupancy, during which time thorough draining and steam cultivation were carried on. For many years his lordship had steam employed in the cultivation of his strong soils, in pulping chaff, cutting, heating and otherwise preparing the food of animals. His large and well-equipped farms have long been regarded as perfect schools of agriculture, and have as such been visited by agriculturists from almost all countries. On no farm or estate in the United Kingdom has steam power been brought into so general use as at Rossie Priory. Whether we look at the draining by steam, the "knifing"—three feet deep—of much of the strong clays by steam, the reaping and hauling by steam in harvest, it must be admitted that the late nobleman did much to further the application of this mighty power in farm-work. He used principally Fowler's double-engine system in field cultivation. The traction engine with which his lordship worked a 9-foot reaper in harvest, laying the corn in swathe, was of American design.

All sorts of new machinery were to be found on his lordship's farms. He took great interest in putting new implements to a practical test. Of a mechanical and inventive turn himself, he invented several improved and useful implements, and helped to perfect many others. To the B.L.'s reaper machine he gave a great lift. His farms, including those let, were mostly provided with substantial covered courts, and pulping and chaffing accommodation was carefully arranged.

So long ago as 1828 the late nobleman founded a flock of Southdown sheep. These he superseded in a few years by a flock of Blue-faced Dishley Leicesters. After breeding them for a considerable time, Lord Kinnaird was fascinated by the greater size of, and larger return from, the Border Leicesters, of which he established a flock in 1865. Rams of the Mer-

ton, Millendean, Rock, and Ellingham blood were used. The flock was sold in the autumn of 1876.

A Shorthorn herd was started in 1835 by purchases from Rose, of Cotham. The herd was carefully kept, and much good Booth blood was introduced in the form of bulls until about fifteen months ago, when the Shorthorns were dispersed by Mr. Thornton. The clay-soil farms did not prove favourable for pedigree stock-breeding; and after gaining not a few prizes at national shows, his lordship disposed of the herd in order that his attention might be more exclusively than before devoted to the development of steam cultivation.

His lordship was gifted with a ready and telling pen, which he freely used in periodicals and newspapers on behalf of reform and improvement. He was a hard worker, and his able advocacy will be much missed by many a good cause. In short, Scotch agriculturists have been suddenly called upon to mourn the loss of an enlightened, enterprising, and industrious friend of agriculture. No doubt his lordship in farming matters may be said to have lived well-nigh half a century before his time, yet his relatives have the consolation that the late lord's long and busy life has not been spent in vain. The fruits of his lordship's labours will serve as a memorial of the deceased peer for many a day.

The title and estates fall to the deceased's brother, the Hon. Arthur Kinnaird, M.P. for Perth. A vacancy thus occurs in the representation of that city in Parliament.—*North British Agriculturist.*

COVERED AND ENCLOSED CATTLE YARDS.—In reply to several inquiries I write as follows:—"I have found that it is not necessary to cut the straw for bedding in the covered yards. The cattle trample it and break it, and, as the depth of the manure increases, the plunging in of their feet mixes it better than any dung-fork could do it, so that it comes out short and ready for the land. Where horses are kept in boxes (which is a capital plan), it is essential to cut the straw into short lengths—say, about 4 inches—because they are flat-footed, unlike the opening and pointed hoofs of cattle, pigs, and sheep. That excellent and admirable agriculturist, Mr. Lawrence, of Cirencester, always kept his horses so. Sad mistakes are made by some who have covered yards, who tell me, much to my astonishment, that they have to water the litter to keep it moist. That at once tells me that they have adopted the old plan of outside littering, expecting the urine to be as abundant as the heavy rainfall, whereas in the case of covered yards it is essential to use as little straw as possible, and to take care that the first layers get thoroughly soaked and wet with urine before another thin layer is placed upon it—barely enough to keep the animals clean. It is difficult to break in farm labourers to this at first, having been used to deposit straw by the wagonload to sop up the rain-water. My men and boys thoroughly understand this, so that there is never any smell or fire-fanging in the mass—for consolidating by treading prevents heat and smell; but when the fork raises the mass its scent and power are unmistakable. We look upon guano and artificial with contempt, as compared with the covered-yard manure from fattening animals, taken at once to the land. The covered and enclosed yards with paved floors are, I know, the "key of the position" in cattle feeding. We shall hear less complaints about cattle not paying when this system is generally adopted; one of my practical neighbours has just put up three such yards. There is plenty of evidence to show that cattle are much more healthy in ventilated covered yards than in stalls.—*J. J. Neeth.*

THE SEED-BED AND STEAM PLOUGH.

I hold it to be a sound and valuable principle that we should, as agriculturists, not be ashamed to tell of our failures as well as of our successes. Had that principle been acted upon by some of my brother-farmers who have been using the steam plough or cultivator, I should not have been a loser of some £200 or £300. But then it is only by comparative trials that we can gain the knowledge, in some cases, why we succeed or fail. Had I not so compared I might have been still in doubt or ignorance as to the causes of my loss. Let me, however, as a preliminary to this long paper, say—Take care of your long-established seed-bed, and don't bury or impoverish it, but let it be very rich and well solidified for the wheat crop; for Liebig tells us, in his *Natural Lessons of Husbandry*, and other works, that owing to the feeble root development of wheat it requires, in the seed-bed, enough food for 100 wheat crops to produce one fall wheat crop." And I quite believe this; but it is not so with oats or rye, or even barley.

I hope we are all agreed that steam power is cheaper and more effective than either horse or manual labour, on the land or at the homestead. Our manufacturers have long since arrived at such a conclusion, and therefore we ought to cultivate by steam; but then the manner of that cultivation is, to my mind, and from my experience, the most important part of the question.

Dangerous as is the too-sudden addition of depth by the horse plough, still more so is it with the steam plough, for the latter may be said to multiply each horse in regard to power by three, four, or even five.

In Vol. iii., Part I, New Series, of the Royal Agricultural Society's *Journal* we find 320 pages occupied by reports of steam-cultivation, made by the able committees appointed by the Society: most valuable and instructive they are in regard to 60,000 acres steam-cultivated. But with all this I fail to find a single instance where comparison has been made in the same field of the yield of corn under the two systems of horse and steam ploughing. The Committee say, p. 165, "We fail of exact evidence as to increased produce because farmers, as a body, will not, and indeed cannot, (f) carry out accurate experiments—in many cases the increase has not been sufficiently marked to be visible to the eye, whilst in others from 4 to 8 bush. per acre is the estimated increase of corn crops." Now from my experience it is in this "appearance" of the crop that the danger lies, for mine and my neighbour's wheat crops on the steam-ploughed land appeared to be all that could be desired, and were pronounced very superior to the horse-ploughed portion which (fortunately for me and for others too) I had left in each field for a comparative result. From its very first growth to its actual development the steam-ploughed plants looked full of vigour in straw and leaf, bulky as compared with the thinner and poorer-looking portion horse-ploughed; but when cut we had on the steam-ploughed land bulk without weight, and on the horse-ploughed weight without bulk. The straw-binders (when we sold the straw) had to make their bundles of steam-ploughed much larger than those from the horse-ploughed. The pitchers and loaders soon discovered the difference. Well, we were all deceived, for the steam-ploughed was fully 12 bush. less per acre than the horse-ploughed, and a proportionate diminution of straw, involving a

loss of more than £1 per acre, besides the extra cost of ploughing. In fact I lost over £200 on my wheat crop. The same thing occurred in my neighbour's field, where every one was deceived to the extent of 3 sacks per acre or more.

I want to know whether others as well as myself have tested their crops by comparison in the same field. A great many of my agricultural friends have been steam-ploughing for some years, and I should be glad to hear from them if they have made comparisons.

In 1873 I happened to compare Mr. Middleditch's crops (sold by public auction) with the price realised by mine in the same year, and it stood thus—Mr. Middleditch's corn and straw:—

Wheat per acre .....	£11 11 0
Barley.....	6 17 4
Beans.....	7 16 0
Oats.....	6 2 5
	<hr/>
	£32 8 9

Mr. Meech's crops, horse-ploughed:—

Wheat.....	£14 4 0
Barley.....	16 0 6
Beans.....	10 2 0
Picked peas, net price .....	15 15 0
No oats .....	.....
	<hr/>
	£53 1 0

My barley crop in 1873, grown after wheat, was very good—7 qr. on one field, and 7½ qr. on the other per acre.

Mr. Middleditch's auction expenses would over-balance my expenses of harvesting, thrashing, and carting to market.

Was this difference, or any part of the difference, in these crops caused by steam-ploughing instead of horse-ploughing? or by farm manure against artificial? perhaps by both—certainly Mr. Middleditch's land is better than mine—I wish he had tried a portion of his fields horse-ploughed, for his own guidance and for our information. One of the evils resulting has been, on our stiff clays, the increased expense and difficulty in preparing the land for the seed, harrowing seven or eight times where two or three would formerly suffice; and in wet weather the drill cuts lines in the pasty subsoil mixed with the seed-bed, which has become less friable, for our subsoil is like melted glue or birdlime when wet, despite drainage.

The question of how best to utilise the steam-plough is one of immense importance, for use it we must while horses are so dear. A shy neighbour said to my bailiff, "If your master has used the steam plough he will never use it again;" but did not give any reason. But I found out afterwards that his crop of oats on the steam-ploughed land only yielded half a crop as compared with the horse-ploughed.

There is a natural desire to deepen one's cultivation when the steam-plough comes to us, and has the power to do it. remember that my friend Carey protested against my ploughing with his engines 9 inches deep and bringing up that nasty yellow subsoil, so I changed it to 8 inches; but 8 inches with a Fowler's plough often turns out to be, in many cases, 15 to 18 inches.

My advice is—keep your seed-bed on the surface, and only break up the subsoil under it—not in great blocks, but in small pieces, or better still, in a friable condition if possible.

This has been my practice for 34 years, usually for root crops, using horse-ploughs, the second or following plough having no breast. The manure, which has been previously applied on the surface, falls on the subsoil, so that we have a “sandwich of manure” between two slices of earth, the seed-bed being the upper one and the subsoil the under slice. The subsoil thus gets manured and gradually improved, without admixture with the surface soil. My abundant crops, both of roots and cereals, have always given evidence of the success of this practice.

Fowler's steam plough with a subsoiler attached did this well on my farm 20 years ago, but Carey says none of the farmers would use it, so I could not get one on hire. Not one of my neighbours has subsoiled for the last 34 years.

I was (and so were my neighbours) enthusiastic on the subject of steam cultivation. We saw how quickly, deeply, and effectually the soil was broken up and aerated and the weeds killed—such a quick and perfect summer fallow; and so it was; but we little thought that much mischief was being done by mixing too abundantly the wretched subsoil with the long-aerated and long-manured top soil, thus impoverishing the latter.

A well known first-class land valuer and farmer when he saw Fowler's steam plough breaking up my light, hard-bottomed land, 12 inches deep, exclaimed enthusiastically, “Mr. Mechi, this will add £3 an acre to the fee simple value of your land,” but both he and I were mistaken. What it may do in fifty years' time is another part of the question. When our stiff clay in summer becomes dry and hard the steam-plough can only work by getting under the dry surface and thus bringing up immense clods of poor subsoil.

In newly-made railway cuttings we may see how dark and superior that thin layer of top soil appears as compared with the pale poverty-stricken subsoil, so we should reflect that if we mix the two we ought to double our supply of manure; but even that would hardly compensate, because the top soil has for ages received the benefit of heat, rains, dews, and atmospheric changes, and, as Liebig proved to us, it has also the power to arrest and fix all the ammonia, phosphates, and potash that we usually put on it. No doubt this is why most plants, especially the cereals, prefer the top soil and multiply their lateral fibres therein, using the lower roots more as pumps for water supply.

Jethro Tull told us that a plant having only one of its roots in water contrived to moisten a boxful of dry earth in which its lower roots had been placed.

More than 30 years ago the late Mr. Shaw, our then secretary, and a deputation from the London Farmers' Club visited me, and saw my mangel rows  $\frac{1}{2}$  feet apart; they exclaimed, “What a waste of land!” (This was late in July.) I replied, “There is not an inch of soil between the rows unoccupied by fibres.” They decidedly dissented, so I told my old bailiff (Mayne) to spud the land between the rows, and thus my statement was verified very much to the surprise of my practical visitors, who were reproved by Mr. Shaw for not knowing better.

When we recently ploughed a field (steam-ploughed last year) our horse-plough came frequently into contact with undissolved blocks, which impeded the plough. We want more pulverisation with the steam plough on adhesive soils. No

doubt the blunt, thick shares, and the rapidity of movement of the steam cultivator, tear up blocks of earth instead of cutting them, as is done by the thinner and sharper shares of the ordinary slow-moving horse-ploughs. The land is thus in an unsuitable condition for plant-roots, which require a pulverised soil. In this respect I consider Mr. Smith's (of Woolston) plan very superior, because the shares are thinner and the motion slower, and especially he is right in using a single stem to break up the subsoil without mixing it with the surface seed-bed. The blocks made by the powerful steam-ploughs no doubt allow the water to pass freely among them, but not, I fear, always through them. By impoverishing the surface soil we violate the sound law laid down by Liebig in his *Natural Laws of Husbandry*, that it is on the closeness of the particles of earth, saturated with manure, that our crops depend, especially the wheat crop; and this explains why the Rev. Mr. Monle is right as to the value of his system, for the sifted earth frequently intermixed with the manure becomes regularly coated or saturated, and thus confers a benefit greater than could be obtained from an equal quantity of manure applied in the ordinary way.

Good gardeners, when double digging, take care that the poor subsoil shall only be raised and turned over and broken and the good soil replaced upon it. The late Rev. Mr. Smith, of Lois Weedon, always turned back the top soil, and then cultivated and manured the bare subsoil, ultimately replacing upon it the surface soil. He was indeed an adept in wise cultivation and great produce, as I had the pleasure to witness.

Thirty years ago I grew splendid white carrots by forking the subsoil and then covering it with the top soil. All following crops were much improved by it. Both my bailiff and myself are convinced that my loss caused by mixing too much of the subsoil with the surface soil, or by burying the latter, has caused me, directly and indirectly, a loss of nearly £300; and I am not sure that we have seen the last of it yet. The earth dug out to make an open ditch some 30 years ago was spread on the adjoining soil, and impoverished it for many years.

The clover crop, which, during spring and summer, feeds deeply in the soil and subsoil, appears to suffer much less from the steam plough than the cereals; mangels also push their powerful fans deeply and widely into the soil and subsoil, in search of the good soil which has been mixed with the poor subsoil. I never saw my mangels so fangy as after the steam plough; in fact they had all to be raised by the fork at an increased expense, for it was impossible to pull them by hand—especially the long red; their quality was good, although the bulb was so fangy. There may be lands where the subsoil is of very good quality, but as a rule in our county the soil under the cultivated soil is not in a healthy condition for plants, but becomes improved by a gradual stirring and manuring, keeping it beneath the cultivated soil.

I think that the steam cultivators should be on the principle of Bentall's broadshare—with sharp-pointed and broad horizontally-placed slicers, so as to cut through the ground rather than to tear up great blocks, as they do in their present form. I like the steam ploughs, but when they go deep they bury the top soil, and do more injury than the cultivators. It appeared to me, in 1858, when tried on my own farm—and I still believe it—that the subsoiler attached to and following under the surface plough steadies it, and enables it to turn over the surface soil without intermixing it with the poor subsoil, which is left to the action of the subsoiler. I await anxiously for comparative results on this matter.

A neighbour of mine parted with his tackle some year ago because he found his crops so much smaller than mine, and less than he formerly grew under horse culture. I would, therefore advise our steam plough makers so to arrange that the soil and subsoil might be broken without intermixing with each other. This would greatly increase the sale of steam cultivators.

It should be remembered that one inch deep of soil per acre is 100 tons; therefore, if we only mix two or three inches deep of the subsoil with the topsoil, it impoverishes it to the extent of probably 60 per cent., for our seed-bed rarely exceeds five inches in depth. A good dressing of chalk is only 20 to 25 ton per acre, or a quarter of an inch in depth.

Extract from p. 417 of *Reports on Steam Cultivation*:—“The steam is almost entirely confined to autumn cultivation. Here, as at Sutton, it is found desirable, in the case of fallow land, to throw the surface into deep ridges before winter, and the fine surface is never again buried.”

Extract from p. 411:—“It appears to us that Smith's implements break up and open the soil in a manner superior to —'s cultivator.” P. 377:—“All the land for cereal

crops is ploughed by horses; the steam plough goes too deep and irregularly.”

It is perfectly clear to me that the great clods produced by the steam plough must be reduced to a fine tilth by the Cross-kill drags, &c., if we are to get a good crop of roots. At p. 377 of the *Reports* we have full particulars of these operations.

I have cross-examined several members of our Central Farmers' Club, and they have confessed, rather reluctantly, that they parted with their steam tackle because they found their crops diminished. We must use steam, but so as not to mix the subsoil with the old seed-bed. This, in my opinion, can be best done by attaching to the first plough a subsoiler—and we must manure much more abundantly as we deepen our cultivation. I have also ascertained that much mischief has been done by the horse plough, where a sudden deepening of a shallow seed-bed has caused the subsoil to be either mixed with or turned over upon it. But let it not be supposed that I am for shallow cultivation. On the contrary, for 30 years I have been a deep cultivator, both in theory and practice; but keep your seed-bed uppermost and unweakened.—J. J. MEECH, December, 1877.

## RECOMMENDATIONS OF THE SELECT COMMITTEE OF THE HOUSE OF COMMONS ON CATTLE PLAGUE AND IMPORTATION OF LIVE STOCK.

We reprint these recommendations as issued by the Central Chamber of Agriculture.

1. That as a statutory arrangement the importation of all animals from Russia, and of cattle from Germany (except Schleswig-Holstein) and Belgium, be prohibited, whilst that of other animals from these last two countries, and of all animals from the rest of Europe, should be subject to the provisions of the same schedule, power being reserved to the Privy Council to prohibit the importation of animals from other countries if they think fit. An exception, however, should be made in favour of store and dairy animals, provided they remain in quarantine for fourteen days, and afterwards are placed under inspection for two months.

2. That the Privy Council should be empowered to deal directly with the cattle plague whenever it appears in this country, and that for this purpose it should receive from the local authority immediate notice of every outbreak.

3. That the power to order the slaughter of animals suspected of cattle plague should extend to animals in premises adjoining to the infected premises.

4. That whilst the compensation for the slaughter of animals affected by cattle plague should remain as it is at present, the compensation for the slaughter of animals suspected of that disease should be the full value (not, however, exceeding £10).

5. That all compensation for the animals so slaughtered, whether diseased or suspected, should be defrayed from imperial funds.

6. That in case of pleuro-pneumonia or foot-and-mouth disease breaking out, the Privy Council should have power to fix the limits of the district which is to be treated as infected.

7. That uniform rules applicable to all districts declared infected should be issued by the Privy Council, but should be enforced by the local authority, subject to the supervision of the Privy Council.

8. That, in the case of pleuro-pneumonia, the compensation for the slaughter of animals, whether suspected or diseased, should be at the same rate as in the case of cattle plague, but should be payable out of local funds.

9. That stock exposed in Islington Market should not be allowed to leave the metropolitan district alive.

10. That, in the metropolis and large towns, dairy and cattle sheds should be subject to registration, inspection, and regulations.

11. That the restrictions applicable to Great Britain should be extended to Ireland and the Channel Islands, or else that ports should be specified in Great Britain by the Privy Council to which alone importations of live animals from Ireland and the Channel Islands should be lawful, the animals not being permitted to be taken inland unless examined and passed by a Privy Council Inspector at the port of debarkation.

12. And your Committee are of opinion that no further restrictions should be placed on the importation of foreign animals in respect to foot-and-mouth disease and pleuro-pneumonia, unless at the same time orders be enforced throughout Great Britain that in every district where either pleuro-pneumonia or foot-and-mouth disease exists, and which has been declared by the Privy Council to be infected, all movement of cattle be prohibited except under licence, that fairs and markets be under similar restrictions, and that absolute prohibition of movement be enforced against infected farms for periods varying from two months in pleuro-pneumonia to twenty-eight days in outbreaks of foot-and-mouth disease.

13. That where required effect should be given by the Legislature to these recommendations.

The following is the form of petition to Parliament now being circulated by the Central Chamber for signature.—



TO THE HONOURABLE THE COMMONS OF THE UNITED KINGDOM IN PARLIAMENT ASSEMBLED.

The Humble Petition of  
SHOWETH:

That your petitioners, being breeders and feeders of live stock or interested in the production of meat and dairy produce, have suffered and are subject to great losses by imported and preventible diseases of animals;

That the risk of breeding and feeding animals liable to attacks from the frequent re-introduction and spread of foot-and-mouth disease, pleuro-pneumonia, and other contagious maladies has been the means of materially reducing the total head of cattle and sheep in the United Kingdom;

That the admission of foreign diseases into the United Kingdom has greatly damaged the export trade in high class stock for the improvement of foreign and colonial herds and flocks;

That your petitioners hail with satisfaction the recommendations for the suppression of contagious diseases of animals made by the Select Committee on cattle plague and importation of live stock.

That your petitioners are willing to aid in such internal regulations as may be necessary for repressing diseases, provided that the recommendations of the Select Committee, in respect of imported foreign animals, be carried into effect;

And that your petitioners have no desire to reverse in any way the policy of free trade and of open competition with producers in all parts of the world, but only to secure the herds and flocks of the United Kingdom from imported contagious diseases.

Wherefore your petitioners humbly pray that your honourable House will be pleased to pass the recommendations of the Select Committee on cattle plague and importation of live stock into law.

And your petitioners as in duty bound will ever pray.

[This must be copied in writing without erasures, and one at least of the signatures must be on the first sheet.]

## JOURNALISM TWO THOUSAND YEARS AGO.

There seems to have been a necessity since time immemorial among at least half-civilised nations to bring events of importance to the knowledge of the people by the medium of writing. To this purpose answered the hieroglyphic inscriptions of the Egyptians, the tombs of Babylon, covered with Assyrian characters, the Phœnician tablets, and the well-known Marmor Radium.

The first Roman journal, over two thousand years ago, appeared only once a year. This paper, intended especially to be read by the public, was known by the title "Annales Maximi." The editor of this paper was the Pontifex Maximus, whose duty it was to chronicle all the important events of the year. The news was written on white wooden tablets, and attached to the residences of the citizens. It must have been a very curious sight to see the old Romans crowding around the tablets to get a look at the latest news. But the thirst after knowledge and the curiosity of the people grew rapidly, and in such a measure that the Government, the only issuer of the journal, found itself obliged to issue a daily. It is very interesting to know that some of these journals, having reached 2,041 years, are still in existence. The name of the journal was "Acta Populi Romano Diurna," and appeared daily, either as Album, *i.e.*, while the tablets hung out in pub-

lic, or the contents were written with red chalk on the walls of the houses. The contents of this journal comprised what would be classed as daily news in our modern papers. From the want of the necessary material political articles were not to be had. Nevertheless, according to the views of the Roman Government, it was a true journal, and intended as reading matter for the public, which might also be inferred from the fact that the archives of State were carved in bronze and inaccessible to the public. Perhaps it would be of interest to some of our readers to peruse a copy of a verbal translation from the oldest journal known, issued 168 years before the birth of Christ: "Consul Sicinus was the acting judge to-day. There was a heavy thunderstorm, and the lightning split an oak at the foot of the hills of Veli. In an hostelry at the foot of the hills of James there was a fight, in which the landlord was badly wounded. Titinius punished some butchers on account of their selling meat which had not been inspected; the money thus paid was used to erect a chapel to the Goddess Laverca. The broker Ausidius fled from town to-day, taking money with him belonging to other people; he was caught, and had to refund the money. The brigand Demiphon, who was captured by officer Nerva, has been crucified to-day. The flotilla from Astia arrived to-day."

You can see from this that it was in olden time pretty much the same as in our days. We only wish that our officials would attend to the butchers as well as Titinius did. It must be of interest to journalists to know that Julius Cæsar, the greatest of all Romans, paid special attention to journalism. He saw the necessity of instructing his people in everything occurring in the State; and we find this quotation in Suetonius:—

"Julius Cæsar, as soon as he had entered his public office, caused not only to be written, but also spread among the people, the proceedings of the Senate."

This was the first political paper, and, as it contained news about building, births, deaths, executions, and anecdotes, it can be likened very much to our modern papers. It seems incredible, but it can be proved, that already in the olden times there were stenographers who took down the speeches made in the Senate or in public. They were called *notarii*; and we find a place in Suetonius where Augustus is angry because the stenographers reported the speech of Cæsar for Metellus in a very imperfect manner. There must have been reporters, judging from a letter of Cicero to Cælius, also private reporters, who gathered the news and sent them by the *cursus publicus*—an institution similar to our mail—throughout the provinces.

You can see from this that Alcibi's saying, "There is nothing new under the sun," is verified once more.—*Translated from the German.*

DRIVING TRADE OUT OF THE COUNTRY.—An ounce of fact is worth a ton of comment or argument touching the existing depression of the British iron trade. I know an ironworks in South Staffordshire which has just been partially rebuilt. It is in the very heart of the principal mineral field in England, and all the iron used was imported from Belgium, and delivered at 10s. a ton less than it could have been bought on the spot. Here is another fact containing food for reflection both by English ironmasters and English workmen. They have been building a new bridge at Abingdon, and every bit of iron girder used, in all 800 tons, was imported from Belgium, and conveyed from London by the Great Western Railway.—*Hayfair.*

## FARMING IN BRINDISI.

The movement of the farmers which has taken place within a recent period from North Italy to the district of Brindisi does not appear to have been accompanied with the success that was at first anticipated. Since 1867, thirty-four farms, extending over 24,000 acres of land, had been purchased for the aggregate sum of £58,000. Attracted by the low price of land, which was then in the market, the North Italians, without further inquiry, eagerly bought up all the property they could regardless of its being for the most part the refuse of the district, under the illusion that they would be able to make it yield as much as the highly-cultivated plains of Lombardy. But they soon found themselves completely out in their calculations, both in respect of the land already under cultivation and of that which had to be reclaimed. As to the latter, the expense was found to be so great, owing to these properties not being within easy reach of labour, that little or no margin was left for future profits; and as regards the former, a system of farming was adopted which, not being suited to the economic and natural conditions of the country, turned out unprofitable.

The state of agriculture described by Consul Grant presents features of considerable interest, so far as relates to farming operations in countries different to our own. The land is divided into small holdings and large farms. The former, varying from two to thirty acres in extent, lie round the towns and villages within a radius of from one to two miles, and are highly cultivated. Beyond this radius the aspect of the country suddenly changes, and all signs of high cultivation disappear as one enters upon the vast plains which are the peculiar characteristics of this part of Italy. Sub-divided into farms of from 300 to 3,000 acres, they are entirely devoted to cereals and pasture, and are totally uninhabited, except by the inmates of the farm-houses, which are few and far between. The soil of this district is composed chiefly of stony-calcareous clay, with a subsoil of calcareous marl, at a depth of from 15 to 30 inches. Bole, or ferruginous clay, is likewise frequently met with under the arable stratum, and there is also a considerable extent of land which has, between the arable stratum and the marl subsoil, a stratum of plastic clay, or potter's earth, upon which the water settles to such an extent during the rainy season as to render it unfit for cultivation, draining being, as yet, but little known and practised in this part of Italy. This kind of land is generally abandoned to spontaneous vegetation and utilised for grazing.

The general system of farming is of a very primitive nature, and attended with unsatisfactory results. Each farm is provided with farm-buildings in proportion to its size, consisting of one or two rooms for the tenant and his family, two or three store-rooms for produce and agricultural implements, a small flour mill, an oven, a

barn, a stable for draught oxen, and three yards (one for sheep, one for lambs, and one for oxen), each enclosed by a high wall. The farms are stocked with draught oxen and sheep. The former do all the ploughing and other draught work, and the latter are kept for the purpose of utilising as pasture the land which is lying fallow. A pair of oxen are required for every twelve and a half acres of plough, and four sheep for every two and a half acres of pasture. Cows are hardly ever kept on these farms, and goats only on such as are partly composed of waste lands.

In Brindisi oxen are strong and well-bred animals of the Apulian breed. Their average price is £24 the pair, but as much as £40 are sometimes given for the very best. The average yearly cost of a pair of oxen (including keep, ploughman's salary, interest on capital, mortality, &c.) is £27, of which £2 are recouped in manure. They work 240 days in the year, so that the cost of a day's work is 2s. 2d. per pair. The farms are generally let for four, six, or nine years, at the rate of from 3s. 2d. to 5s. 9d. an acre, but they are also frequently worked on the metayer system. Under this system the landlord supplies the farm stock—viz., oxen, sheep, and seed which are appraised and handed over to the tenant, all profit and loss on the same being shared equally between him and the landlord on the expiration of the contract. The produce, after deducting a preliminary charge of three-tenths in favour of the landlord, is divided equally between them, leaving but three and a half-tenths of the whole produce to the tenant, a miserable pittance which barely suffices for the maintenance of himself and family. The rotation of crops more generally followed in the district extends over six years, in the order of fallow, wheat, oats, flax, and two remaining years for pasture. The entire profits of the six years give an annual average profit of 8s. 4½d. per acre, that of the crops being 9s. 1d., and that of the two years of pasture 6s. 11d. The wretched result attendant on the cultivation of corn requires a word of comment. It is principally to be attributed to superficial ploughing, insufficient manuring, and want of drainage.

The Brindisi plough is the most primitive instrument of husbandry that can well be imagined. It is composed of a small wooden head, a handle, a light beam to which the oxen are yoked, and a pointed iron sock, fitting on to the end of the wooden head, which does not go deeper than seven inches into the soil. The North Italians have nicknamed this plough "aratro chiodo" (nail-plough). The one-horse plough, which is much used, is so slight that the peasants, riding to and from their work, fasten it, shafts and all, to their pack-saddles, and carry it so for miles. Such an instrument requires no further comment, and is in itself sufficient to account for the poverty of the crops. Deep-ploughing, when not (as in the case

of the North Italian colonists quoted) divorced from the customary rotation of crops, would at once double the yield, and this is proved by the fact that whenever the peasants rent a small piece of farm land, which they prepare by digging to a depth of from 16 to 20 inches, the produce is sufficient to enable them to pay a rent of from 10s. to 20s. an acre. The scarcity and inferior quality of manure is a difficulty less easily overcome, being principally due to the want of cattle, whose number is necessarily limited, owing to there being but little food for them in the summer, when the whole country is dried up, as it hardly ever rains from the end of May to the end of September, and there is no water available for irrigation. With respect to drainage, so essential to land upon which the water settles as it does in this locality, there is no reason why it should not be more attended to. It is only necessary to record the fact that many a valuable crop is lost through the neglect of this most important branch of agriculture.

The foregoing description of the system of farming in the territory of Brindisi is meant to convey a general idea of the state of agriculture as it is commonly met with on large properties, but it would be doing injustice to some of the landowners of the district were it not mentioned that although what we should call high-farming does not exist, there are properties which have been considerably improved within the last few years, by draining (open drainage), reclaiming waste lands, extending and improving farm buildings, and by the introduction of modern ploughs and other agricultural instruments, among which may be mentioned two steam thrashing-machines. This tendency to improvement which exists among the landed proprietors will, without doubt, in time spread to the class of professional farmers, in spite of their instinctive dislike to innovation.

The small holdings which, as already stated, lie around the towns and villages, offer a remarkable contrast to the large farms just described. The whole energy of the population is devoted to them. Here we find a variety of cultivations, among which that of the vine predominates. To this the wealthier proprietors devote themselves almost exclusively, but the poorer occupants generally sow wheat, cotton, beans, and other crops between the vines, in order to make sure of a return of some kind in the event of the vintage failing them. The vine is the mainstay of the commune of Brindisi, and from the profit which it yields it may well be asked, why the whole district is not one large vineyard. It is the scarcity of population that limits this most remunerative culture, which requires more hand-labour than any other, all the work being done with the spade. If the vast plains by which Brindisi is surrounded were colonised the unprofitable cultivation of cereals would soon disappear, and be replaced in great measure by that of the vine, whereby the agricultural wealth of the district would be incalculably increased; for, owing to the growing demand for the article since

the opening up of railway and steamboat communications, there is no fear of the market being overstocked with wine.

#### ON SLANDERING SAFELY.

From an amusing paper, entitled "Some Precepts for Slandering Safely," in a recent number of *Scribner's Magazine*, we take the following extracts:—

"The desire," says the writer, Mr. C. H. Truax, "to know exactly how much I could say against my neighbours without making myself liable in an action for slander, induced me some time ago to make a collection of legal precedents. For a long time I had felt the need of them—a need, I doubt not, that has been felt by hundreds of others. It is hardly necessary to say that I have found them useful. They have not only proved a very present help in time of trouble, but they have imparted to the character a certain repose and confidence which will prove of rare value in future emergencies.

"It is no slight recommendation of these precedents (compiled from a hundred cases in this country and England) that they are applicable as well to cases of libel as of slander. Slander is the malicious uttering of false and defamatory words, tending to the damage of another. It is the *malicious* utterance that makes the slander; so that, if words are spoken in a friendly manner, as by way of advice, admonition, or concern, without any tincture of ill-will, they are not slanderous. Of this character are communications in regard to servants, advice as to dealing with tradesmen, and other statements of a like nature, which are called privileged communications. You will at once perceive, my dear reader, what a field is here opened to the discreet.

"While it is actionable to call a man a thief, it is not actionable if you add the words, 'Because he has stolen a cat,' the stealing of a cat not being felony; and Judge Twisden said (2 Keble, 377) that 'thieving rogue' was actionable, but 'thievish rogue' was not, because it implied but a bare inclination. Stevenson said of Higzins that he was a 'kuave, and a sitting kuave, and had received stolen goods,' and the court held the words not actionable, because it was not averred that Higzins knew them to be stolen goods, and Twisden said that even then the action would not lie (2 Keble, 338); it is not actionable to say, 'He is a drunken rogue,' 'A cheating kuave' (2 Keble, 333); but it is actionable to say a man cheats in his trade; or to say, 'You are a thieving rogue, and get your living by pilfering and stealing;' for these words imply a habit and a trade of thieving, (2 Keble, 440); you can say of your neighbour, 'He seeks to take my life,' and no action will lie, for he may seek your life lawfully upon just cause; and also the words are too general, and for seeking alone no punishment is inflicted by the law. (4 Coke, 5.)

"No action lies for saying, 'He is in Warwick gaol for stealing a horse and other beasts,' because it is not directly affirmed that he had stolen them, but it is only a report of his imprisonment and the supposed reason therefore. But the words, 'He stole them and was in gaol for it,' are actionable. (Hobart Rep., 239.)

"You can call a clergyman a dunce, blockhead, or fool, for it does not injure him in his profession. The court held that one can be a good parson and a great fool, but otherwise of

an attorney. It has been adjudged that to call a justice of the peace blockhead, ass, etc., is not a slander for which an action will lie, because—note the distinction—he was not accused of any corruption in his employment, or any ill-design or principle; ‘And it was not his fault,’ said the court, ‘that he was a blockhead, ass, etc.; for he cannot be otherwise than his Maker made him; but, if he had been a wise man, and wicked principles were charged upon him when he had them not, an action would have lain; for, though a man cannot be wiser, he may be honest than he is.’ (Holt, 653.)

“You can say of a lawyer, ‘He has as much law as a monkey,’ because he hath as much, and more also. But if you say, ‘He hath no more law than a goose,’ then are those words actionable. You can say, ‘He is a common barrator, and deserves to be hanged,’ for the words ‘he deserves to be hanged’ are too general and extravagant to found an action on; because it was not shown what act was done to deserve hanging. (Yelverton, 90.) The words ‘Honest lawyer,’ spoken ironically of an attorney, were held actionable.

“You cannot say of your butcher, ‘He has nothing but rotten meat in his shop,’ but you can say, ‘He has rotten meat in his shop,’ for the reason that such words would not tend to his prejudice in his trade, for he might well have rotten meat in his shop and good meat also. (12 Mod., 420.)

“Generally, it is dangerous for a man to quarrel with his physician, but such quarrels sometimes do happen, and it then becomes necessary to consider what can be said of him without being made to pay for the pleasure. Of course you understand that you can call him a ‘bad man,’ a ‘rogue,’ a ‘scoundrel,’ and many, if not all, of the names mentioned above. I caution you not to say anything against his professional skill, unless, like Meddle in the play, you put by a small weekly stipendium until you can afford it. You can say to his brother doctors that he has met homœopaths in consultation (9 Jarist N.S., 580), and that will injure him very much, if he belongs to the regular school. You can also say, ‘He was the cause of such a one’s death,’ because ‘a physician may be the cause of a man’s death,’ said Lord Mansfield, in *Peake vs. Oldham*, Cowp. 275, ‘and very innocently,’ and this remark would in reality reflect upon his skill. But you can not say, ‘He hath small practice and is very unfortunate in his way, and there are few sick but die under his hands.’ (2 Keble, 489.) You can say of him, ‘He is not a physician, but a twopenny bleeder,’ and can insinuate that he is not a graduate of a regular medical school. (*Foster vs. Small*, 3 Wharton, 138-142.)

“Let me advise you, if you should be sued for slander, to swear as a witness in your own behalf that you believed what you said to be true. If you have carefully avoided the appearance of malice, as I advised you to do, this evidence, if it does not succeed in establishing a complete defence in your behalf, will serve to reduce the amount of damages to such an extent that you will feel you have had the full worth of your money.

“It may seem at the first reading that I have endeavoured to injure my profession by extending among the laity a knowledge of the law of slander; but a careful examination of what I have written will convince any lawyer that such is not the case—that in reality these rules, if acted upon, will be the source of as much new litigation as any ‘Every Man his own Lawyer’ ever printed. I shall thus have made two lawsuits grow where there was one before, and shall have deserved well of the profession. For, my dear brothers, if we

can once get a hot-tempered man started on these non-actionable words, ten to one he will forget himself and run over into those that are actionable; or he will so exasperate his opponent that he will either commit an assault (and then we shall have an action for assault and battery), or will use words that are actionable, and so make himself liable to an action for slander; or, better yet, will both slander and assault, and then there will be a multiplicity of actions.

**EXPERIMENTS WITH POTATO SETS**—A French agricultural journal, the *Basse-Cour*, describes the result of some experiments in potato-growing recently conducted by scientific men in Germany. The principal conclusion to which these sages have come seem to be two in number. The first of them is, that the vigour of the potato plant is always in direct proportion to the weight of the tuber used for sets—a theory which certainly finds some support in common sense alone, considering that the young shoots for some time draw their sole nourishment from the mother potato. The second conclusion is that there is a great variety in the productive power, not only of different tubers, but also of different eyes in the same potato. It is found that the eyes at the top of the potato produce a much more vigorous offspring than those in the lower part, and the consequence is that those agriculturists who cut their potatoes in half before planting them are not well advised in cutting vertically, but should always divide them horizontally, planting the upper half and using the other as food for cattle. But best plan of all is to plant the tuber whole, cutting out, nevertheless, all the eyes except those in the top part. Experiments were conducted in a garden soil by Professor Gantz, the amount of crop produced by several different settings of potatoes being accurately estimated in statistical tables. It appeared that from tubers divided vertically only 5 tons were produced per acre, and from whole potatoes 7½ tons. The third sort were potatoes horizontally divided, which are set down as having produced 9¾ tons. In this particular, however, some of the other professors do not agree with Herr Gantz, but maintain that, other things being equal, the whole potatoes will always produce more than halves, however cut. On the fourth result, however, all agree, and that is, that the whole potatoes from which the lower eyes have been cut out produce 11½ tons per acre, or more than double the result shown by the sets first mentioned.—*Financial Opinion*.

**SHELL FISH IN 1675**.—We have received from a correspondent a curious old bill rendered in the reign of Charles II. to Mr. Walter Tacker, the Mayor of Lyme, in Dorset. It was on the occasion of his entertaining the Judges on their Assize visit. The items are:—Thirty lobsters, £1 10s.; six crabs, 6s.; 100 scallops, 5s.; 400 oysters, 4s.; 50 oranges, 2s. This seems rather an odd bill of fare. That the Judges were supposed to be partial to shell fish seems evident, but why in the name of all that is indigestible should oranges go with crabs and lobsters? It might be worthy of note if the sentences could be found which the Judges passed on the culprits after such a supper.—*Meat and Provision Trades’ Review*.

**FARM COMPETITION**.—The entries of farms in competition for the prizes, amounting to £240, offered by the Bristol-Local Committee in connection with the next show of the Royal Agricultural Society, are sixteen in number. Of these thirteen are dairy or stock farms, and only three are arable. The competition is limited to tenant-farmers in Gloucestershire, East Somersetshire, and North Wiltshire.

## THE CATTLE DISEASES COMMITTEE AND THE CENTRAL CHAMBER.

When the Report of the Cattle Diseases Committee of the Central Chamber is read at the meeting on Tuesday it will perhaps occur to some member of the Council to inquire, first, why an imperfect list of the recommendations of the Parliamentary Committee has been circulated, under the auspices of the Chamber; and, secondly, whether it is advisable for the Chamber to give its support to all the proposals of that Committee. The most important of all the recommendations of the Select Committee, that of the slaughter of fat cattle at the ports of debarkation, is not mentioned, or at any rate not distinctly mentioned, in the list of thirteen recommendations which have been sent out by the Central Chamber, and which farmers are advised to pray may be made into law. No doubt it will be replied that these thirteen recommendations are supposed to summarise the advice of the Select Committee, and that if they do not clearly effect that object it is not the fault of the Central Chamber, but of the drawer of the Report. This is true; and yet we are of opinion that when the Chamber, or the members of its Cattle Diseases Committee, undertook the responsibility of advising the farmers of the whole country to petition in favour of the recommendations of the Parliamentary Committee, they might have made sure that the most important of all these recommendations was clearly expressed in the summary that was sent out. The only possible reference to slaughter at the ports of debarkation contained in the thirteen recommendations, which we copied last week as that sent out by the Central Chamber, is contained in the badly-expressed 1st recommendation, which advises that all animals allowed to be imported from Europe "should be subject to the provisions of the same schedule." No particular schedule is mentioned, and it is only by a guess that one can jump to the conclusion that the schedule intended is to insist on the slaughter of all fat stock from Europe at the ports of debarkation. People who have not a copy of the entire Report will be astonished to find that there is nothing said about slaughter at the ports in the supposed summary, and may think that they have been mistaken in supposing that slaughter was recommended. Indeed, it is a fact that many have already expressed their astonishment at finding, as they suppose, that the recommendations of the Select Committee do not say a word about this, the most important suggestion contained in

the Report. The Central Chamber Committee might have noticed this important defect in the summary, and have supplied the omission by reprinting Clause 27 of the Report, which is as follows:—

"On the whole, after considering the various alternatives, your Committee would recommend that, as a statutory arrangement, the importation of all animals from Russia, and all cattle from Germany (with the exception of Schleswig-Holstein) and Belgium, should be prohibited, and these last two countries as to other animals, and the rest of Europe as to all animals, should be added to the list of scheduled countries, with power to the Privy Council to forbid the importation of animals from other countries if they think fit. And all cattle imported therefrom should be slaughtered at the port, such ports to be defined, of debarkation; and that all store or dairy cattle should be quarantined for 14 days at certain defined ports of landing. Such stock on removal to be registered as to where sent, and there to be under restraint and immovable for two months." This is plain enough.

Then as to the petition. Farmers are asked, by signing it, to pray that the House of Commons "will be pleased to pass the recommendations of the Select Committee on Cattle Plague and the Importation of Live Stock into law." Now, it is with the strongest reluctance that we incur even the suspicion of causing a division in the agricultural ranks upon this question; but does the Central Chamber really desire that all the recommendations of the Select Committee should be passed into law? Of course we are all very grateful to the members of the Committee for having drawn a Report which is on the whole so valuable and we are all ready to give it our general support. But it is not infallible in all its details, and the Agricultural Associations of the country may be reasonably expected to point out any defects which they observe. It is not necessary, nor does it induce respect towards those bodies, that good and bad suggestions should alike be swallowed in a fit of effusive gratitude. It was all very well to receive the Report thankfully, and not to be in a hurry to point out its defects; but when it comes to be a question of drawing up a Parliamentary Bill a much more careful scrutiny is required. Then it is desirable to point out which recommendations we desire to have adopted, and which amended,

This the Central Chamber has not attempted to do, but, on the contrary, has advised the farmers and graziers throughout the country to ask our legislators to embody the suggestions of the Select Committee, good and bad alike, in an Act of Parliament. Having done this, it is of course out of the power of the Chamber to suggest any alterations hereafter, if the Bill should be drawn in accordance with the suggestions referred to. We presume that the members of the Cattle Diseases Committee of the Chamber are responsible for having placed the Chamber in this position, and we think they have acted unwisely. Is it possible that they approve of all the recommendations of the Select Committee? Do they approve of the proposed admission of store and dairy animals to the interior of the country after a fortnight's quarantine? Are they satisfied that Schleswig-Holstein should be excepted from the prohibition against importing cattle from the rest of Germany? Do they think that it should be a fixed condition that no stock exposed at Islington market should be allowed to leave the Metropolitan district alive? The first of these questions is by far the most important, and we could forgive the Chamber for overlooking the others. As to the last, indeed, we should say the restriction mentioned in it is necessary if the lax provision mentioned in the first becomes law. With proper restrictions upon the importation of foreign animals, there is no reason why the Islington market should be more dangerous than any other large market; but if Dutch cows are to come into London after only a fortnight's quarantine at the port, then the Metropolis will always be a centre of disease. To except Schleswig-Holstein from restrictions applicable to the rest of Germany would be an anomaly, as we have pointed out on a previous occasion. This, however, is a point that we will not dwell upon. But the proposed admission of store and dairy stock after an insufficient period of quarantine we regard as detracting to a very serious extent from the value of the Select Committee's scheme, and upon that point, at least, we think the Central Chamber should have uttered a protest.

The agricultural party will not gain, but lose, through an indiscriminating adoption of the Report of the Select Committee in all its details. Parliament is certain to grant us something less than we demand, if it grants us anything. If our friends of the Opposition understand that we are perfectly satisfied with the recommendations of the Committee, they will insist on taking something off, just for the sake of driving as hard a

bargain as they can. Their policy all along has been the blind and prejudiced one of opposing anything and everything that was asked for by the farmers or their representatives, and they will do their utmost to ensure that we do not at any rate get all we demand. So, by a too amiable exhibition of affected harmony with the Select Committee, the Central Chamber will weaken instead of strengthening the chances of getting a good measure passed, and at the same time will stand in a weaker and less logical position as a representative institution.

Cattle Disease Prevention, as a question between Parliament and the agriculturists, stands thus: The latter have, through their representatives, agreed to put up with great inconvenience in the form of stringent internal regulations for the stamping out of disease, provided that fresh contagium is kept out of the country, as it can only certainly be by the complete exclusion of foreign live stock. The Select Committee propose the exclusion of live cattle from some foreign countries, and slaughter at the ports of debarkation of those allowed to come from other countries of Europe. This proposal the agriculturists have accepted, and in our opinion the concession is the utmost that should be asked from them. By accepting it they agree to the great inconvenience of stringent internal regulations, although it does not afford the complete safeguard against the fresh importation of foreign disease for which they bargained; and when it is further proposed to leave open such a loophole for the entry of disease as will be provided if store stock are to be admitted with utterly insufficient precautions, the arrangement ceases to be in any respect a fair one.

**WHY FARM LEASES NEED NO LONGER BE STRINGENT.**—In my early days, seventy years ago, farms had to baste themselves, for there were then no guanos, bones, or artificial manures, no cotton, linseed, or other cakes; no importation of foreign feeding stuffs, such as maize, &c.; no means of inter-communication by railways, steamships, telegraphs, or penny post; no mangels or kohl-rabi; no farmers' clubs or agricultural shows, no agricultural newspapers, no steam thrashing machines, no steam ploughs, no reaping or mowing machines, and scarcely any agricultural implement makers. But now all this is changed, and British agriculture has become almost a manufacture. These changes have rendered necessary a great increase of tenant capital, but it can hardly be expected to flow in sufficiently or abundantly unless duly protected, and with the newly-required freedom of action. No doubt landowners have considered all this, and have perceived the necessity for concurrent changes and improvements in leases and homesteads, with drainage, enlargement of fields, &c., so that the British farmer may be better enabled to sustain the contest with foreign competitors.—*J. J. Mechi.*

## LIVE STOCK NOTES.

The "Man of Mark Lane" is candid in his confession that his American friend, who has forwarded him an extract from a Cincinnati paper recounting the failure of B. Groome and Son, W. D. Sutherland, & Co., "is perhaps a little prejudiced against 'fancy' Shorthorns," and is an advocate of "the Herefords that are rapidly getting into favour in the United States." One might, however, have guessed his predilection, small blame to him the same. But to the idea that the failure of Messrs. Groome and sundry others can permanently affect the Shorthorn market, I demur. There are plenty of sound buyers left over the water, let but good times come again. As the American friend further states, "the supply of well-bred animals for breeding purposes is much below the demand" across the Atlantic. The public prints concur in endorsing the statement, which long since I advocated in these very columns, that the establishment of the dead meat trade 'between these parted shores would lead to an increased demand for good stock, both male and female.' A writer in *The American Live Stock Record*, of December 22nd states that Mr. S. Corbin had recently "sold out (and got the money for every animal) a number of fine cattle," and that too "in a part of the country (Virginia and Maryland) where it was impossible to sell Shorthorn cattle before the exportation of beef and cattle to England commenced. The English trade will not take any but the best cattle we can raise, and it behoves us, then, to make every effort to improve our cattle. Let the farmers buy a few thoroughbred cows each, at the low prices at which they are now selling, use nothing but thoroughbred bulls on their premises, and become breeders instead of speculating, and I am certain that no investment they can make at the present time will prove more lucrative." By all means, buy as low as ever you can, but let it be of the best. Quite lately I urged upon the breeder to thin out his weaklings, and to strengthen his hand, waiting with confidence the return of market sunshine. "The importers and breeders of improved stock in Kentucky have been public benefactors, and no class of men in the State have done more for it." Fair play, then, to the noblemen and wealthy commoners who have of late years in this country been engaged in an honourable rivalry to obtain and nurse in their purity such cattle as were best commended by the early improvers, such as the Messrs. Colling, & Co. And for the life of me I fail to see why, instead of the praise they deserve, so much adverse criticism (to use a mild term) is thrown upon those wealthy men, who choose to invest their surplus cash in pedigree cattle rather than in the rotten foreign bonds which have engulfed so many of our apparently shrewdest people. There are not only the wilds of savage countries, but our home parks to populate. The nobleman finds that the ancestral fallow deer are *dear* indeed. He prefers, as other wise men, to make fair profit out of his pastures, and it is further satisfactory to him

that his tenantry, obtaining "slips of calves" from his herd, have been enabled to work themselves gradually to a better footing, in the possession of an improved collection in their foldyards. Search the neighbourhood of any one of our leading Shorthorn breeders, and the difference of ordinary stock is at once seen. The times are hopeful for the earnest breeder. The youth of England every day is leaving our crowded hive, and carrying his home tastes and acquaintance to distant lands. Let those who doubt the future of America alone study Mr. Thornton's interesting papers in the early numbers of his circular. In *The American Agriculturist*, January, 1878, I read, "The production of meat is destined, without any doubt, to be immensely extended as the great Western plains become covered with herds, and as the farms East of those become feeding places for finishing off the grass-raised cattle into mature fat beef, or into breeding farms for supplying pure-bred bulls to the graziers; and all these together become purveyors to the needy people of Europe, as well as to our own rapidly-increasing population. The present nucleus, from which the greater part of our future beef, and much of our milk, butter, and cheese, must come, exists in our *pure Shorthorn herds*, and to these we must look for the greater part of the means we shall use for the future development of stock-growing. With such a future in prospect the Shorthorn interest cannot long remain depressed. Intending buyers could have no more favourable opportunity than the present."

While the subject is fresh in my mind let me admonish the beginner not to give his breeding cattle, bulls especially, oilcake. It destroys, or rather mars, their usefulness. He cannot keep his working herd on too plain food. Many an otherwise unaccountable disappointment has occurred through the bulls' indulgence in this fattening stuff. Mr. Bowly's Third Duke of Clarence, who recently succumbed to nature, quite suddenly fading, was at one time one of the best Shorthorn sires in England, and did ample justice to the enterprise, not only of the famous Siddington breeder, but to his first owner, Colonel Kingscote. He will have a high niche in Shorthorn history. It is curious how in some points he ran back to Favourite, with whose blood the veins of the Duchess tribe quite overflow; and who is described in Bell's history (as from the lips of Mr. Bates) thus: Favourite "was a large massive animal, had remarkably good loins, and long-level hind-quarters; his shoulder-points stood wide, and were somewhat coarse." There was little else to find fault with in the Third Duke, as the grand old fellow used to be seen on parade before the familiar barn door. His successor, and late aide-de-camp, the Beau of Oxford 2nd, who was a very ordinary youngster, has grown into an excellent animal. He is, undoubtedly, pinched behind the shoulders, but having said that much, I have said all that is against him in shape. He meets you well; he has a pleasant countenance, and yet masculine air, good loin, long body, long quarters, and

capital thighs. His stock, too, is very promising. By the way, I hope that in his April sale of dairy stock Mr. Bowly won't immure any of the Gazelles, as was intended. There are few tribes to be seen exhibiting such uniformity of character, with thoroughbred look, as this Siddington sort, tracing to Rev. H. Derry's early discrimination, does. Mr. Bowly should nurse them until he can sell a lot and keep a lot—it is a mistake to run too dry—for if any Shorthorns are worth anything, these assuredly are, considering their type, and the accumulation of rare old blood in their veins.

The following excellent advice is given in *The American Agriculturist*: "Grade pigs are preferable to any pure-bred ones for the farmer. As a rule, it will be found a mistake for a farmer to keep pure-bred animals except males to produce grades. High-bred animals are nearly always smaller and more finely organised than their grade progeny. Their greatest value consists in producing an improved progeny from our common stock. This is large in size, and in every way more valuable for the market or for home use than the pure-bred sire would have been. In no kind of stock is this fact more manifest than with swine. No matter what kind of breed of pigs is kept, this rule will hold good." How, then, are pure sires to be obtained, if some do not, for the love of it, *keep breeds pure?* There is no doubt of *old inherited virtues*, whether deep milking properties or aught else, working up to the surface sooner or later, however overlaid temporarily with inferior stuff in the "grade" conglomeration.

At this season of the year, especially where barley-straw has been in use, lice are apt to infest the cattle, young and old. Their *locale* is soon seen by the bare spots, from which they sever the hair, so that you may lift it in handfuls, as though clipped with a machine. An innocent recipe, therefore superior to the dangerous mercurial ointment, given in one of this week's papers, is to rub the part with a mixture consisting of sweet-oil and kerosene. Why not porpoise oil, if they are on pasture? That might keep out wet and cold, and save shedding.

I have just seen a neighbour's kitchen-garden folded with sheep, and eating white turnips—rather a good deal in some respects. Why did one never think of it before? It is the tups that are so confined, and therefore far from the flock, which is sometimes of advantage on a mixed homestead, where the shepherd drill is not thoroughly understood.

Where do the starlings come from? I have just been watching them arrive in endless detachments, as the passenger pigeon of America, then wheel and dive in, whole regiments at once, into a thicket of blackthorn, where they soon jabber themselves to sleep.

Birds to the front again! We desire the recovery of our rooks, who left us *en masse* a few years since. We are recommended to hang up a piece of horseflesh in the trees of their old haunt, and are assured that it will induce their return to their deserted village. Can any one advise a better remedy? VIGIL, Jan. 18.

## THE FARMERS' CLUB.

The following subjects have been fixed for discussion:—

- FEBRUARY 4.—Traction Engines for Agricultural Purposes.—By Mr. T. Aveling, Rochester.  
 MARCH 4.—The Breeding, Rearing, and Management of Cart Horses.—By Mr. F. Street, Somersham, St. Ives, Hunts.  
 APRIL 1.—Farm Work in Harvest.—By Mr. T. Rose, Melton Magna, Wymondham.  
 MAY 6.—Local Government, with special reference to Rural Districts.—By Mr. W. E. Little, Stag's Holt, March.  
 NOVEMBER 4.—The Need of Greater Unity of Action in the Agricultural Interest.—By Mr. J. G. Edwards, Broughton, Stockbridge.  
 DECEMBER 9.—The Paris Exhibition: its Agricultural Teachings.—By Mr. J. K. Fowler, Prebendal Farm, Aylesbury.

The discussions will commence at half-past 5 o'clock p.m. There are no meetings in January, June, July, August, September, or October.

## MR. WALTER A. WOOD'S HARVESTER AND BINDER IN AUSTRALIA.

A special correspondent of the *The Queenslander*, writing from Melbourne, on October 20, an account of the Victoria National Show, held at Stawell, a distance of 178 miles from Melbourne, states that—"The main attraction of the showyard was the range of Wood's harvesters, with Locke's self-binders. These were exhibited by several firms. I saw an excellent illustration and read an interesting description of the wonderful machine a few weeks back in *The Queenslander*, so I assume that my readers are conversant with all its details. There was a prize of £20 offered for the best reaper and binder at Stawell, to have a field trial. The third day of the show three of them, all of Walter A. Wood's make, were brought out about a mile from the town, and tried on a field of half-ripe barley. Mr. William Watson, a Victorian farmer, who first imported this harvester to Victoria, had first trial. He proved thoroughly up to his work, and with two horses knocked down the barley very smoothly, and made his machine bind speedily, well, and practically. There were over five hundred farmers present, and I believe they all felt satisfied before Watson had worked half-an-hour. There was one fault found, and that was not with the machine, but with the manner the sheaves were thrown out. A few present thought with ripe grain there might be a loss, but others said no. It was a very pretty sight to observe two of these machines wading through the heavy barley, and throwing out sheaves as boys would throw about a ball. From my experience of the trial, I can give the harvester an excellent character. It cut as well as a mow reaper in the colony, and bound evenly and tightly. Mr. Watson has tried them in several districts with all kinds of crops. I was glad to see the prize-ticket hung on his machine. The judges awarded it more for the manner of work than for any other motive, for, as I before remarked, the machines exhibited were all from the same manufacturer."



## FREE TRADE IN LAND.

No. II.

Before I attempt to explain what the actual existing Land Laws are under which the condition of things which I described in my letter of the 20th December has been produced, it is necessary to get rid of some fallacies which have laid hold of the public mind upon this subject. And indeed it is not surprising that strange misconceptions should exist, considering how we lawyers have surrounded and overlaid the subject with technical terms, with innumerable finely-drawn distinctions, with many thousands of decisions of the courts, and with statutes heaped on statutes, many of which are expressed in the scarcely intelligible jargon of the middle-age legal language.

It is not, therefore, matter for surprise that many able laymen, when discussing this subject upon the public platforms, should use language which makes lawyers smile, and which is only too sadly calculated to mislead their hearers, or at least to divert their attention from the real points to which it ought to be specially directed.

First and foremost, it is absolutely necessary to get rid of the idea that the vast accumulation of the land, which I described in my former letter, has been caused by "Primogeniture." Nothing can be more incorrect. "Primogeniture" only means that when an owner of land dies without having made a deed or a will settling and disposing of his land, the land in such case shall all go to his legal "heir," without any other relations taking anything. No doubt this is very objectionable, and no doubt it tends to some extent, where no deed or will exists, to keep the great estates together, but only to a small extent. For first, very few landowners are so foolish as not to make a deed or will; and secondly, even where such a case occurs, the legal "heir" takes the land without any restrictions or limit to his full power to sell or give it away, just as he pleases, and without anything to prevent his creditors, if he is in debt, seizing and selling it. I think the law of "Primogeniture," as it is called, ought to be done away with, but it is not this law is mainly to blame, but the laws which enable the owners to tie up the land for so many years by deeds and wills, as I will presently explain. Another fallacy which is sometimes anxiously insisted on is that the law allows landowners to tie up their land and keep it out of the market "in perpetuity," as it is said; or in other words, for all future time. This is simply a delusion. The law, bad as it is in my opinion, is not so bad as this. No person is allowed by the law to tie up his land so that it cannot be sold for a longer period than the lifetime of any number of persons actually in existence at the time when the deed or will was made, and until the unborn child of some one of these persons attains the age of twenty-one. But as landowner is allowed to let his land for very long terms of years, which may in some cases have the effect of preventing any one person having the entire control over it, or being the perfect owner of it, or being able to sell it, for much more than one hundred years. Another fallacy is to lay all the blame upon the "entail" laws, as they are popularly called. It is quite true that many entailed estates are really, by the deed or will which created the "entail," prevented coming into the market, or, to speak more correctly, put under such regulations that no owner can sell for a great many years, but an

estate which is "entailed" is not always necessarily in such a position. An owner of an estate which is entailed may, and often is, in such a position that he can, if he will, give or sell the land to any one he chooses, though such a case is an exceptional one, inasmuch as before such a state of circumstances occurs as to give him this power another deed is generally made which takes away from the owner all powers of selling for many, many years again.

It is also an absurd and totally unfounded fallacy to say, as Sir Stafford Northcote did in his speech at Lournemouth on Dec. 4th, 1877, that any of the intelligent leaders of public opinion among the Liberal party want "a free system of the distribution of land." I do not know what Sir Stafford exactly meant by these words, or indeed if they meant anything at all; but, if they did it is sufficient to say that no intelligent Liberal wishes for any system "of the distribution of the land." All that they desire is that the law should interfere to prevent the sale and breaking up of the great estates, when change of circumstances, or poverty, or misfortune, or bad management, or immorality, would otherwise bring them into the market.

Neither is it true, in any sense, that really thoughtful men wish to compel the sub-division of estates. They only desire that the law should not oppose such sub-division if circumstances would otherwise render it certain to happen. Neither do they desire, as is constantly alleged, that all the land should be divided into little estates. That is not the case in France, or in any other civilised country in the world. Even in France, whose land laws we do not wish to copy, the land is—spite of the law, which seeks to compel sub-division—divided into great estates, medium sized estates, small estates, and gardens owned by their possessors. But the vast difference between France and Great Britain is that if a great landowner in France mismanages his estate, or gets ruinously into debt, or does not care to keep it, or feels that he could employ his capital to some better purpose in some other way, he is never prevented by deed or by will from selling, nor is his land ever protected by law from being sold. Another extraordinary doctrine is that which is advocated by Mr. Francis W. Newman, in *Fraser's Magazine* for December, 1877, viz., "to limit by law the magnitude of estates," and he suggests "for discussion a thousand acres as the ideal maximum for rural land and two acres for town land." Now, I hope it is not necessary to say that all the thoughtful leaders of the Liberal party, and as I believe, nearly all their followers, would oppose any such proposition as much as the Conservatives. If such a scheme were possible, it would be highly inexpedient, for many obvious reasons. And even if it were expedient, it is utterly impossible. Such schemes frighten many of even the Liberal party from any calm consideration of the reform of the Land Laws. Indeed, when one sees such a proposition in *Fraser*, where only a few months since Mr. Froude's partisan and vehement article against all change in the Land Laws appeared, one is tempted to exclaim that surely "an enemy hath done this." These are but a sample of the strange statements that one hears from day to day in public and in private whenever the subject of the Land Laws is discussed. I have heard educated, liberal men asserting in good faith that they cannot

believe that it would be wise to divide all the land of Great Britain and Ireland among peasant proprietors, as if such a thing was possible, or ever contemplated, or if such a thing had ever been accomplished or attempted in any civilised country.

Another fallacy is one put forward by Mr. Froude, who says: "People complain of the law of entail (meaning thereby the Land Laws) as if it interfered with the sub-division of landed property. It rather sustains such small estates as remain. Abolish entail if you please, but accumulation will only proceed the more rapidly."

But if this is true, if the accumulation of the great estates will go on not only as rapidly as it does now, but "more rapidly" still, "devouring the small estates adjoining," what earthly reason can there be for retaining these laws? It seems strange to retain obnoxious laws, which invite cavil and opposition, when the very objects for which they were framed might be attained still more effectually without them. It is useless to tell Mr. Froude, or men who, like him, will not even regard what can be said on the other side, that England is alone now in her support of these laws—that all other civilised countries have either greatly modified them, or have entirely got rid of them, or are getting rid of them; and that in every country in which these laws have been abolished the great estates, instead of going on increasing in size, as Mr. Froude prophesies, have divided into smaller estates of all sizes. "But," said Mr. Froude, "unless the area of Great Britain could be made larger than it is, or until the British people change their nature, a peasant proprietary is a dream." But he forgets, or pushes out of sight, the fact that the getting rid of similar laws in Belgium, Italy, Switzerland, and the richest and most populous provinces of Germany and France, caused the rapid creation of estates of all sizes, and of classes of yeomen and peasant proprietors. He says, further, "France is now divided into between five and six million freeholds. At the death of a proprietor his land is shared among his children, and the partition is only arrested at the point at which the family of the cultivator can be fed." But does he not know, or does he again push out of sight, the obnoxious fact, that throughout France there are many large estates, each producing thousands of pounds a year, and estates of all sizes, as well as the small estates, of which he writes so incorrectly? But he tells us that we are in our maturity, or past it, and that we cannot afford to act as other countries do—that we are to hold fast to other institutions. This is the old, old cry which has been always raised when any great reform has been advocated, and which is always raised to defend abuses when all else has failed. And then he tells us that if we do not respect our past, *i.e.*, our old institutions, we shall have no future to respect.

The same powerful and well-worn argument was applied in opposition to the Reform Bill, the Municipal Corporation Bill, the Free Trade measure, the Repeal of the Navigation Laws, and all the other vast measures of reform which have been passed during the last 45 years, and which have served to strengthen the foundations of our English Constitution, spite of all the storms which during the same period have raged around it. But putting aside these strange fallacies, many of which have been insisted upon in order to raise a prejudice against those who wish to reform the Land Laws, it cannot be too earnestly insisted upon, that no matter how these great estates were originally formed, the main causes which at the

present day keep them together and prevent many of them coming into the market are the laws, which allow the owners to make deeds and wills which for many years, and often long after the owners' deaths, prevent the land from being sold, or the estate from being divided, no matter how expedient it may be that it should be sold, or no matter how foolish or extravagant the owner may be. Let me give an instance of what I mean. I was the trustee of a large and valuable estate in the South of England. This estate, 50 or 60 years ago, came into the possession of a young titled man, who was just 21 years old, and whom I will call Lord A. He became the absolute owner of it, unfettered by any deed, or will, or mortgage. The whole income of the estate belonged to him. He married when he was about 22 years of age. Upon his marriage deeds were executed which gave him only a life interest in the estate, and then settled the property on his children most strictly. That was 50 or 60 years ago. He had one child, and as soon as that child was 21, another deed was made giving that child only a life interest in the estate, and settling it after his death on the children he might leave in succession. The estate was divided into large farms and very valuable woods. Lord A. was an extravagant and reckless man. He hunted the country. He kept open house. He lived as if his income was ten times as great as it was. He gambled and lost heavily. He raised money on his life interest. He finally fled from England deeply in debt and lived abroad. The remainder of his life interest, which was only worth the annual thinning of the woods, was sold to a Jew, who knew he would lose all as soon as Lord A. died. That state of things lasted about forty years. The farmers had no leases and no security for any expenditure. They were unwilling to expend on the restoration or substantial maintenance of the farm buildings. The Jew would not spend, for he did not know, and could not know, when Lord A. might die. The gentleman who took the mansion would not expend upon it, because he could not tell when he might be turned out. The Jew, in order to make as much out of the estate as he could, raised the rents as much as he could, and cut out of the beautiful park and woods far more timber than any unembarrassed owner would have done, and so the estate was damaged more and more year by year; the tenantry were prevented dealing fairly by the land or fairly to themselves; there was no one to support the schools or the church, or to look after the large village of labourers upon the property. All social progress and all social prosperity upon the estate were put an end to. The farm buildings fell into decay; the land was not properly drained or cultivated; the plantations were injured; the mansion became dilapidated; and all this was caused by the deeds which the law had allowed the lord and his heir to execute.

If it had not been for these deeds, the estate would have been sold, either in one or in many lots, at least 40 years ago, and would have gone unfettered and unburdened into the hands of men who would have expended capital upon it and developed all its resources.

In my next letter I shall try to show what power the law confers upon the landowners, and how the exercise of these powers prevents the sale or division of the large estates.—JOSEPH KAY in *Manchester Examiner*.

"Six feet in his boots!" exclaimed Mrs. Partington. "What will the impudence of this world come to, I wonder? Why, they might as well tell me that the man had six heads in his hat."

## ROOKS AND WOOD-PIGEONS IN FIFE.

At the last meeting of the East of Fife Agricultural Society (Sir R. Anstruther, Bart., M.P., in the chair) Mr. DUN, Kilconquhar Mains, read the following paper:—In a meeting of practical men, such as we have here to-night, it would be a waste of time for me to attempt to inform the meeting that crows and “cushies” are numerous, mischievous, and destructive. I would like simply to give a brief statement of the farmers’ cause of complaint, and to submit to the meeting a resolution which, if agreed to, might be a satisfactory cure of the evil. Taking in hand the crow first as being the smallest sinner, I would give him credit for causing little annoyance for seven months of the year, but his enforced idleness during winter is amply made up for by the vigour of his workmanship from the time the first sack of corn is seen in the field, and the first appearance of a potato stem above ground, till the time the last sheaf is in the barn-yard. The damage caused by crows to the potato crop alone is not easily estimated. The mere cost of herding them (not to think of Mr. Lowe’s 10s. gun license) is not less than 7s. an acre, and if they are not well herded-off they will pick out the young stems to such an extent as to leave the field only half-planted; in fact, let them alone, and the Colorado beetle has not ghost of a chance with them. Bad as the effects of this work are among potatoes, they are even worse among turnips, for by this obnoxious habit of pulling up by the root the newly-thinned plant, the crow makes a complete clearance in a short time. Allowing him credit for his good intentions in trying to get at some worm that may be lodging about, it must be confessed that he takes an ugly mode of going to business, and when we find that he plays this wicked game chiefly on Sundays during the hours of Divine service, we can guess the farmer’s feelings and remarks when he takes his Sunday afternoon’s walk and discovers an acre or two gone. The wood-pigeon, unlike the crow, can hardly have a single good word said in favour of his habits, and, like many great men, he is only appreciated after death. The wood-pigeon is an out-and-out blackguard, possessing a lot of wonderful qualities, but with every one of them misapplied. He is a very astute bird—a regular Ishmaelite—recognising no law, no lease, and no march feuces. He pays no debts, and when wanted is ill to apprehend, being a great believer in the maxim that “self-protection is the first law of nature.” Does any one here cultivate swedes? Those who do may be surprised to know that in every swede field in the district the plants are attacked so soon as they are fairly above ground, and the process goes on the whole summer; and let the pigeons be herded as well as possible, they cause damage to the extent of not less than 20s. an acre. Oats when green and in the pulpy state the pigeon enjoys immensely, and he can dispose of any quantity, making a clean sweep of chaff, husk, and kernel. Now and again, in desperation, they may be reduced to eat some seeds of the maw-weed; but when wheat and beans begin to ripen, then comes their time of joy and gladness, and as the season wears on, they return to the swedes and clover, and, in fact, are in clover from October to April. Correctly speaking, the pigeon is a bird of prey, and he preys on nothing under the sun but what has caused trouble and expense to produce. Now, notwithstanding all the changes of the quality of his feed, and the quantity he bolts unchewed, who ever heard of a dyspeptic

wood-pigeon? Nothing comes wrong to his digestive organs, and it is never ill nor sleepy, and never dies if he can help it. In time of plenty he lives up to his income, and in time of scarcity he shows the farmer the good example of living on what he can pick up, while the farmer finds he must live on his prospects. The only practical cure for the evil is to have birds, nests, and eggs destroyed during the breeding season, and it will give this meeting great pleasure, I have no doubt, if the chairman, our popular M.P. for the county, will mark his year of office by promoting an energetic movement in the direction of a general wood-pigeon dis-establishment. I do not think of proposing that Sir R. Anstruther in his place in the House of Commons should introduce a Bill for the abolition of the vermin, but, when in Westminster, if he could persuade the House to abolish the 10s. gun license, and at Balcaskie instruct the keepers to pull down, destroy, and dis-establish, he would earn the gratitude of the Society and every farmer in the east of Fife. If this meeting respectfully agrees to request the landlords to reduce the numbers by such means as I have indicated, I would go the length of suggesting that the Society—not probably for the first season, but say thereafter—should be at part of the expense incurred, and as an inducement to those employed, make an allowance for every dozen of eggs or feet produced. This mode is an annual practice in many parts of the country, and the ordinary mode of raising a fund for the purpose is that of a voluntary assessment of, say, 2s. to 2s. 6d. per £100 rent. The raising of the fund could easily be arranged afterwards, and I conclude by moving “That this meeting urge the Member of Parliament for the county to bring his influence to bear, as far as possible, to have the 10s. gun tax abolished, and that the lauded proprietors of the district be respectfully requested to adopt measures in the spring and summer months for destroying crows and wood-pigeons, nest, eggs, and birds.”

Mr. EDIE, Cornceces, agreed generally with what had been said as to wood-pigeons, for so far as he was aware they did little or no good to the farmer, and were certainly sometimes very destructive to the crops. He, however, could hardly go as far as Mr. Dun in regard to crows. No doubt in some parts of the country they were too numerous, but he must say that in his district they did very little damage, and he thought what little they did was amply compensated for by their services at other times. He should be very sorry indeed to see the crow exterminated. He thought it would meet the case if landlords were asked to grant, as many of them did at present, permission to their tenants to shoot and destroy wood-pigeons in the woods and to instruct their keepers to assist in keeping them down.

Mr. FLOCKART, Secretary, said he did not agree with Mr. Edie. His experience had been the reverse, and he knew very well that during the last ten years the increase of crows had been alarming, while the damage to clover and turnips was so apparent that it was of no use discussing that part of the subject. Unless something was done speedily to reduce these birds, the whole time of a farmer would be taken up in herding turnips. He was sorry to see so few gentlemen inclined to express their opinions, because

the excess of crows and wood-pigeons was a very serious and growing evil.

Mr. FORTUNE, Muir-Cambus, endorsed every word Mr. Flockhart had said as to the injury done to the young grass fields. In an open season such as this the birds had plenty of green food, and were not so bad, but if a severe storm came then was the time they would suffer. His proprietor had made every exertion to keep down the rooks, and he was credibly informed that 1,700 were killed at Lundin lately. If every proprietor followed his example, they would soon decrease, but he had great doubts if they did not do good as well as ill, and therefore he would not exterminate them wholly. Wood-pigeons, however, should be exterminated; but one difficulty was that they came from foreign countries in shoals.

Colonel ANSTRUTHER THOMPSON said they had heard Mr. Dan's very clever remarks, and they now wanted to come to some practical conclusion. He had not consulted his brother proprietors, but speaking for Sir Robert, Sir Coutts Lindsay, and himself, they would give every facility for the destruction of crows and wood-pigeons. But any one who had half-a-dozen trees could neutralise all they could do, and the remedy must have a wider application to have any practical effect. He did not see they could do anything further in the meantime than ventilate the subject by means of the press.

The CHAIRMAN said they were indebted to Mr. Dan for the able way in which he had brought forward the subject. He was glad to observe that the blackbird, for which he confessed to have a little weakness, had been treated more leniently than the coloured bird, but there can be no doubt serious damage was done to the fields by wood-pigeons and probably also by crows and rooks. Mr. Fortune, however, had started one serious difficulty, and he believed although they destroyed every wood-pigeon in Fife they would yet have in the spring a vast number from foreign countries. That was no argument against destroying what they had, but they must not be too sanguine of the result. He would give every facility and all instructions to his servants to do all they could to destroy all the eggs and nests, and he had no doubt considerable use would be made of the fact of this subject having been brought before them.

#### HEREFORD HERD BOOK SOCIETY.

A meeting of council was held in the Council Chamber, Guildhall, Hereford, on Jan. 16th, under the presidency of Mr. J. H. Arkwright, president of the Society.

The Right Hon. Earl Powis was elected a member of council.

Mr. Rogers having resigned the secretaryship, Mr. S. Urwick, of Leinthall, Ludlow, was elected secretary.

The following report of the editing, the finance, and general purposes committees were read and approved:—

Your committees have pleasure in reporting that Her Majesty the Queen has graciously assented to be patron of the Society.

The agreement for the purchase of the copyright and volumes in hand has been approved and signed by Mr. Duckham as the vendor, and the Right Hon. the Earl of Coventry and J. H. Arkwright, Esq., on behalf of the Society.

The memorandum and articles of association, as approved, are now in the hands of the council of the Board of Trade.

The rules, regulations, and bye-laws, as approved, are printed and ready for circulation, as also the prospectus of the Society.

Forms of application, nomination notices of election, together with the books and papers necessary for the proper working of the Society, have been considered, and are now presented for your approval.

To the present date the Society consists of 79 life members and 61 annual members.

The committee apply for power to have the requisite printing done, to provide officers, and make the necessary arrangements for office fittings; also to procure a seal and box for the Society, in accordance with the rules.

WM. STALLARD,

Chairman of the Joint Committees.

The following members were elected:—Mr. A. R. Boughton-Knight, Downton Castle Ludlow; Mr. J. A. Rolls, The Hendre, Monmouth; Mr. J. W. James, Map-powder Court, Blandford, Dorset; and Mr. J. L. Barling, Hereford, life members; Mr. R. H. Lee-Warner, Tibberton, Hereford; Mr. J. D. Allen, Tisbury, Wilts; Mr. C. Williams, Red House, Ely, Cardiff; Mr. T. Powell, Shenmore, Hereford; and Mr. T. Morgau, Cowbridge, Glamorganshire, annual members.

**PLEURO-PNEUMONIC BEEF.**—At a meeting of the Dublin Corporation on Jan. 17th, the following resolution, proposed by Mr. J. P. Byrne and seconded by Alderman Purdon, was adopted: "That, as a sanitary authority, the Corporation concur in the suggestion of Professor Cameron, medical officer of health, that in view of the unsettled state of scientific opinion as to the fitness of the flesh of animals affected with pleuro-pneumonia for human food, the Government be requested to issue a commission to inquire into the whole subject, with a view to the more uniform administration of the law bearing upon this important question."

**AMERICAN ROBINS.**—*The Philadelphia Ledger* says that a number of American robins are about to be shipped for acclimatization in England. We hope the news is not true, though no doubt the birds would do exceedingly well here. Our own robins, however, are mischievous enough, but, at least, they repay us with their song even in the depth of winter, when "on the high naked tree the robin sings disconsolate." But the American robin is nothing like our's. He is nearly as big as a pigeon, quite as voracious as a raven, and has only a harsh squeak as he rises when disturbed. We do not want this distinguished visitor.—*Meat and Provisions Trades' Review.*

**A ROYAL VULPECIDE.**—The late Victor Emmanuel had one frightful falling—he shot foxes. The enormity of this offence—which is enough to socially ostracise any Englishman, if an Englishman could be found capable of committing it—is incomprehensible to all foreigners. On one occasion, about three seasons ago, the King of Italy was out shooting on the Campagna, when a fine fox ran past him, and was duly potted by his Majesty. Presently up came the hounds followed by the Roman Hunt, the English members of which were terribly tried by the conflict between their respect for royalty and their horror of Vulpecide.—*World.*

## THE PHONOGRAPH.

Not many weeks have passed since we were startled by the announcement that we could converse audibly with each other, although hundreds of miles apart, by means of so many miles of wire with a little electro magnet at each end; yet we are on the point of realising another of the many advantages promised by the telephone. Another wonder is now promised us—an invention, purely mechanical in its nature, by means of which words spoken by the human voice can be, so to speak, stored and reproduced at will over and over again, hundreds, it may be thousands, of times. What will be thought of a piece of mechanism by means of which a message of any length can be spoken on to a plate of metal, that plate sent by post to any part of the world and the message absolutely re-spoken in the very voice of the sender purely by mechanical agency? What, too, shall be said of a mere machine by means of which the old familiar voice of one who is no longer with us on earth can be heard speaking to us in the very tones and measure to which our ears were once accustomed?

The highly ingenious apparatus by which this wonder is effected is the invention of Mr. Thomas A. Edison, of Man-lowe-park, New Jersey, U.S.A., the electrical adviser to the Western Union Telegraph Company. Mr. Edison is well-known in the States, and scarcely less so in England, for several valuable practical applications of electrical science, among Mr. Edison's other inventions being an exceedingly well-arranged telephone. To the present invention Mr. Edison has given the name of the Phonograph, and it depends for its action upon certain well-known laws in acoustics.

The Phonograph is composed of three parts mainly—namely, a receiving, a recording, and a transmitting apparatus. The receiving apparatus consists of a curved tube, one end of which is fitted with a mouthpiece for the convenience of speaking into it. The other end is about two inches in diameter, and is closed in with a disc or diaphragm of exceedingly thin metal, capable of being thrust slightly outwards or vibrated upon gentle pressure being applied to it from within the tube. To the centre of this diaphragm—which forms a right angle with the horizon—is fixed a small blunt steel pin, which, of course, partakes of the vibratory motion of the diaphragm. This arrangement is carried on a table, and is fitted with a set screw, by means of which it can be adjusted relatively to the second part of the apparatus—the recorder. This is a brass cylinder, about four inches in length and four inches in diameter, cut with a continuous V groove from one end to the other, so that it in effect represents a large screw. Measuring along this cylinder from one end to the other there are ten of these grooves to the inch, or about 40 in the whole length. The total length of this continuous groove, or screw-thread, is about 42 feet—that is to say, that would be the length of the groove if it were stretched out in a straight line. This cylinder is mounted on a horizontal axis or shaft, carried in bearings at either end, and having its circumferential face presented to the steel point of the receiving apparatus. The shaft is prolonged for four inches or so beyond the ends of the cylinder, and one of the prolongations is cut with a screw-thread and works in a screwed bearing. This end terminates in a handle, and as this is turned round the cylinder is not only revolved, but by means of the screwed spindle is caused to

travel its whole length in front of the steel point, either backwards or forwards.

We now see that if the pointer be set in the groove in the cylinder at its commencement and the handle turned, the groove would be traversed over the point from beginning to end, or, conversely, the point would always be presented to the groove. A voice speaking in the receiver would produce waves of sound which would cause the point to enter to greater or less depths into this groove, according to the degree of intensity given to the pressure upon the diaphragm set up by the vibrations of the sound produced. This, of course, of itself would mean nothing; but in order to arrest and preserve these sound pressures, a sheet of tin-foil is interposed, the foil being inelastic and well adapted for receiving impressions. This sheet is placed around the cylinder and its edges lightly fastened together by mouth-glue, forming an endless band, and held on the cylinder at the edges by the india-rubber rings. If a person now speaks into the receiving tube and the handle of the cylinder be turned, it will be seen that the vibrations of the pointer will be impressed upon that portion of the tin-foil over the hollow groove and retained by it. These impressions will be more or less deeply marked according to the modulation and inflexions of the speaker's voice. We have now a message verbally imprinted upon a strip of metal. Sound has, in fact, been converted into visible form, and we have now to translate that message by reconvertng it into sound. We are about, in effect, to hear your own voice speaking from a machine the words which have just fallen from our lips. To do this we require the third portion of Mr. Edison's apparatus—the transmitter.

This consists of what may be called a conical metal drum, having its larger end open, the smaller end, which is about 2in. in diameter, being covered with paper, which is stretched taut as is the parchment of a drum-head. Just in front of this paper diaphragm is a light flat steel spring, held in a vertical position, and terminating in a blunt steel point projecting from it, and corresponding with that on the diaphragm of the receiver. The spring is connected with the paper diaphragm of the transmitter by means of a silken thread, which is placed just sufficiently in tension to cause the outer face of the diaphragm to assume a slightly convex form. This apparatus is placed on the opposite side of the cylinder to the receiver. Having set the latter apparatus back from the cylinder, and having, by turning the handle in a reverse direction, set the cylinder back to what we may term the zero point, the transmitting apparatus is advanced towards the cylinder by means of a set screw until the steel point rests without absolute pressure in the first indentation made by the point of the receiver. If now the handle be turned at the same speed as it was when the message was being recorded, the steel point will follow the line of impression and will vibrate in periods corresponding to the impressions previously produced on the foil by the point of the receiving apparatus. Vibrations of the requisite number and depth being thus communicated to the paper diaphragm, there will be produced precisely the same sounds that in the first instance were required to produce the impressions formed on the tin-foil. Thus the words of the speaker will be heard issuing from the conical drum in his own voice, tinged, however, with a slight metallic or mechanical tone. If the cylinder be revolved more slowly than when

the message was being recorded, the voice assumes a bass tone; if more quickly, the message is given with a childish treble. These variations occur according as the vibrations are more or less frequent.

Such is the apparatus, and it promises to be one of the most remarkable of the recent marvels of science. The machine we have described is the first Mr. Edison has made, but he is now constructing one to be set in motion by clock-work, the cylinder being 16 inches long. In the present machine, for recording a long message, as soon as one strip of the tinfoil is filled, it is removed, and replaced by others until the communication has been completed. In using the machine for the purpose of correspondence the metal strips are removed from the cylinder and sent to the person with whom the speaker desires to correspond, and who must possess a machine similar to that used by the sender. The person receiving the strips places them in turn on the cylinder of his apparatus, applies the transmitter, and puts the cylinder in motion, when he hears his friend's voice speaking to him from the indented metal. And he can repeat the contents of the missive as often as he pleases, until he has worn the metal through. The sender can make an indefinite number of copies of his communication by taking a plaster of Paris cast of the original strip and rubbing off impressions from it on a clean sheet of foil. It will thus be seen, as we stated at the commencement of this article, that the voices of those who have left us, either for ever or a season only, can be heard talking with us if we so desire it.

The invention has been so recently and so quickly developed into existence by Mr. Edison that he himself can hardly say what its practical value is or will prove to be. Numerous applications suggest themselves, but beyond those to which we have alluded, it is difficult to say with precision how they would work out in practice. In cases of depositions it might be of the highest importance to have oral evidence mechanically reproduced in a court of justice. Authors, too, may perhaps be saved the trouble of writing their compositions.

We should add that we are indebted for our information to Mr. Henry Edmunds, jun., of 57, Gracechurch-street, who has lately returned from a tour of scientific inspection in the United States, and is interesting himself in Mr. Edison's inventions.—*Times*.

**A MECHANICAL PIG.**—Mr. Macarty was a mechanic, such a remarkably ingenious man that his neighbours said that he could do anything from repairing a watch to making a steam-engine. They felt very sure that if Macarty would make a clock, it would beat the old town clock on the church-steeple several hours in the day. Mr. Macarty had a son, and he had great hopes that he would grow up to be a mechanic, and be even a better workman than his father. He called his son Archimedes—but the boy's playmates called him Arky Macarty. Arky was a very ingenious boy, and he was also full of fun. Once, when his father was absent from home for a few days, having been called to do a job in the next town, there appeared on the fence, where the people of the village passed by, a board on which was printed:

“MEKANIKLE PIG—A GRATE KURLOSSITY—this Ear pig has jOints like ennY pIz, it moVes as naTferal as EnnY pIG—& kan EveN ete & SKwEal—Ad mishin 3 pins. Arky Makarty.”

Some good-natured people, who knew that Arky would have something funny to show, stopped to see the wonderful pig.

Arky was careful to get the proper number of pins for the admittance fee, and then opened the pen and let out the “mechanical pig.” The young scamp had got hold of some black paint, and having caught one of his father's little white pigs, had painted hues around the parts, so that at a little distance the hind-legs, and ham, the shoulders, and even the head looked as if they had been made in separate pieces, and were fastened on. This deceit was helped by the painted pivots at the proper places, so that the pig had really a very “mekanikle” appearance. Those who first saw the animal greatly enjoyed the joke, and told others, so that Arky was busy for a day or two in taking in “pins” and showing his wonderful pig. But at last his father came home, and the sign came down. We do not know what arguments were used, but one thing is certain, Arky never liked to hear the boy at school say anything about pig, and he always acted as if the bench upon which he sat had suddenly become very warm. *American Agriculturist*.

**TOO UGLY TO LIVE.**—“One day,” said Mr. Lincoln, “when I first came here, I got into a fit of musing in my room, and stood resting my elbows on the bureau. Looking into the glass, it struck me what an awfully ugly man I was. The fact grew on me, and I made up my mind that I must be the ugliest man in the world. It so maddened me that I resolved, should I ever see an uglier, I would shoot him at sight. Not long after this Andy——’ (naming a lawyer present) ‘came to town, and the first time I saw him I said to myself, ‘there’s the man.’ I went home, took down my gun, and prowled round the streets waiting for him. He soon came along. ‘Halt, Andy,’ said I, pointing my gun at him. ‘Say your prayers, for I’m going to shoot you.’ ‘Why, Mr. Lincoln, what’s the matter? what have I done?’ ‘Well, I made an oath that if ever I saw a man uglier than I am, I’d shoot him on the spot. You are uglier, sure; so make ready to die.’ ‘Mr. Lincoln, do you really think I’m uglier than you are?’ ‘Yes.’ ‘Well, Mr. Lincoln, replied Andy, deliberately, and looking me squarely in the face, ‘if I am any uglier, fire away!’” —*Harper's Magazine*.

**THE RATING ACT.**—A return has been issued of the woods and plantations (other than saleable underwoods) rights of sporting, and mines (other than coal mines), which by the Rating Act, 1874 (37 and 38 Vic., c. 54), were rendered liable to Poor-rates and other local rates leviable upon property rateable to the relief of the poor. The Act did not take effect until the 6th of April, 1875, and the returns have been compiled from the Valuation Lists in force at the commencement of the year 1877. The total area in statute acres of England and Wales is 37,280,208. The estimated extent of the woods is 815,172 acres, their gross estimated rental is £307,308, and their rateable value £293,017. The estimated extent of the rights of sporting is 14,436,405 acres, the gross estimated rental £498,852, and the rateable value £485,276. The estimated extent of the mines is 1,247 acres, their gross estimated rental is £754,520, and their rateable value £654,611.—*Times*.

It was an Irish pilot who, being asked if he knew the rocks in the harbour, replied, with confidence: “I do, yer honour, ivery won av them. That’s won,” he added calmly, as the ship struck it, filled, and sank.

## A THRILLING SNAKE STORY.

TOLD BY A CONSCIENTIOUS YOUNG MAN.

"Beware of pickpockets!" repeated a benevolent old gentleman, as he glanced at a placard posted in the car in which he was riding. "Dear me, how sad that such a warning should be necessary in a Christian land!"

"Yes, sir," said a young man next him; "but it's best to be careful, for there may be pickpockets in this very car. I know all about that, sir. I've been rescued from the lowest depths. I was a pickpocket once, sir."

"Dear me," said the old gentleman, starting.

"I'm a respectable person now. Yes, sir, I'm very respectable. Ask anybody about Jim Tilks, and they'll tell you that; but I was brought up a thief. I was born among thieves, and took to the trade naturally, and I used to pick pockets when I was ten years old. You needn't look at yours. If you please, sir, I've been converted sure, and go to meeting there. You could trust me with untold gold now."

"But, as I said, I was a thief, and I might have been one yet if it hadn't been for what happened at Rickady Station, where I was waiting for any old lady's reticule, or any person's forgotten parcel, or even an umbrella or a pocket handkerchief that might be dropped by chance; for folks that's anxious about getting on the right trains at the right time, and nobody to do anything but snub 'em, which is what the officials are apparently paid to do, ain't as careful of their portable property as they would be otherwise. When I was a wicked sinner I used to take advantage of that, you know. You couldn't bribe me to do it now—oh! no."

"But, as I said, I was lounging about there, and in came a gentleman with a long basket. It was the curiousest basket I ever saw. Had two handles and a padlock. Never saw such a basket. There was a cord about it, too. He put it down in a corner as he looked for his pocketbook, and he spoke to a gentleman who was standing near, and seemed to know him."

"'Got it!' he said, 'and it's cost me enough, I can tell you. But I wanted it for the collection—couldn't do without it. So proud of it I brought it along myself. Whew! five minutes only, and I haven't any ticket,' and he pushed towards the office."

"The other man looked at the basket a minute and then walked away, and that was my time. I crept up to the basket and took it up and walked away in another direction. Nobody noticed me. I didn't run, of course. I just went out of the station and down under the trees, and what I meant to do was to take the valuables out of it and leave it there."

"I'd made up my mind that it was something very valuable but what it could be I couldn't guess. I took off the cord first, and then I took the key that hung beside the padlock and unlocked that, and lifted up the cover a little. Just then there was a noise, and I turned my head."

"When I found it was nothing to be afraid of I turned back. I opened the cover wider and peeped in, but there was nothing here; the basket was empty—not a thing in it."

"'Why, gracious me!' said I; only not in them words—I was a wicked sinner then—'what does this mean? an empty basket! And what did he mean by talking of its being valuable?' And there I was running a risk for nothing."

"A risk! I was done for, for nothing! for here were the police after me; at least a big arm went around my waist, all of a sudden like, and when I jerked it only held me closer; and was that—another arm?"

"Well, sir, what I thought I should give up that minute, for then and there I knew that was twisting about was something worse than even a policeman's arm to such as I was then."

"It was a snake—a great snake—the kind they have in menageries. Boa constrictors—yes, sir, that was the kind—a boa constrictor; and now I remember the face of the gentleman who had the basket—he was a menagerie man. I'd stolen a basket with a snake in it, and it slipped out when I opened the cover, and now it had me."

"Tight, sir, was the word for it. It was twisted around me until I had but little breath left, but with what I did have I set up a yell. Would you believe it, sir, the person that heard it was that menagerie man! He was looking for his snake, I suppose."

"'Bless my heart,' says he, when he saw me 'bless my heart. Well, the biter's bit, if it ever happened. You stole the basket, my friend, and out of it came the thief-catcher. No keep, still; don't move for your life. There's just one chance for you."

"Says I, 'Hurry, please, for I'm choking.'"

"He did hurry. He took a bottle out of his pocket, and out of another he took a kind of a folding cup and opened it. Then he poured something from the bottle into the cup."

"'Milk,' says he; 'it may tempt him away; if not, say your prayers, friend;' and I tell you that was an anxious moment for me."

"At first I thought he had done for me, for the snake only seemed to twist tighter; but in a minute the head poked out toward the cup, and I felt him drop off, and saw him coiled about the milk cup. I didn't want to see him fed, I went."

"But it was a lesson for me. It put an end to my course of wickedness. This is my station, sir; good afternoon. There isn't a more respectable or more honest young man than I am living now; good afternoon."

"A very curious story," said the old gentleman; "very. But he's evidently a very conscientious young man now."

He put his hand in his pocket for his handkerchief. It was gone; so was his purse. They had gone with the conscientious young man.

"AN ABBREVIATION."—*The Cambrian News* says that at the Merionethshire Quarter Sessions the Rector of Llantairpwllgwynyllgogertysiliogogoch was charged by to Dolgelly Local Board with obstructing the highway near that town. Llantairpwllgwynyllgogertysiliogogoch is a parish in Anglesea, near the Menai Bridge, and, the *News* adds, it may interest our readers to know that the name we have given is an abbreviation of the full title of the village.

TECHNICAL EDUCATION.—The first number for the present year of *Design and Work*, "A Mechanic's Journal for Working Men of all Trades," as it describes itself, has been sent to us. It appears to be an excellent paper for the promotion of technical education, and contains a large amount of reading and numerous illustrations.

WELL NAMED.—There is nothing in a name, of course, although Hood did find "a very great scope in it." Nevertheless, when we see it announced that a lecture is about to be delivered on "The Wars of the Nations—are they of Divine Appointment and subject to Divine Control?" we are not by any means surprised to learn that the lecturer's name is Thomas Bosher.—*Illustrated Sporting and Dramatic News*.

## REVIEW OF THE CORN TRADE,

FROM THE MARK LANE EXPRESS FOR THE WEEK ENDING JANUARY 21.

The actual amount of rainfall during the past week has been insignificant, and, although the weather has been damp and dull at times we have had some clear, bright days, with a mild and spring-like temperature. Some slight improvement has been noticeable in the condition of freshly-thrashed grain, but the offerings continue light for the time of year, both at Mark Lane and the provincial exchanges. The appearance of the winter-sown crops is, in the main, satisfactory, although fears have been expressed in some quarters that the Wheat-plant has been growing rather too rapidly under the forcing influence of the mild season. In Scotland the weather has been fine and frosty, and farmers have been enabled to make up much of the arrears into which agricultural operations have fallen, owing to the lateness of the harvest, while stocks have also thriven well. The imports of foreign Wheat into London have shown a marked falling-off of late, and the bulk of last week's arrivals was from America and Germany, which countries furnished us with 26,500 qrs., out of a total return of about 36,000 qrs., the Indian supplies being unimportant. Business has been almost at a standstill, as buyers and sellers have been waiting anxiously to see what course political affairs will take, and until something definite is known as to the probable action of the Government with regard to affairs in the East, the trade will doubtless remain in an inanimate condition. In the meantime it may be borne in mind that our stocks of Wheat are moderate and our prospective supplies insufficient to exercise any great depressing influence on the future course of prices. Millers, too, are, as far as can be ascertained, holding very light stocks, and should events turn out of a less pacific nature than recent anticipations have led us to suppose, a large demand may be safely predicted both for Wheat and feeding stuffs. It must also be remembered that the effect of peace upon prices has been discounted to a considerable extent, and there is little reason to suppose that the re-opening of the Black Sea ports would produce a selling panic on our market. Our supplies are also likely to be restricted from nearly all sources for some time to come, as the mild season in America is preventing the free transport of grain to the seaboard. Indian shipments have been almost suspended, and Russia is blockaded by war and winter.

Again, even anticipating the reopening of the Black Sea ports there are other nations whose requirements will have to be satisfied, and notably France so that a large proportion of whatever accumulation of grain there may happen to be in Odessa will no doubt find its way to Marseilles. It is also found by experience that the consumption of Wheat in this country is larger during those times of depression when the tide of business and commercial enterprise is at a low ebb, as it is at present, owing to the increased demand for breadstuffs amongst the lower classes, so that we have two powerful influences, restricted supplies and increased consumption, to counteract the anticipated decline which might follow on the proclamation of peace. It was thought possible that the trade might have been influenced, either one way or the other, by the Queen's Speech, but no effect has been apparent up to the moment of writing, as business was rendered almost impracticable at Mark Lane on Friday, owing to the dense fog which lasted throughout the day. The trade, therefore, remains dull, and prices have suffered very little decline either for Wheat or feeding stuffs. The sales of English Wheat noted last week were 33,472 qrs., at 52s. 1d., against 34,063 qrs., at 51s. 3d. in the previous year. The London averages were 53s. 7d. on 1,119 qrs. The imports into the kingdom for the week ending Jan. 12th were 828,782 cwts. Wheat, and 137,327 cwts. Flour. The market opened very quietly on Monday last, and a dull tone prevailed throughout the trade, buyers holding aloof on account of the uncertainty attendant on political affairs, which caused business in all articles to move in very moderate limits. The week's arrivals of English Wheat were only 1,912 qrs., and the supply fresh up on factors' stands was again very small. Very few sales took place, and a slight reduction was necessary to induce buyers to operate. The imports of foreign showed a decided falling off when compared with those of the previous week, the total arrivals being only 36,684 qrs., Germany being the largest contributor with 16,039 qrs. The United States furnished 10,508 qrs., and North Russia 7,800 qrs., the arrivals of Indian varieties being only 2,337 qrs. A slow sale was experienced for all descriptions at the currencies of the previous Friday, which showed a decline of 6d. to 1s. per qr. on the



week. The market was moderately attended, and the trade closed dull at the decline. The week's exports were 6,429 qrs., showing a slight increase on those of the previous week. The supply of Barley consisted of 4,274 qrs. of home-grown, and 7,309 qrs. of foreign. Values underwent no alteration, but there was rather more inquiry for malting descriptions. There was again a small arrival of Maize, the return showing only 6,025 qrs., and sales progressed slowly at a decline of 3d. to 6d. per qr. The imports of Oats were liberal, in all 61,334 qrs., in face of which and the milder weather dealers operated only in retail, and an all-round decline of 3d. to 6d. per qr. took place. On Wednesday there were 199 qrs. of English Wheat, and 26,300 qrs. of foreign. There was a poor attendance of buyers, and the trade ruled very dull for Wheat and feeding corn at nominally Monday's prices. On Friday the supply had increased to 310 qrs. of English Wheat, and 36,120 qrs. of foreign. Business was quiet at nominally Monday's prices for all articles, but transactions were effected with difficulty, owing to the prevalence of a dense fog throughout the day. The imports of Flour into the United Kingdom for the week ending Jan. 12th were 137,327 cwt. against 241,113 cwt. in the previous week. The receipts were 16,822 sacks of English, and 5,914 sacks and 10,778 barrels of foreign. The trade has been inanimate, owing to the dull tone of the Wheat market, but where sales have been made former prices have been obtained for both sacks and barrels. The week's imports of Beans were 7,590 cwts., and of Peas 34,907 cwts., showing a decrease of 24,995 cwts. on the former, and an increase of 16,666 cwts. on the latter. Both articles have been in moderate request, and the little business passing has been effected at previous quotations. The deliveries of Malt were 19,456 qrs., and the exports 826 qrs. Prices remain unchanged, and no alteration has taken place in this branch of the trade since last week. Business in agricultural Seeds has been rather more active during the past week, and prices have been well supported for nearly all articles. New English red Clover is marketed very sparingly, and in many instances the quality proves disappointing. Both French and American advices report strong markets for this article, and as holders offer no concessions, prices here are firmly upheld. White Clover and Alsike have shown a hardening tendency, as stocks are light, but there has been very little doing in Trefoil. White mustard and Canary have sold slowly at somewhat irregular values, while Rape has fully supported the recent advance. The country markets continue to be scantily supplied with Wheat from the farmers,

but provincial trade has ruled dull, and in a few instances 1s. per qr. less money has been accepted to effect sales. Barley has been firmly held, and malting descriptions have occasionally realised a slight advance. At Liverpool, on Tuesday, the market was quiet for Wheat at the quotations of the previous Friday, showing a decline of 1d. to 2d. per cental on the week. Flour was in moderate request at former currencies, while Maize met a retail demand at 29s. 9d. per qr. for old mixed American, and 28s. 6d. per qr. for new. The week's imports included 35,000 qrs. of wheat, and 22,000 qrs. of Maize. At Newcastle the Wheat trade has been slow, and holders have had to accept rather less money to effect sales. Flour and Maize also favoured buyers, but other articles were without alteration. At Gloucester the market has been fairly supplied with English Wheat, and prices remain unchanged, but grinding Barley and Maize have given way about 6d. per qr. At Peterborough and Wisbech supplies of all grain have been light for the season of the year, and a moderate demand has been experienced for Wheat and Spring corn at last week's prices. At Edinburgh the market has been sparingly supplied with Wheat from the farmers, and the trade has ruled inactive at late rates. Barley also sold slowly, but there was an improved demand for Oats at an advance of 6d. per qr. At Leith the weather has been fine during the past week, with occasional showers. With moderate arrivals of grain from abroad, business has been quiet, and prices have undergone very little alteration. At Wednesday's market Scotch Wheat was in small supply, but last week's prices could not be exceeded. Transactions in foreign have been of an unimportant nature, and values remain unchanged. Flour has not varied, and Barley and Oats have been in better request at 6d. per qr. more money for fine samples. At Glasgow on Wednesday the market was fairly attended, and Wheat and Flour were in limited demand at unaltered currencies. Maize sold slowly, and the tendency of prices was against sellers. The arrivals from abroad have been small of Wheat but fair of Barley and sack Flour. At Dublin the weather has been damp and unseasonable mild. Dulness has prevailed throughout the grain trade, and in the limited amount of business passing, prices have favoured buyers, both for Wheat and Maize. At Cork millers have purchased sparingly, owing to the political uncertainty, but holders have abstained from pressing sales, and prices have only occasionally given way about 6d. to 1s. per qr. Maize has been in fair request at barely late rates.



# THE FARMER'S MAGAZINE.

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MARCH, 1878.

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THE  
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*Richard D. Meigs*

# THE FARMER'S MAGAZINE.

MARCH, 1878.

PLATE.

THE LATE MR. RICHARD HORNSBY.

A little more than twenty years ago, in January, 1858, we published in this Magazine a portrait and biographical sketch of the then Mr. Richard Hornsby, sen., with an account of the rise of the great business at Grantham. In the concluding remarks of that article the following passage occurred:—"For the last few years declining health has prevented Mr. Hornsby taking any very active share in the business. He has, however, a worthy successor in his eldest son, who with two younger brothers now represent the firm. Under their good stewardship the trade has been still increasing, while the name, even in this age of competition, more than sustains its pristine reputation." The eldest son mentioned in this quotation was the late Mr. Richard Hornsby, whose portrait, engraved from a photograph, appears on the opposite page. Mr. Hornsby died after a very short illness on December 3rd, 1877, just when the Smithfield Club Show was about to be opened, and his loss, at the early age of fifty, cast a shade over the visit of all those present who knew him. We cannot do better than reproduce from *The Grantham Journal* a brief sketch of Mr. Hornsby's life, written by one who knew him well:—

"Of his life we need say but little; it has been lived amongst us, and by its integrity and uprightness has won for him the regard of all who knew him. He was born at Spittlegate on the 17th day of July, 1827, and was therefore only fifty years of age when so suddenly called away. Of him it may be truly said, 'His sun is gone down while it was yet day.' After his school and college course he quickly manifested the utmost aptitude for mechanical studies, and in his father he found a willing and well-qualified instructor. He joined his father in the pursuits to which his life had been devoted, and was gradually introduced into the business in which he was thereafter to occupy so prominent a place. Several years previous to his father's death in 1864 he had assumed the chief management of the business, which even then was showing signs of that rapid development and increase which have in late years been so remarkable, and which have identified the town of Grantham with the progress of scientific aids to agriculture in every part of the world. His life has been so simple that there are few incidents of which to speak. An enthusiast in everything which related to the perfection of mechanical appliances, he devoted himself with untiring energy to raising his productions to

the foremost place, never resting satisfied with mediocrity, but striving ever for pre-eminence. And yet he never sought distinction for himself, but gloried more in the success of an invention to which his mind had given birth than in any honour conferred upon himself. He recognised the fact that in the success of his inventions and productions many interests were involved, and nothing gave him greater pleasure than when in times of commercial depression he was able to give employment to his full staff of workmen, whilst to reduce their number even gave him pain. It is but due to his memory to say that for mechanical ability and inventive genius he had few equals. With a fertile mind, an indomitable perseverance, and a memory which was the wonder of those who knew him, to him is mainly owing the success which has crowned the efforts of the firm of which he was the head.

His life having been thus devoted to the development of his ever-growing business, it was inevitable that he could not be in any local sense a public man; and yet the service he has rendered to the public can hardly be over-estimated. The thriving town of Spittlegate owes its prosperity in large measure to his inventive skill and business ability, whilst Grantham and the whole neighbourhood has also shared in its prosperity. Such honours as were open to him to accept were those conferred by societies in whose objects he took so deep an interest, and as a member of the Councils of the Royal Agricultural Society of England, and for some time of the Smithfield Club, vice-president of the Lincolnshire Agricultural Society, and member of many others, he has done good service to the cause of agriculture. His latest public service was performed in the week before he died, when he was one of a deputation from the Royal Agricultural Society to Earl Beaconsfield on the subject of the cattle plague. The latest honour of his life was the conferring on him of her Majesty's commission as a county magistrate—an honour all too quickly faded.

Though holding no local offices, he yet took a lively interest in every scheme for benevolent and public objects. His genial smile, his happy manner, his genuine kindness of heart, and the evident interest he always took in the welfare of his employees, were striking features of his character. He had a kindly greeting for the poorest of his workmen, and was never too busy to hear their case if they stood in need of counsel or help."

## FARMERS' CLUBS.

## CENTRAL.

## TRACTION ENGINES FOR AGRICULTURAL PURPOSES.

The first monthly meeting of the Farmers' Club for the present year took place on February 4th, at the Club Rooms, Caledonian Hotel, Adelphi, the subject fixed for consideration being "Traction Engines for Agricultural Purposes," the proposer being Mr. T. Aveling, of Rochester, who was prevented by indisposition from reading it himself. In the unavoidable absence, also, of the Chairman for the year—Mr. John Brown, of Caubridgeshire—owing to a similar cause, Mr. Shearer presided.

The CHAIRMAN, in opening the proceedings, after expressing his regret that Mr. Brown was unable to be present, observed that as the subject before them that evening had been entrusted to such able hands he should say nothing upon it himself, except that he was sure the paper would be received with the greatest possible satisfaction.

The SECRETARY (Mr. S. B. L. Druce) then read, on behalf of Mr. Aveling, as follows:—

The object of the present paper is to lay briefly before this meeting some account of the disabilities under which the users and manufacturers of agricultural locomotives are at present labouring.

The application of locomotive steam power to agriculture has been a work of no ordinary cost and difficulty. It has been necessary to contend against the usual prejudices, interests, and opposition which seem to be the fate of all inventions important enough to make a noise at and after birth. There are people, and there always will be—English people especially—who receive efforts meant to improve their social welfare as they do the medicines prescribed for their mental or bodily health. A disposition of this sort is inherited with other family traits, and it would therefore be as foolish to wonder much at it as to ignore it. But besides this inevitable difficulty, others proper to the question of steam power on common roads have always been present. It has been necessary to solve the mechanical problems of designing and building an engine strong enough to stand the rough jolting of our rough roads, simple enough to be understood and managed by a farm labourer of ordinary intelligence, and practical enough to be encouraged as a most economical assistant to or substitute for the always costly and increasing costly horse. All these and other pressing conditions have been fulfilled by the manufacturer and recognised by the farmer; they have been acknowledged by the Royal and leading Agricultural Societies of the country, who since the year 1856 have awarded to the makers twenty-five gold medals, thirty-two silver medals, and nine bronze medals; and money prizes amounting to between £5,000 and £6,000, besides expending upon trials of this class of machinery a further sum of at least £30,000. Of the above the Royal Agricultural Society of England have contributed £23,813, exclusive of the cost of elaborate testing apparatus, designed by their eminent consulting engineers. It is estimated that steam engines of the agricultural locomotive class, representing 30,000 horse power nominal, and with the machinery they drive valued at two millions sterling, are employed at present in agricultural operations; yet notwithstanding this vast addition to

the available working power of the country, draught horses have risen in value during the past twenty years at least 25 per cent. Facts such as these need only to be better known to obtain for the steam substitute for the horse the same degree of popularity with the majority of the public in general as it has long ago won from the majority of English and Scotch farmers. Acts of Parliament have from time to time been passed for the purpose of better regulating the use of road locomotives, in the interest of the owners as well as of the public, and the opening words of one of them, "Whereas the use of locomotives is likely to become common on turnpike and other roads," shows that the Legislature as early at least as 1861 saw the importance of the movement and designed to encourage it. There obviously was no desire to *discourage* it and the unreasoning persecution to be referred to further on would assuredly have then met with no Parliamentary approval. These Acts have done much to remove glaringly unjust or absurd restrictions, but they have not done all they could have done. Anomalies and absurdities still remain, some the effect of timidity in presence of a little known and much-feared power; others the token of successful interested opposition. To them we are indebted for the very energetic crusade just now being made against all engines running on the highways under their own steam instead of in charge of eight to twenty horses or more. It is about this persecution we wish to speak more fully. In the session of 1873 the House of Commons appointed a Select Committee "to inquire into the effects of the use of locomotive engines on turnpike and other public roads, and as to the limitations and restrictions which ought to be imposed by law on their use upon such roads for securing the public safety and protecting the public interests." The members of the Committee were:—Mr. Hibbert, Mr. Frederick Stanley, Mr. Biddulph Mr. W. W. Bramham Egerton, Mr. James Howard, Mr. Hick, Lord George Cavendish, Mr. Holt, Mr. Hurst, Mr. Asheton, Mr. William Wells, Sir George Jenkinson, Mr. Fordyce, Mr. Greville-Nugent, and Mr. Cawley. In this report the Committee state that they had endeavoured as far as possible to obtain witnesses who were representatives of various interests, and also to procure the evidence of persons from all parts of the country who were opposed to the use of steam on roads; and they add—"The large amount of capital invested shows the national importance of the partial substitution of steam for horse-power and the increasing cost of horses and of their maintenance renders this question one of great moment to large employers of labour and to others." The report touches upon all the moot clauses of the Locomotive Acts, and considers very fully the criticisms brought against them, as well by those who wish well to the engine as by those who would suppress them; and the recommendations attached to it by the Committee would, if embodied in a new Act of Parliament, go far to satisfy the reasoning majority of both sides alike. Unfortunately, no legislation has yet resulted from the Committee's labours, and in the meanwhile the party inimical to the use of agricultural locomotive steam engines has become so active and merciless that to move an engine from one part of a district to another is to run the risk of a summons for some possible or inevitable infringement of the Acts as interpreted by these opponents to their use. This is veritable persecution, and to this all owners

of such engines are liable so long as the Acts of 1861 and 1865 are in force, for under those Acts it is impossible to construct locomotives fit for the work required of them without infringing one or other of their clauses. Of the twenty agricultural locomotives exhibited at the late show of the Smithfield Club there was not one against which an enterprising county policeman, properly instructed, might not have produced a conviction. The clauses of the Locomotive Acts of 1861 and 1865, which are generally selected by their adversaries as affording ground for persecution, are those concerned with the form of engine wheels, the consumption of smoke, the red flag man, the crossing of bridges, and the time-limit for travelling. First, as to the shape of the wheels of an engine. The regulations affecting their construction are the offspring of an Act of Parliament, now no longer in force, which was promoted by the party interested in the "Boydell Endless Railway System" and with the view of reducing turnpike tolls at that time nearly prohibitory in their effect upon road engines. A clause in this bill forbade the employment of any engine on a public road unless its driving-wheels were smooth-soled cylindrical or fitted (as was the Boydell engine) with shoes of 9 inches or more in width; and, this clause was re-enacted in the existing Acts of 1861 and 1865 in spite of the protest of the promoters of the Acts. It follows that as ordinarily well-formed roads are rounded on the face, in the proportion of half an inch curve to one foot width of roadway or thereabouts, a wheel constructed with a cylindrical tyre would take its bearing on the road, more or less, only with the inner side of the wheel; and, therefore, without the cross-bars, with which all these engines are illegally (according to the letter, although not the spirit, of the Acts) fitted, the wheels would slip, and cause far greater damage to the roads than do the cross-bars against which so much clamour is raised. In estimating the comparative wear upon roads from wheeled carriages and horses drawing them, General Mouin, the eminent French engineer and director of the Conservatoire des Arts et Metiers at Paris, found that two-thirds of the wear is due to the action of the horses' shoes; and Mr. John Waite, a well-known surveyor of roads in Scotland, gives it as his opinion that "one great cause of disturbance of the road metalling is the method, now so common, of shoeing draught-horses with very long toe pieces and heels, which tear up the metal, and render the roads rough and dangerous, especially in dry seasons." Now, although in ordinary traffic the maximum injury is thus rightly attributed to the horses' tread and not to friction or pressure of cart-wheels, yet constant passing of vehicles in one tract does greatly cut up soft roads; especially in bad weather, as every knows; and it cannot be denied that considerable damage has been done to such weak roads by the frequent passage of heavy engines, hauling trains of wagons fitted with wheels of insufficient width for the load carried. But where engines not exceeding 8-horse power nominal, have been used for hauling work, and when the wagons hauled by them have had wheels 8 inches in width carrying loads not exceeding 6 tons on each wagon, the front wheels travelling within the tract of the hind ones, it can be proved that less injury is caused to well-constructed roads than would result from the same amount of tonnage being drawn by horses. It is hoped that some measure having for its object the establishment of County Highway Boards will be passed this session, and that these Boards will readjust the burden of maintaining the public roads, so that no unfair proportion shall, as at present (now that the Turnpike

Trusts have lapsed), fall upon the shoulders of any section of the public. The smoke clause in the acts has been fruitful of summonses, and convictions have been enforced against the owners of agricultural locomotives for not doing what indeed the Acts enjoin them to do, but what it is at present impossible for them to do—consume their own smoke. As yet engineers have been unable to construct either railway or road locomotive engines that can burn coal without producing some smoke, and it is scarcely honest to visit this infraction of the law upon the agricultural engine while the railway locomotive can make smoke with impunity. In many country districts smokeless fuel can be procured, and it was the recollection of this that induced the Committee of 1873 to recommend a relaxation of this injunction in the case of agricultural engines working habitually in the country. This consideration apart, it cannot with justice be seriously maintained that injury is done or nuisance caused to any one in the country by the smoke, which, for a few moments after stoking, issues from the engine funnel. Any careful driver would take care that these periods of smoke emission were kept at a minimum, if only to show a good result in coal consumption, and the employer has it in his power to check his driver in this respect. It would seldom be necessary for a man to feed his fire when passing through, or just about to pass through, a village or by any houses on the roadside. The conditions are different for town engines, and the circumstances, as we have seen, was recognised by the Committee. Coke or smokeless coal is generally procurable and can always be obtained by forethought; and therefore excuses for emitting smoke in a town might very reasonably be held valid only in respect of country engines making a chance passage through. Another clause of the Locomotive Acts enacts that a person is to precede an engine, when travelling on the public roads, a distance of 60 yards, and is to carry a red flag, and the regulation has been provocative of much annoyance and many prosecutions before magistrates; for let the flag carrier lag in his pace, and so bring himself wilfully or accidentally into much better relation to the engine in case his services are required to assist restive horses, or to give confidence to timid riders, and straightway some zealous guardian of the law (perhaps the timid horseman himself who accepts of help but abuses the helper) obtains a summons against the owner, and presses for the utmost penalty. Now, obviously, the object aimed at in the clause is the protection of the driving and riding public, and as, owing to the low speed of the locomotive (two miles in town and four in the country being the legal maxims), horses as frequently overtake as meet them, the place where this person would be of most assistance is near the engine, and not 60 yards away from it in one or another direction. The danger to horses pointed at by this provision is a good deal illusory or exaggerated, and is a subject for alarm chiefly to those who have little acquaintance with the locomotives; it has no existence in the minds of persons accustomed to meet or pass them either riding or driving, provided their horses are so intelligent and manageable as they ought to be. For the reassurance of the former class we may point to important evidence heard, and conclusions drawn, by more than one Parliamentary Committee who have considered this matter. Among others, Mr. John Macadam, the general surveyor of turnpike roads in England some years ago, said, in speaking before the Select Committee of the House of Commons in 1859 about a long journey he made on the high roads with a faster-speeded engine and train than are now allowed to run.

"We met several cart horses; they noticed us a little but not enough to require us to stop. Generally speaking, when we came to the towns we were inconvenienced by the number of people who were riding round us; we had forty or fifty people riding round us in one of the towns. Some of the horses made a great objection at first, but the gentlemen coaxed them up to the engine, and the thing ended by every one of them following us." Horses incapable of being taught to meet an engine without alarm are a greater danger on other occasions than the engine itself on any. They will shy at a showman's van, a band of music, a wheelbarrow, and anything but what exactly pleases their untaught natures. Mr. W. B. Adams, the celebrated inventor and engineer, gave it as his opinion before the same Committee: "The startling horse is simply a wild beast, and no one has a right to bring a wild beast into the streets or roads. . . . What grooms call 'a fool of a horse, is not worth keeping, and every horse worth keeping is worth educating.'" To this I add the conclusion arrived at by the Committee of 1873, and given as follows in their Report:—

"DANGER TO HORSES, &c."

"9. Upon this point a considerable difference of opinion exists among the various witnesses who have given evidence before your Committee. Several users of engines stated their belief that with the majority of horses a very short time suffices to accustom them completely to the sight and sound of a road locomotive. Locomotive engines (including steam rollers) are working by day, and in some cases both by day and by night, in the streets of London, Liverpool, Glasgow, Leeds, Aberdeen, Rochester, and other large towns, and few complaints have arisen in consequence of their use.

"10. As small engines are now employed in all directions for contractors' work, steam fire-engines, &c., passing daily through streets and among horses, and as at most railway stations locomotives are habitually run within a few feet of horses and carriages, and as few or no accidents are known to result from these practices, it seems reasonable to conclude that horses in towns will not take much notice of the passage of road locomotives.

"11. A distinction was drawn by several of the witnesses between the amount of difficulty likely to be experienced with horses in towns and with those in the country. It appears to your Committee that there is little doubt that in some rural districts the introduction of locomotives upon the roads would be attended with greater inconvenience than would be the case in towns; but the evidence is almost unanimous to the effect that this inconvenience soon disappears, although there are, and probably always will be, some few horses which will take fright at an engine, as they will at many other objects.

"12. Even some of the witnesses who are opposed to the use of road locomotives admitted that horses soon get used to the sight and sound of engines, and the increasing use of machinery for farm purposes (to say nothing of ploughing engines used on farms, and not habitually travelling upon roads), must accustom them to the appearance and noise of machinery."

The clauses touching upon the passage of road engines over bridges contain regulations needing much remodelling. At present it is open to any road surveyor or bridge master, under pretence of the bridges being too weak to carry their weight, to prohibit by notice boards the use of any or all the bridges in their district for the passage of agricultural locomotives, and in

several cases this arbitrary and impolitic course has been taken. The last, though not least, of the defects in the Acts is found in the clauses which empower local authorities to make orders as to the hours during which road locomotive travelling is to be limited. Regarding, as some of these authorities have hitherto too often done, all steam traffic as a nuisance to be put down if possible—to be impeded when extinction is impracticable—the power here given by the Legislature, with fair, well-meaning intent, has been unnecessarily and unfairly put into operation, to the detriment, and sometimes to the ruin of owners of such engines. Instances occur where the hours for running are confined to eight out of the twenty-four, and where these eight working hours have been chosen with the avowed object of making it impossible to use the engines. Again, no notices are affixed, as they might reasonably be, at the entrance of such towns to apprise drivers of the local regulations, and every accidental or trivial infraction of the bye-law is punished rigorously, the maximum instead of the minimum fine the law permits being inflicted. It is unnecessary to dilate upon the increased difficulties, dangers, and cost of steam traffic through the dark hours of the night, the road locomotive, unlike the railway engine, depending so greatly upon the eye and skill of the steersman to enable it to work in safety; and it might have been anticipated that every one, whether engaged in agriculture or not, would have been anxious to cheapen rather than augment the expense of carriage. Every one is alike interested in its reduction, seeing how large an item it is in the cost of commodities, from corn to stones for road-mending; but this is not understood by the road and local authorities referred to above. If any travelling limit be necessary at all, any sixteen consecutive hours out of the twenty-four would answer every end. It may be expected that some suggestions for substitutive regulations in a new Act should be made in this place, and, although more than one new Locomotive Act has been draughted within recent years, in which the principal clauses liable to abuse in the old ones are more or less satisfactorily dealt with, yet the occasion is opportune for a brief statement of the reforms to be sought for by owners and employers of agricultural road engines.

1. As to the shape of the wheels. It is proposed to leave this matter to be decided entirely by the manufacturer, whose interests are undoubtedly identical with those of the public, and who will best know how to give effect to them. A wheel calculated to cause least wear and tear to the road is likewise, by diminishing friction between wheel and road, calculated to give the best results for the engine. In place of defining the form of tyre to be made use of, let some definite relation of width of the wheel-face to the carrying weight be established and enforced. Makers would heartily support so rational a regulation; owners would find the advantage of the adjustment; and surveyors would acknowledge that, when their roads are not in fault, the engines rather benefited than injured them.

2. As to the emission smoke. Enough has been said above to indicate the direction reform should take in this connection. Let town working engines be restricted to smokeless fuels, and let country locomotives be allowed reasonable time after stoking for getting rid of their smoke.

3. The red flag should not be insisted upon, and the person required for the public safety should be allowed to accompany the engine—not compelled to precede it.

4. Bridge-wardens or surveyors should be required to have their bridges strengthened wherever through neglect they have

become unable to bear the load they were originally calculated to do; and on all bridges too weak to carry 20 tons a notice-board should be affixed at both approaches attesting the maximum weight assumed to be compatible with safety. The public, or the engine-owners, might be empowered at any time to have any bridge upon which such a notice-board had been fixed examined and tested by a competent architect or engineer, provided it were done at their own charge.

5. The hours during which an engine is allowed to work should, unless good cause be shown for maintaining restrictions, be absolutely unlimited. Restrictions where imposed should be reasonable, in no case curtailing the engine's freedom beyond eight consecutive hours out of the twenty-four; and these cases of restrictions should be confined to towns of 30,000 inhabitants or upwards.

When the opposition encountered by the earliest promoters of railways is remembered, and the wild prophecies indulged in about the consequences of allowing engines and carriages to rush through the country at twelve miles an hour, no surprise need be felt at the storm now breaking over the owners of road locomotives and others; but there is reason for discontent, and every motive for exertion in counteracting the doings of the obstrucives, in removing restrictions on freedom of work, and in awakening in the public mind a better knowledge of the valuable agency they are permitting to be so hardly treated. The exertions should not be discontinued until a new Locomotive Act is obtained, suited to the more developed state of the question than are those Acts drawn up fifteen years ago, when the agricultural locomotive engine was in its infancy, more just to a vast and important interest—the most important in the kingdom—the agricultural interest. The farmers, by the removal of corn laws, and by the enhanced cost of labour, have been made to part with no small share of their profits to the public at large; they ask from the public this, among other things, in return: liberty to make freely the utmost practicable use of a power offered to them, and which they find is not only cheaper than their own horse power, but can do work that their horses cannot do.

Mr. ALFRED CROSKILL (Beverley) said, in listening to the paper which had just been read, he was reminded very strongly of the old proverb with which they were all familiar. "Out of the abundance of the heart the mouth speaketh." The writer had been so deeply impressed with the wrongs which he himself and his fellow-manufacturers, and no doubt to a considerable extent their customers also, had suffered, that a great part of the paper was taken up in discussing the difficulties under which they laboured in connection with the use of excellent machines. But there was another aspect of the question which appeared to him not to have sufficient prominence in the paper, namely, how far it would be advantageous to use engines which were self-moving, instead of engines which were drawn by horses. In the few observations he had to make he should address himself to that point, because it appeared to him that in an assembly of farmers it was one of the utmost importance. They all knew very well that during the last twenty years agriculturists had made a very great advance in the use of steam engines. There was hardly any farmer, however small might be his holding, who had not used an engine for some years past, and it was a rather extraordinary thing that nearly all the engines in use were alike. No one scarcely used a different form of engine adapted to the purposes of farming except a few large landowners, who had placed fixed engines in barns and other farm buildings. The

type of an agricultural engine was one which was moveable from place to place, being generally drawn by horses. It seemed a most natural thing that after mechanical inventions had, in the first instance, produced an engine which would go from one place to another to perform its work, horses being employed to bring it where it was wanted—it seemed most natural, he said, that attempts should be made to cause engines to move of themselves instead of horses having to be used in taking them from one place to another. That attempts should have been made to establish a system of self-locomotion appeared almost a truism. That being the case, everyone ought to know—it was, in fact, a matter of notoriety—thrift for the last fifteen or twenty years efforts of various kinds to secure that end had been made, and during the last five or six years had assumed a practical shape; and that it had been shown to farmers that instead of buying steam engines which would have to be moved from place to place by horses, they might have the advantage—and undoubtedly it was an advantage—of obtaining engines which would move themselves about. Engines had been constructed which were capable of doing all kinds of work—ploughing, and almost everything else. He thought it right that the public should know that a fair measure of success had been achieved in several years, and that farmers who had sufficiently large holdings to justify them in doing so, would like to buy engines instead of hiring, if they could use them without having to employ horses to fetch them to the place of work. One thing which had affected that question practically during the last few years was the greatly increased cost of horse-power. (Hear, hear). Practical agriculturists who were brought face to face with that question from day to day knew very well that one of the results of the great rise in the price of horses which had taken place during the last few years had been to add greatly to the cost of keeping them, and, therefore, they naturally looked with special interest upon any improvement which promised to do away with one of the uses to which horses were now put. The fact that the engines had been so much improved that, notwithstanding all the difficulties which had attended their employment, they had achieved very useful results for practical farmers, and that, at the same time, the cost of horse-power had done so much to increase the burdens of practical farmers—these two considerations combined to show that it would be a very great advantage to those who used steam-engines if they would readily move from place to place instead of having to be drawn by horses. In making these remarks he had no wish to reflect on the course pursued in the paper by the introducer of the question; but it had struck him that this part of the subject did not obtain the prominence which it deserved on account of its importance to farmers. He now turned to the second part of the question, which was treated most ably and exhaustively in the paper. There could be no doubt that the fellow-manufacturers of the writer had felt the grievance complained of very much indeed. It was, indeed, *prima facie* a very hard thing that these gentlemen should first of all have had to invent a machine, and to make it practically useful to farmers, and then have had to get an Act of Parliament to enable farmers to use it (Hear, hear). But he did not know that they felt it to be a great hardship, for there was nothing scarcely more remarkable than the tendency which had prevailed among agricultural machine-makers to turn their attention to politics (laughter). He might allude to the cases of the ex-member for Bedford and the ex-member for Maldon, to which he would add the

of the hon. member for Banbury (renewed laughter). Nearly all the largest manufactureres seemed to like dealing in politics. When such gentlemen went to Parliament they had a fair right to expect that on the question which he was discussing they would be supported unanimously by the agricultural interest (Hear, hear). No doubt the man who made a traction-engine made it for his own profit, but seeing how greatly farmers were interested in the lightening of the burden of keeping horses, they were surely bound to do something to assist in getting the law of the land made such as to enable them to carry on their own business economically. Without entering at length into the hardships referred to in the paper, he would remark that everyone who was familiar with the subject must be aware that great obstructions had been placed in the way of the use of steam-engines. Some of the stories that were told would make those obstructions appear ridiculous were it not for the importance of the subject dealt with. Perhaps he was addressing some gentlemen who attended a public meeting on that subject that was held about two months ago. Some of the anecdotes which were told on that occasion might very well have served for *Punch*. The absurd kind of prosecution to which a man was subject because he used an engine that moved itself about instead of one that had to be fetched by horses was discredit to the country, and legislation ought not to be used to place an agriculturist or a manufacturer under the disadvantage of needless restrictions. He thought that some new Act should be passed to meet that evil. Any one who was acquainted with the subject must be aware that there was a provision in the existing Act to the effect that any one who drove a traction-engine along a road should employ a man to walk in front of it with a red flag. Let him allude to a case which came before him while he was sitting as a justice. A person had two engines going along at the same time, one following the other. He placed a man in front of the first with a red flag; but it was contended that he ought to have had such a precaution in front of each engine. A penalty was pressed for (laughter). There was another justice sitting with him, and although technically an offence had been committed, they inflicted only a very slight penalty for what was practically no offence at all. That case came before borough magistrates; had it come before county justices the result might have been different (laughter). At all events, the man to whom the engines belonged rightly thought that the law required amendment. As was pointed out by the author of the paper, they were bound by a due regard for their own interest to assist in the efforts which were being made to bring the law into harmony with the proper use of the engines affected by it. If agriculturists found it to their advantage to use steam-engines, and to move them about from place to place, the law ought to be such as to enable the road to be used, so far as they could be without danger, for the furtherance of agricultural objects. He perfectly agreed with Mr. Aveling that there was a great deal of prejudice on that subject to be overcome. There were many people who looked upon the appearance of engines in a road as an improper intrusion, but that could hardly continue to be the case when it was seen that the interests of all parties required it. He thought that when the matter was thoroughly understood there would be no difficulty in getting the necessary alterations made in the law, and that the paper just read would prove a great step in advance. He hoped that the discussion that evening would not be confined to farmers. He was happy to see present the Secretary of the Royal Agricultural Society—a very important Society, and one which

possessed the advantage of including a number of gentlemen who had seats in Parliament. That Society ought to be operated upon in order that gentlemen who represent the agricultural interest might advocate and support measures which would tend to give landowners and farmers freedom in carrying on their business (cheers).

Mr. A. CAREY (Rochford, Essex) said, having been called upon by several members to say a few words, he must first observe that the subject had been so ably laid before the meeting that he had very little to do except to repeat what had been so well urged by Mr. Crosskill, that this was really a very serious matter for agriculturists. Standing as he did between the farmer and the manufacturer, being a contractor for steam cultivation and hauling and other things connected with locomotives on roads, he had felt the obstacles alluded to very deeply, and he was sure it was the wish of agriculturists generally that manufacturers and persons occupying a similar position to his own should be able to introduce steam-power without being subject to such great disadvantages. He could mention many cases in which agriculturists had been almost afraid to hire an engine on account of the risk of the owner or hirer being prosecuted, and of course the cost of steam cultivation had risen in proportion to the difficulty. There had been great trouble attending the moving of an engine from one farm to another because magistrates and other disagreeable people (laughter) had interfered. Somebody must pay for all that, and the contractors could not. As regarded bridges, it was no doubt necessary that they should be of considerable strength to bear engines, but in Essex he had seen notices affixed to bridges which were perfectly good. What was the use of allowing people to go before magistrates to ask for the infliction of a penalty when they thought the Act was wrong and when agriculturists themselves were breaking it almost daily? Agriculturists ought to support manufacturers, the two bodies ought to go hand in hand, and he trusted that they would unite with contractors to get the law amended (Hear, hear).

Mr. C. S. READ, M.P., said he thought there was one subject which complicated the discussion, and which very much prejudiced it, viz., the subject of the continuous traffic of locomotive engines over roads utterly unsuitable for them (Hear, hear). There were very few roads indeed that would take the slightest harm from the occasional traffic of a very heavy engine with plough tackle or agricultural machinery; and he was astonished at the amount of unjustifiable prosecution of the owners and employers of agricultural locomotives that had taken place in different parts of the kingdom (Hear, hear). That was happily confined, he believed, to a very few districts; and generally speaking the prosecutions were confined to really good sound cases, where the Act had been flagrantly violated. With regard to the continuous traffic of heavy locomotives drawing large loads of all sorts of produce and commodities, there was no doubt it was very injurious to some roads. The other day he had a paper given to him by Mr. Stanley Leighton, president of the Shropshire Chamber of Agriculture, and in that paper, signed by the president and the hon. secretary, there was given the different costs per mile of the repair of the roads prior to these engines being used, and afterwards; and the difference was so astonishing that he would read one or two cases. In the Oswestry Highway District, over four miles of which the roads were traversed every day by traction engines drawing two waggons, the cost of repairs before the use of such engines was £26 per mile, and the cost of repairs since £500 a mile. [Mr. Aveling



ling: Does the paper give the amount of tonnage carried in each case before or since? No; those particulars were not given. In the Llangollen district the repairs before traction engines were used cost £30 a mile, and since £180 a mile. In the Llanfellen (?) district, Montgomeryshire, the cost was £5 a mile before, and £70 after the use of the engines; in the Poole district (Salop) the cost was £11 a mile before the use of engines, and now it was £150 a mile. There were some other minor cases quoted, but these seemed to him very extraordinary. They rather bore on one part of the paper in which it was said that a like amount of heavy traffic could not be carried on over these roads without creating a greater amount of damage to them. He would say one word upon that. A common agricultural road was made for the purpose of carrying horses and carriages, and though it might do for that purpose very well, everybody would see that it could not stand a very much heavier weight if continuously driven over it. In saying this he must not for a moment be supposed to wish to restrict the passage of agricultural traction engines in any shape or way. He heartily agreed with the author of that paper in desiring that the legislation should be amended; and although these heavy charges on the ratepayers had, in his opinion, prejudiced the public mind very much against the use of any engine, he hoped that the two things would not be confounded together, because he would repeat that the occasional transit of a locomotive from farm to farm with even the heaviest implements they chose to put behind it did comparatively little damage to the roads (Hear, hear). If they were going to have a Highway Bill of some sort this session he hoped that this large question of agricultural machines, and also the still more serious one of the locomotive engines constantly traversing the roads, would come under the jurisdiction of some good county authority. It was utterly impossible that the damage done to the roads, in cases he could mention, could be allowed to continue, and that the owners and the people who caused the damage should pay just nothing towards the repair of those roads. It would be better that there should be tramways laid along the sides of some old turnpikes, for the roads were in many cases 60 feet wide, and there was no necessity for continuing them of that width for the local traffic, since most of the through traffic had been absorbed by the railroads. With regard to the Act which had been found so much fault with (it was passed, of course, before he went into Parliament, and therefore he had nothing to do with it), he thought the restrictions about smoke were "all smoke" (laughter), and never ought to have been there at all. In the country what was a little puff of smoke? Of course in towns there should be smokeless coals used. Then with regard to the man who was to walk 60 yards in front of the engine with a red flag, in all probability 60 yards was too far away; but he ought to be in front of the engine, because if he was on the engine very likely he would never see anything, and assuredly he would never hear anything even if cries for assistance were raised. The man should be in front; but he (Mr. Read) did not suppose the author of the paper wished to have a man behind also, though he seemed to infer that he would be the more serviceable of the two; but that was a matter of detail. With the other objections raised to the existing legislation he quite agreed. He did not know whether there would be a locomotive Bill this year; but the first thing to do was to provide some good county authority which should have the power of licensing those engines, and also of taking some of the main

roads of the counties under their jurisdiction (Hear, hear). These were all the observations he would make, except that he knew what perhaps would be said of him, probably by Mr. James Howard and others—"Why don't you make the roads strong enough to bear these engines?" But that could not be done where the roads were very narrow. He was, of course, talking now only of the continuous passage of engines over the same road. He had himself seen narrow roads where the sides had been actually lifted up by the continuous passages of these engines. No amount of material on such a road would, in his opinion, carry the weight. He knew it had been argued that every bridge, however small, ought to be big enough and strong enough to carry those engines. In Bedfordshire he believed that they had strengthened all the bridges. In Essex they had done something to improve them, although engine drivers there broke the law apparently with impunity (laughter). But a heavy engine was a machine that ought to have a road made specially for it, if it was to pass continuously over the same road. Once more, in making these observations against the continuous traffic of engines carrying large loads, with the narrow-wheeled waggons behind them which did the most harm, let it not be understood that he was at all opposed to the unrestricted and universal use of agricultural engines of any kind whatever (Hear, hear).

Mr. F. SHERBORN (Bedford, Hounslow) observed that the only argument yet used was that of the manufacturers and the contractors. Mr. Read had not spoken in the farmer's sense of the question. He believed this question was of more importance to the farmers than any one else, though the manufacturer might be the sufferer in the first place. If they were not allowed to use the engines for ploughing and thrashing in the county of Middlesex they could not get on with agriculture, for he had now no men to thrash, and was obliged to arrange that the engines brought a gang of men with them. He objected to the shameful and abominable restrictions that were placed in the way of using these steam engines for agricultural purposes. The farmers had a great difficulty in making both ends meet already; and if they were debarred from economising labour in every possible way they would have to give up farming. He did not see how they could get on with such restrictions placed in the way.

Mr. JAMES HOWARD (Bedford) said he should not take the line which Mr. Read had referred to. He did not deem it right. Mr. Aveling, in addressing a body of practical farmers, had purposely omitted the question of traction engines employed in commerce, mining, and manufactures. That was a question to be debated more properly before the Institution of Civil Engineers; the paper was therefore confined, accordingly, to locomotives used for agricultural purposes. No doubt the statements quoted by Mr. Read from the paper by Mr. Stanley Leighton were perfectly true; but the cases which had been given were all of engines used in mineral districts. No doubt in those cases the engines had been employed in hauling material from a quarry or a mine; and though the roads may have cost so little per mile to repair before the traction engines were put upon them, yet no comparison could be drawn between the present and past cost of the roads unless they had the relative amounts of tonnage carried by steam power against that carried previously by horse-power. It might be that such mine or quarry was not worked at all until the engines were put upon the roads. Mr. Aveling had put the case so fully and fairly in his paper, and Mr. Crosskill had also gone so exhaustive on the subject, that little or nothing was left to

be said. To his mind, the question seemed very simple. It was monstrous that after all the efforts of the inventors to produce an engine suitable for agricultural purposes—a ter all the money expended by the Royal Agricultural Society in trials to bring these engines into a condition for the farmer to buy—after a capital of something like £2,000,000 had been invested in machinery of this character—after it had been proved before a Select Committee of the House of Commons that these engines could with proper precautions be used without danger to the public, and without damage to the roads—it was, he repeated, monstrous that the farmers of England should not be allowed to use the engines they had found to be most advantageous for their purpose. So long as the present law was maintained which prohibited the use of one of these engines by a farmer without breaking the law, this question, which was of enormous interest to the country—must be pressed home upon the House of Commons. All that they asked was a law based on the report of the Select Committee, and having been a member he could affirm that a more painstaking Committee never sat in that House. We examined witnesses from all parts of England and Scotland—both those opposed to the use of the engines and those in favour of them—and the Report was unanimously approved by the members of the Committee. Their recommendations too were reasonable and practicable. It was quite true, as alluded to by Mr. Read, that Bedfordshire had put all its bridges in a condition to carry these locomotive engines (both the highway and county bridges and even the culverts), and he was proud of his county (Hear, hear) that it had thus set an example to the rest of England, that it had recognised the great advantage that had been conferred on agriculture by the use of ploughing engines, and that it was the first to put their bridges in order, so that the agriculturists of the county might reap the fullest benefit from the new power in tillage (Hear, hear).

Mr. W. NEVITT (Yortou Villa, Shrewsbury) said he happened to be one of the parties who had signed the paper quoted by Mr. Read. He did not think any agriculturist could wish to put any hindrance in the way of the makers of agricultural machinery. He had not heard of any of these vexatious questions among the owners of these agricultural engines in Shropshire. But he could bear testimony to the fact that at the top end of Shropshire there was a turnpike road about fourteen miles long, the cost of repairing which was now about £150 a mile. Upon five miles of the same the minerals were drawn over the road by two locomotives, and the consequence was that a gig could not now be safely driven over a portion of it, though thirty years ago it was a fair turnpike road. The great reason why the farmers objected to that kind of engine was because of the heavier burdens on the rates. In the south-western part of Shropshire, he knew that the farmers would like the question brought before the House of Commons as to how these roads were to be kept up so long as these engines were allowed to draw such immense loads, which were often from 10 to 20 tons, in moderately narrow-wheeled waggons. The minerals drawn in waggons from the same mine by horse-power did nothing like the same damage to the roads forty years ago. It was against the damage done in this way that the farmers protested, and not from any wish to damage the agricultural implement manufacturers; on the contrary, the farmers of Shropshire would hold up their hands to encourage the manufacturer. He had used steam power for thrashing and cultivating for several years, and he for one protested against the opinion going forth

from that Club that the farmers were antagonistic to the use of steam power in agriculture or any other industry so long as there was no excessive damage done to the roads.

Mr. D. GREIG (Steam Plough Works, Leeds) thought some of the speeches had deviated from the point of the paper, which, in his opinion, had reference only to engines used in agriculture, whether for thrashing, or ploughing, or carrying wheat to market. He thought the farmers were the people at fault for allowing the present legislation to exist. If the engines engaged in the carriage of minerals damaged the roads and the owners paid nothing towards the repair of the roads, the Legislature was at fault, and the farmers were the people of all others who should seek to improve the legislation on the subject. The manufacturers of the engines could only make them if they got a profit by doing so; and they could only get a profit by supplying the article which the farmers would buy. As to the question of the cost of £500 a mile for the repair of the roads mentioned by Mr. Read, the point was what tonnage was carried over the road. Mr. Read, he thought, was speaking of the cost of making the road and not of repairing it, because when the locomotive engine started there was no road. [Mr. READ: "Yes, a good turnpike"]. The road, of course, should be in accordance with the traffic to pass over it. If he had an engine passing over a common road which did damage to the road, the farmers were the persons to make the Legislature say that he ought to pay towards keeping that road in repair. The point he desired to enforce was that the manufacturers wanted the assistance of the farmers in getting the Legislature to protect both the farmers and the manufacturers of agricultural implements. He could instance a case in which his firm had been fined £115 in regard to the smoke and the wheels in a season. It was an utter impossibility, with their present knowledge, to deal with the smoke question. He could tell them of cases in courts where policemen swore that the engines did not smoke for more than three seconds, and of others where it was admitted that policemen had been set to watch the traction engines, and if they smoked to bring the case before the magistrates. The farmers did not want their business hampered by such legislation as that (Hear, hear). What they wanted was proper legislation, so that those who used and damaged the roads should pay for it. In regard to the wheels, it was a fact that wheels which some magistrates would pass other magistrates would not. Surely they wanted redress in such an instance as that. He looked upon the question as purely a want of legislation which, while it would protect the farmer, would facilitate him in getting his work done by the aid of machinery.

Mr. C. S. READ, M.P., said the road to which he had referred as costing £26 a mile to maintain was made years ago, and that sum was a fair expenditure to keep it up. He knew a road in his own district which used to cost £10 a mile but now cost £40 a mile to repair, because an engine, carrying petroleum, passed over it twice or three times a week.

Mr. C. M. CALDECOTT (Holbrook Grange, Rugby) thought Mr. Aveling had done injustice to the bulk of the authorities by the way in which he had spoken of traction engines being persecuted. No doubt they had been persecuted unreasonably in certain localities, but it did not apply to the Midland counties, unless it might be Nottinghamshire. He agreed with Mr. Read that there was not the slightest use in the restriction about smoke. He would, however, much rather face a traction engine in his vehicle than a Cheap John's cart, provided the engine men did not make the engine "pull" just as he got near it. If the engine men would use that discretion it would

be better than having a man sixty yards in advance. In justice to his own county he desired to state that on the passing of the Act the county surveyor examined all the bridges, and only about five were reported unfit to carry traction engines, and on those notices were put. In the county of Warwick he did not think there was any instance of any one being troubled for moving an engine from one farm to another.

Mr. H. M. JENKINS (Secretary, Royal Agricultural Society) said as Mr. Crosskill had alluded so pointedly to him, probably he should be expected to make one or two remarks. Everybody must admit that Mr. Aveling had done good service by putting forward so clearly and tersely all the points in connection with this question. For himself, he should go away knowing a great deal more than he did before, and probably there would be others in pretty much the same position. He did not know before that there was such a solid foundation for the dissatisfaction they had heard expressed recently by the manufacturers and users of these locomotive engines in consequence of the restrictions which existed in the Act of Parliament now in force. Mr. Howard had mentioned incidentally that the Royal Agricultural Society had offered prizes for these engines, which they seemed to think were now as nearly as possible perfect. He (Mr. Jenkins) did not believe that the Royal Agricultural Society was quite of that opinion, because it had recently been under discussion whether another trial of agricultural locomotives and steam ploughing engines should not take place in the course of a year or two. But he was startled the other day by an implement-maker asking him whether he considered it a proper thing for the Royal Agricultural Society to offer prizes for illegal implements? That was putting the matter in a very startling light, and he asked what was meant. The explanation came very much to what Mr. Aveling had already stated with regard to the engines exhibited at the Smithfield Club—that all of them were in point of fact illegal, because their wheels were in contravention of the words of the Act of Parliament. This, of course, was a very serious matter, and, he had no doubt, would be very carefully considered by gentlemen interested in agriculture who were in Parliament, when they read Mr. Aveling's paper in print; and it must also be a matter for the careful consideration of the Council of the Royal Agricultural Society before they again offered prizes for agricultural engines. This point, he took it, embraced the objections that had been put forward with reference to the restrictions in the Act as to the construction of the machines. The other restrictions seemed to refer to the use of the machines when they were made. Of course these were matters which a body like the Society, as a Society, could not interfere with; but he looked upon it as a very serious thing indeed that there should be such a clause in the Act which compelled the manufacturers to make wheels of a shape which the highest authorities were of opinion was not the best. He would not trouble the Club further than by repeating that Mr. Aveling had done great service by bringing this matter forward.

Mr. T. ROSE (Melton Magna, Norfolk) desired only to say that he had been a member of the Club for some years, and could not remember so animated a discussion. There appeared to be other interests than those of farmers in this matter, and if the implement makers would assist the farmers in getting such points of legislation as the agricultural interest required they might rest assured that the farmers would help them in this locomotive question, because it was most injurious to the farmers to have to pay more money for the work done to cover the chance of the owners of the engine being fined.

The CHAIRMAN took occasion to remark, before calling on Mr. Aveling to reply, that it would be pleasing to the members to know that there was some hope of accommodation being found in the future for the Club which would be more convenient for the members.

Mr. AVELING, in his reply, said he was careful in his paper to keep to the question of the use of these engines for agriculture, and for agriculture alone (Hear, hear). He referred only to agricultural engines, and not to those engines which had frequently been put to a purpose for which they were not intended, and for which they were not at all suitable. He thought that when Mr. Read referred to the cost of repairing the roads, and quoted the figures he gave, he should have been prepared to give the increased tonnage carried over the roads; otherwise the statement was calculated to prejudice the use of these engines in the public mind. (Cries of "No, no.") It was his opinion that it would have that effect, unless the increased tonnage was given together with the description of both engines and waggons employed, though, of course, he knew Mr. Read did not intend that that should be the effect of his statement. It was quite possible that the increased cost of the repairs of the road referred to might have exceeded £500 per mile if the haulage of the increased tonnage had been performed by horses instead of steam power. There were districts where there were large tracts of arable land fifteen and twenty miles from a railway, where the roads twenty or thirty years ago were in excellent order, and cost little to repair, because the farmers never used at that time a single ton of artificial manure, and never carried the whole of the produce to the market town or railway station; but now the farmers carried twenty times the tonnage over the same roads. Was he to be told that engines were not to be used for the purpose of carrying that produce, simply because the increased traffic brought more wear and tear on the roads? He was of the opinion that if the police had been instructed to see that the clauses of the Road Locomotive Acts relating to the loads to be carried upon waggons hauled by steam engines were carried out, no complaints of the damage to roads would have been heard of. The Act states it shall not be lawful for any waggon with wheels 4 inches in breadth to carry a greater weight than 3 tons, or with wheels 6 inches in breadth to carry a greater weight than 4 tons, or with wheels 8 inches in breadth to carry a greater weight than 6 tons. He maintained that front wheels should also run inside the track made by the hind wheels, so as to increase the bearing surface. It has been said, "If engines are to haul this material over the roads, why not make them pay something for it?" But why was not that course adopted also when a contractor was drawing materials to build a large house or a railway? (A VOICE: "We made them pay.") He had seen many cases in which the roads had been cut up from that cause, and very little notice had been taken of it. He could hire twenty waggons and work them by horses over the roads, and yet pay nothing additional to the rates. If they were going in for legislation to put extra burdens on engines hauling an extra amount of material they must also be prepared at the same time to charge the persons who used horses for hauling increased traffic for special purposes, which damaged the roads also. As to the man being in front of the engine or upon it, he had had a good deal of experience, which led him to say that the most frequent cause of accident was through the attempts made to pass the engine, when the driver had not heard the vehicles coming. He thought the man in charge should not be either before or behind the engine, but should

"accompany" it, so as to command the traffic coming both before and behind. As to the strengthening of the smaller bridges, that was supposed to be a hardship, but they might hear of frequent cases where engines were obliged to be sent ten or twenty miles round to avoid a small bridge that might be sufficiently strengthened for £100. He congratulated the gentleman who lived in the county where there were no prosecutions of the engines. He supposed the people must be of a different class to those of other counties (laughter). In conclusion he reminded the Club that these engines could carry material on the roads at from 25 to 50 per cent. less cost than horses could do it, and therefore it was a great question for the agriculturists to turn their attention to an alteration of the law which was now pressing most unjustifiably on the owners and users of these engines.

On the motion of Mr. CALDECOTT, seconded by Mr. HODGES, a vote of thanks was awarded to Mr. Aveling for his paper.

In replying, Mr. AVELING remarked that the firm of Messrs. John Fowler and Co. had spent £100,000 in bringing the invention of these engines to a success; and his own firm had also expended large sums with the same object in view.

A vote of thanks to the Chairman, proposed by Mr. CROSSKILL, seconded by Mr. C. HOWARD, brought the proceedings to a close.

#### TUNBRIDGE WELLS.

On February 8 a special meeting of the above Club was held at the Great Hall Restaurant, for the purpose of considering and discussing the proposed Bill for the fusion of the South-Eastern and London, Chatham, and Dover Railways, and also the Bill to amend the law relating to the administration of county government proposed by Mr. Selater-Booth, Mr. Secretary Cross, and the Chancellor of the Exchequer. Mr. B. BUSS presided.

Mr. T. WILLIAMS, in introducing the proposed Fusion Bill of the two Companies, said that, looking at it from an agricultural point of view, it contained several most objectionable clauses which would affect the farming interests of the two counties. He wished to call their particular attention to Clause 38, under which, if the Bill passed into law, the joint Companies might charge for passengers any distance under six miles as six miles. Then, under Clause 41, they might increase the charge for parcels conveyed for a less distance than 25 miles as much as 25 per cent., which he characterised as monstrous. Then, under Clause 41, which he read as follows: "Nothing herein contained shall render it compulsory on the joint Board or the Company to carry on the railway any night-soil, dung, manure, compost, or other offensive matters," they reserved to themselves the right to carry any manure, so that it would be left entirely discretionary on them whether they conveyed any manure for farmers or not. There were also other objectionable clauses, and he would move the following resolution on the subject:—"Resolved, that having considered the Bill now in Parliament for the proposed fusion of the South-Eastern and London, Chatham, and Dover Railway Companies, this meeting is of opinion that the Bill would take away the benefit of the competition hitherto enjoyed by the people of Kent and Sussex, and would tend by the existence of an undue and injurious monopoly to increase passengers' rates

and the charges for goods traffic, already exceptionally high, and further, seeing that the Bill contains clauses and provisions prejudicial to the interests of the agriculturists of the district by the two Companies, this meeting, therefore, trusts that the Bill may not be permitted to pass through Parliament." Mr. B. WICKHAM seconded this, and it was unanimously carried. Mr. WILLIAMS next proposed, Mr. B. BUSS seconded, and it was resolved that the resolution should be published, and also that a copy of it should be sent to the members of Parliament representing Kent and East Sussex.

Mr. WILLIAMS next introduced the subject of the Bill to amend the law relating to the administration of county business, and in doing so said that he was sorry to say that he had no time to study the various clauses, and suggested whether it would not be better to postpone the discussion. Mr. ROPER said that he had only had an opportunity this evening of looking into the Bill, but it did not appear to him to be of much importance, except that it was a step in the direction of taxation and representation, and, as a tenant farmer, he had taken very little interest in the matter. He said that there was a proposition that the old turnpike roads should be administered by the County Boards, who would pay half the expense, and the other moiety would be paid by the Local Authority—the Highway Boards—as at present. He, however, was in favour of the principle for some years adopted in South Wales, which was the removal of the turnpikes by the Legislature, and dividing the cost of the repair of the roads between the landlords and tenants. He thought that would be a better plan than County Boards, for it was impossible to get on them better and more careful business men than at present. Could they expect, he asked, to get better men on the County Board in East Sussex than Mr. Dodson, the Speaker, Mr. G. C. Courthorpe, Mr. Hussey, and others. Mr. WILLIS could not agree with Mr. Roper in all respects, because he (Mr. Roper), as a member of a Highway Board, knew that the cost of repairing and maintaining roads had very much increased, compared with what the cost used to be. Of course, it was to the landlord's benefit to have good roads made to his estates at the cost of the tenants. Mr. PAIN said that if any one took the trouble to go into the subject of the Bill they would see that it was a very important one. In addition to hearing part of the expense of maintaining main roads, County Boards would have the power of preventing the pollution of rivers. The latter was a very important matter, if not for the people in this immediate neighbourhood it was to others, for many farmers lost sheep through their drinking water which had been fouled by manufacturers turning noxious refuse into rivers. Then again, the County Boards would have the power to form schemes for asylums and schools for imbecile poor and pauper children—an unfortunate but most important subject. The Act also gave the Boards power to elect coroners and borrow money and other things. He therefore thought that the proposed Bill was a subject which should be discussed by the Club. The discussion was then adjourned.

"NOT QUITE THE CHEESE."—British Farmer: "What sort 'o cheese do you call this? Full of holes." Waiter: "Grew-yere, Sir." British Farmer (suspiciously): "Then just bring me some that grew somewhere else!"—*Punch*

## L I V E   S T O C K   N O T E S .

"I say, young man, are you a tidy beggar?" "Certainly (with an air of astonishment at being thus unceremoniously addressed) I am." "Ah! well, I am glad of that, because I am not, more's the pity, but there's one thing still I can heap up upon your neatness. Of course about this time the *decens conjux* will be requiring her kitchen and hen-roosts to be whitewashed. And she's right too, for how are you to look for eggs unless the hens can lay in comfort? Who on earth is going to sit for twenty minutes, however ardent its purpose, with some scores of 'F sharps' lancing hard its—well not its head? It were worse than the 'sweating-rooms' at the Bank! It were as bad as a Home-rule debat!" However, the lime has arrived, quick and knobby. Of these lumps take a selection, and plunge them straight into a bucket of cold water. They'll warm it soon enough. Then wait till the sweating is done, and in an hour's time, of the fine liquor atop, which the phiz has left well saturated, the coarser particles having sunk to the bottom, draw off with a syphon of gaspipe into empty champagne bottles, filling them about three-parts full. For the remaining part pour linseed oil, and then shake it up into a delicious yellow-looking cream. Of all nostrums I know no one more generally useful than this. Plastered with a feather over a burnt surface it takes away the pain at once. I have seen, I have dressed in fact, a little screaming child, who in its mother's absence had pulled a kettle of boiling water over it, and in five minutes it was soothed and comfortable. Cook keeps it always in her cupboard, for she has found how well it draws the sting of casual burns. I wish it were better tested, for I should then keep a pretty bottle of Bohemian glass full of it on the missus's dressing-table, being thankful that a suck could quench fire so quick. But that's out of the question, and so one stores it rather to soothe the surface of blister, to rub into surfeit scalds, to apply on any hot inflamed surface, where the hair of horse or cow has peeled. It immediately relieves of heat, and moreover keeps the cold air off, if the bare surface be considerable, as I saw upon an old cow yesterday.

Reverting to the breeder's power of controlling sex in offspring, I see in Bell's book (page 751) that it was a "characteristic" of "all the Kirklevington tribes" to "have bull calves far in excess of heifers." And yet Mr. Bates had his specific upon the point, which was that "a cow once served will produce a heifer calf, but if twice a bull calf"—a theory to which Lord Althorp, enthusiastic breeder that he was, in correspondence with him, demurred. It seems that as yet we are reduced down to three matters of influence—first, it is beyond doubt that some seasons the one sex will predominate; secondly, some parents have an aptitude to produce the one sex; and thirdly, that weakness in the male, whether from long exercise or age, tends to the production of female offspring. Hereon we stand.

One hears of considerable and veracious mortality amongst young pigs and yearning ewes. Cold strikes to the vitals of juvenile porkers at once, and they unfortunately are no more prudent than the human youngster. If they can't wet their feet in making mud pies, they are sure to do it in their breakfast trough, and then they just go and fall fast asleep with their toes out of the straw, and over against the draughty doorway; and so a twinge of pain comes and they double up at once, leaving only a red stain on skin and bowel to record the cause of the disastrous fact. Then the ewes, owing to the mild season, it is considered by the veterinary profession, have got inwardly so fat that they cannot hold up the weight of the living burden within, and so take in shepherds' language, to "heaving out the withers"—that is, to inversion of the womb. After lambing, this is an occurrence of no great danger. Two men grasping the animal by either thigh and holding her so that she rests upon shoulders on the ground, the womb will slip back to its place at once. It should first have been washed with warm milk and water. A few stitches will then confine it home. Or a ligature may be tied as tight as possible, and as close to the body around the protruded part, which will cause it to slough off in a few days. There will be no bleeding or inconvenience, and the ewe can be fattened as soon as she has reared her lamb. But when inversion of the womb occurs before parturition the ewe can seldom be saved. It is a case in which prevention is better than cure. The short-wool breeds seem to suffer most in this respect, possibly because their aptitude to fatten is greater—just as in milk fever the Guernsey and Alderney cow falls soonest, inasmuch as their tendency to lay on internal fat is more than that of other breeds which are less distinguished for cream. In fact, a stall-fed Channel heifer is "outs" to the butcher. They die so well internally. So it is the deep-milking Southdown feels hardest the consequence of ranging good pasture before lambing. In accordance with this theory the district Vet. has prescribed a shortening of keep, a bare bite, and plenty of walking exercise to find it. And so far as I have heard the discipline answers. One farmer got sadly frightened. His three first yearning ewes all died at once, and six lambs lost with them!

The post is just in, and brings letters which remind that early next month the farmer will have his chance of selecting for a few guineas a noble bull calf for the improvement of his herd, which, but to go back to the days of Towneley, would have cost him a hatful of coin. The able essays in the last *Journal* of the Royal Agricultural Society, being reports on competing farms, mention especially the benefit which has accrued to the tenant farmer through the more venturesome breeder's choice cultivation of the best strains. On a hill-side only yesterday I met in full occupation of the path at the very top a most

shapely white porker, who at once turned tail at view of my horse, and went larking and capering in holiday enjoyment quite as fast as I could trot, until we met his agonised owner, a small cottager, in search of the truant. How different both to keep and to consume will this fat be from the fibrous, stringy meat of the old lank native, and who consumed three sacks of meal for a bushel that our playful friend would take! Thanks for this ultimately to the ingenious Chinese, but more immediately to the purse and pluck of the enthusiastic improver. If he be a benefactor to his country who makes two ears of wheat grow where one did before, assuredly he is no less such who quickens the production of butchers' meat. The facility with which the ordinary tenant-farmer can now-a-days obtain the means of improving his stock is a far surer road to success in these trying times than the having his rent lowered. Let the rich landlords keep sires of the best sort, and not only allow the free use of them to their tenantry, but even oblige it, and pecuniary means will flow into the pocket in a highly increased degree. "Make more of your area" is the advice one would give to the agriculturist. Keep more stock, home-bred, of better sort. You have only to persevere in the use of the bulls and stallions at the Hall. An easy holding has not been found to conduce to energy and its fruit prosperity! There is better sense in the other plan.

On the evening preceding one of the most important Shorthorn sales last year there was great horror at the pertinacity with which a well-known and well-read breeder stuck to the indictment that the American Red Roses have much in them of that plague the Grandson of Bolingbroke? Suppose we were to find this blot in some of the *most fashionable States' tribes*? Would any be surprised to hear of it? It *does occur therein*, however, as I shall shortly show. But, in the next place, why is it that certain schools decried "the alloy" so much? The Warlaby herd has it considerable in its veins, and we don't hear often there "of the dreaded black nose—a stain in pure Shorthorns as foul as an African characteristic would be in the white human race." (Bell.) What did the alloy blood do except smooth down the huggins, shorten the leg, and improve the handling of the old-fashioned Teeswater sort? What was the alloy in Shorthorns any more than the infusion of Eastern blood into the English horse through the "Royal mares?" What has been the making of our racehorse, now that the elements of relative excellence have, under judicious care in the course of years, been thoroughly commingled? And when men talk of "pure blood," is not Foljambe rather to be feared, and Mr. Richard Barker's bull? I throw these remarks out in hopes of a discussion on a subject which sometimes gets quite puzzling to your humble servant.

But I suppose all men don't think alike, for the following comparison of prices made has been just sent me by a breeder:

"Bates' and other bulls (except Duchess and Oxford's), from spring of 1875 to autumn 1877 (from Thornton's Circular).

17 Barringtons	.....	1,169 guineas.	...	68 guineas each.
6 Red Roses	.....	647 do.	...	107 do.
1 Cambridge Rose	.....	—	...	40 uo.
6 Fuchsias	.....	379 do.	...	63 do.
7 Darlington's	.....	434 do.	...	62 do.
13 Knightleys	.....	377 do.	...	29 do.
11 Waterloos	.....	611 do.	...	55 do.
3 Cheries	.....	215 do.	...	71 do.
3 Princesses	.....	183 do.	...	60 do.
6 Kirklevingtons	.....	365 do.	...	60 do.
13 Gwynnes	.....	447 do.	...	33 do.
20 Wild Eyes	.....	1,556 do.	...	77 do."

In another note I read that at Kimbolton 3rd Duke of Underley is coming up with a wet sail, and has a large lot of visitors, including five Grand Duchesses and four Cambridge Roses.

The Berkeley herd is doing well, and will reward the inspection it will doubtless attract during the Bristol Royal Show week. How glad every one will be that the 8th Duchess of Oneida is considered now safe in calf again; and how sorry that the plucky tenant-farmer, Mr. Thompson of Badminton, has an immense proportion of bull calves amongst his choice Darlington herd. We hope it will be all the other way next time. He has the pluck to persevere. I hear of some awkward customers at Bristol, but Col. Kingcote's Honey heifer will be hard to beat. And so Mr. Bowly has determined to sell a Gazelle at his April sale! From personal inspection I can state that this tribe, as an eminent breeder has them now, is very sorty, very deep milking, and full of the best possible character and quality. VIGIL. Feb. 16.

THE DOG NUISANCE IN THE COUNTRY.—A correspondent, who signs himself "A Suffering Farmer," writes to *The Standard* stating that he is the occupier of a farm between a manufacturing town and a manufacturing village, the same being intersected by footpaths in all directions. On week-days, but chiefly on Sundays, these footpaths are used by a set of roughs, accompanied by troops of terriers, lurchers, and other mongrels, who are allowed to range for fields wide to the damage of growing crops and stock grazing. The consequence is that at this time of the year the farmers are obliged to bring the in-lamb ewes into safe quarters. A few Sundays back a lot of ewes grazing in a field adjoining another in which were two footpaths were chased by the dogs, and one ewe, having got separated, was rolled over and bitten in two places. Since then she brought forth three dead lambs, and has died herself. The "Suffering Farmer" asks, Is it not time that farmers had some protection against this, not only by increasing the dog tax to 20s., but also by making it a punishable offence to take dogs on footpaths through fields without being led in a chain? It is also a known fact that a good many men keep these poaching dogs in towns and villages, to the starvation of their families.

## THE WORSLEY HALL SALE.

It was well known that the Earl of Ellesmere had got together at Worsley Hall Stud Farm such a lot of carthorses, taking both number and quality into consideration, as could be found nowhere else in the world, and when it was announced that about half of them were to be sold by auction the sale was recognised as the most important of its kind. The great success which Lord Ellesmere had attained in the prize ring at the Royal and other shows, had given him a world-wide fame, and from all parts of England, from Scotland, and from some foreign countries, visitors trooped to Manchester to purchase, or to see what was to be seen. It is a long journey even from London to Manchester, and as comfort in travelling is by no means to be despised, the Midland Railway, with its luxurious Pullman cars, proved most attractive to the knowing ones who went down on Tuesday—the day before the sale—in order to have a preliminary look at the horses, or at least to be ready for an early start to Worsley on Wednesday morning. Passengers from the Southern and Eastern counties were surprised to see snow lying under the hedges and stone walls on the hills and in some of the valleys beyond Matlock. It had lain there for a fortnight, which as the weather was by no means cold seemed rather strange, though not so strange as to find a little snow left in the enclosed yards at Worsley. On the night before the sale the Queen's Hotel was filled up to its lofty roof with visitors, a large proportion of whom were bound for Worsley. The conversation in the dining and smoking rooms alone told this, and a glance over the visitors' book in the Hall showed the names of well-known breeders and farmers from nearly every county in England. The attractiveness of the sale was obvious.

Wednesday at Manchester was a very nasty day. A thick fog made the great city look more gloomy than usual, and rain fell at intervals. But the people who went to Worsley were not of the sort to melt in a shower, and there was such a great gathering there that the large stand and the rather small sale yard obviously afforded insufficient space for the accommodation of all. Many who did not intend to buy, however, wisely contented themselves with lining the entrance to the sale-yard, where they could see the horses come up to better advantage than in the yard itself. Before the sale commenced there was time to look around, not only at the horses, but at the famous pigs, in their comfortable wooden styes. To a few privileged ones there was also a view of the stud animals, kept for future triumphs; but the mass of the visitors had to be contented with the prospect of seeing these paraded after the sale was over. A large barn was set out with luncheon, but tickets were so liberally issued that it was necessary to have three relays of guests before all the hungry could be filled. The Earl of Ellesmere presided at the principal table, and after the first contingent had made the best use of their time, his lordship proposed the health of her

Majesty the Queen and the Royal Family, which was drunk standing, with cheers. Mr. James Howard, of Bedford, then proposed the health of the Earl of Ellesmere. He said that many noblemen and other landed proprietors spent large sums of money in horse-racing. He had nothing to say against racing, for he liked a thoroughbred horse as well as anyone; but he thought that the improvement of our cart-horses was of greater importance than any end subserved by breeding racehorses. No one who thought at all on the subject would fail to observe in our large towns what a great number of under-bred cart-horses they met at every turn. He thought, therefore, that Lord Ellesmere was doing a public service by turning his attention to the improved breeding of cart-horses, and he heartily hoped his lordship might live to see the good results of his laudable enterprise. The toast having been honoured standing, with cheers, Lord Ellesmere briefly returned thanks. Mr. Street proposed the health of Captain Heaton, of whose management he said he need not speak, as the results of his careful selection and training of the horses there that day were patent to all. Mr. Street also complimented McKenna, the manager under Captain Heaton, upon his attention and skill. Captain Heaton, being absent, could not respond, and the visitors proceeded to take their places on the stand and around the sale-yard.

The arrangements reflected great credit on the auctioneers, Messrs. Sexton and Grimwade, of Ipswich and Colechester, and the Earl had certainly no reason to regret his choice of agents for the disposal of his valuable stock. To begin with, some of the most spirited bidders and purchasers were gentlemen from the Eastern Counties, and it is only fair to attribute the presence of many of them to the extensive local influence of the auctioneers. Then the unadorned eloquence of Mr. Sexton and the business-like promptness and precision of his partner, Mr. Grimwade, told favourably upon the bidders. Mr. Sexton spoke as a good judge of horses to good judges, going straight to the point in describing the merits of the animals he had to dispose of, without any of the excessive and inappropriate "bunkum" that only causes distrust, and imposes on no one. He took his place on the rostrum at about half-past one, and showed that he meant business by knocking down the first mare, No. 2 in the catalogue, quickly to Mr. Ellis, who got her cheap at 75gs. This was Jet, by Heart of Oak, out of a famous mare. Number one, Countess, by Clout, dam by England's Glory, was brought on afterwards, and sold for 45gs, after the frank announcement that she was lame from fever in the feet had been made. Lord Egerton purchased the third mare, Rose, by Wiseman's Wonder, a good, wide mare, supposed to be in foal to Young Sampson, for 170gs. Blossom, a roan mare, six years old, sire Honest Tom, dam by Young Captain

in foal to Young Waggoner, fell to Mr. Ellis's bid of 460gs. She is a mare of good frame and substance, and, like all Honest Tom's stock, a good mover. Beauty, a nine year-old bay, by Wiseman's Wonder, dam by Ploughboy, a mare that has won many prizes, was bought by the Hon. B. Coke for 110gs. She was stinted to Young Waggoner, but is apparently not in foal. The sixth mare, Princess, dam of Young Waggoner, a very useful mare, with plenty of bone, was bought by Lord Spencer for 110gs. Lord Spencer also bought Black Dinah, a handsome six-year-old mare by Farmer's Glory, and very cheap she was at 130gs. On the next lot a reserve of 400gs. had been put, the only reserve in the sale. This was Dainty, a well known prize-taker, formerly the property of Mr. Black, of Chatterays. She was not sold. The famous Mrs Muir came next, and, after some spirited bidding, was knocked down to Mr. Wilson, Oxenholme, Kendal, for 165gs. Mrs. Muir, we must say, in spite of her great reputation, has a little too much daylight under her, a fault that seems to be exaggerated in her offspring. She has, however, won five Royal prize, besides numerous others. Another well-known mare, Diamond, formerly Mr. Tomlinson's, and the winner of a long list of prizes, was bought by Lord Spencer for 100gs., not being in foal. She is twelve years old, and so past her prime, but a beauty still, and a mare that will well repay her purchaser if she can be got to breed. The last mare, Bonny by Honest Tom, dam by England's Glory, third at Liverpool, fell to Col. Williams, of Perthshire, for 140gs. after some brisk bidding.

The fillies came next, and Dora, a good, thick, short-legged one, by Young England's Glory, dam by Samson, was bought for Shropshire by Mr. Darby, at the price of 190gs. She is rising 4 years, and in foal to Wayman's Excelsior. Polly, a stylish but rather leggy filly, rising 3, by Wiseman's Wonder, was bought by Lord Macclesfield for 100gs. Next came Maggie, a promising bay, by Battock's Drayman, dam by England's Glory. She was knocked down to Mr. Garrod Taylor, who was present for Mr. Coleman, of Norwich, for 100gs. Mr. Wilson bought Empress, a rather plain filly, and none too big, but a good mover, well feathered, for 85gs. Poppet, the last of the fillies rising 3, by Heart of Oak, dam by Young Matchless, fell to Lord Egerton for 95gs. She has plenty of quality, but lacks rotundity. There was a brisk competition for Dolly, a bay filly, rising two, by Welsher's Honest Tom, dam by Columbus, and she fell to Mr. Statter's bid of 125gs. She is a nice growing filly, and will improve immensely when filled out, and she is a good mover, but her colour is against her. She has already won several prizes. Topsey, a black, by Heart of Oak, dam by Nonpareil, was bought by Mr. Sadler for 80gs. Bonnie, a good big brown filly, by Samson, dam by Honest Tom, was bought well worth the money, by Mr. James Howard, of Bedford. The grey Daisy, sire England's Wonder, dam Mr. Vipan's prize mare, was run up to 115gs. by the competition of two or three resolute bidders, and ultimately fell

to the Duke of Westminster, for 115gs. Sally, a bay, by Excelsior, went to Mr. Williams, of Ormskirk, for 70gs.; and Gipsy by the same sire, a well-shaped filly, went into Staffordshire, bought by Mr. C. E. Lyon, for 100gs. Of the fillies rising 1 year, Nan, by Young Waggoner, was sold to the Duke of Westminster for 45gs.; Miss Muir Second fell to Mr. Statter's bid of 70gs.; Flower, for the same price, was bought by Mr. Hood, of Kirkcudbright; Violet brought 55gs. from Mr. T. Benton; Dinsel was bought by Mr. Garrod Taylor, for Mr. Coleman, for 45gs.; Belle went to Barrow, Bury St. Edmunds, bought by Mr. Johnson for 43gs.; Deborah, a great growing filly, rather hollow in the back, was sold for 80gs.; and Diana, by Columbus, was knocked down to Mr. Fullard, of Thorney Fen, for 41gs. A coaching colt and a carriage horse were sold next to Mr. B into 1 for 30gs. and 50gs. respectively.

Next came the stallions, and when Columbus, by The Admiral, dam by Brown's England's Glory, g. s. Matchless, and going back to the Honest Tom and Bingham's England's Glory, came into the ring and began to show himself off as if he knew his business, a murmur of admiration went around the assembly. The bidding was more spirited than any before, and the price quickly ran up to 220gs., when there was a pause; but another walk past accompanied with some further graceful performance on the part of the artful Columbus, quickly ran him up to 250gs., and ultimately he was knocked down to Mr. James Howard for 290gs. He is a magnificent horse, compact, powerful, with good bone and hair, and a fine mover. He stands 16 hands 2 in., and therefore is not a giant; but it is rare to find so many merits in one animal as he possesses. He is the sire of many noted prize-winners, and is said to be a remarkably good stock-getter. We congratulate the farmers of Bedfordshire upon their acquisition. Next came Royal Oak, a brown horse of great substance, by Thacker's Heart of Oak, dam by Old Waxwork, g.g.s. England's Glory. He was bought by Mr. Scratton for the Devonshire Association, to whom he is likely to give good satisfaction. He is now only rising five, and he was first at the Cambridgeshire Show in 1876. Lot 34 was Young Waggoner, a well-known prize-winner, first at Birmingham, Yorkshire, and Doncaster, a massive horse, rising four years old. His sire was Shepperson's Waggoner, dam Princess, g.s. Black Prince, and his pedigree goes back to Thumper and Honest Tom stock. He was quickly run up to 300gs., at which price there was a rest. Then some one advanced 10gs., whereupon Captain Betts, of Diss, immediately put a stopper on by a spirited bid of 350gs., which apparently startled Young Waggoner himself, as he instantly began to throw up his hind feet in a somewhat alarming manner, as if to say that he would go to wait upon the Norfolk mares, or some one would suffer. Roving Boy, rising three, a bright bay, sire King Errick, dam by William the Conqueror, and with Honest Tom and England's Glory blood in his veins, was bought by



Colonel Williams for 240 gs. Mr. Harvey, of Boxted secured for Essex a grand, compact horse, rising three, in Duke of Cambridge, by Heart of Oak, dam by Young England's Glory, knocked down at 230 gs. This horse was first at the Pomona International Horse Show. Honest Tom Third, by Morton's Honest Tom, a handsome bay, rising three, with not quite bone enough below the knee, but a beauty for all that, and a fine mover, was the occasion of some spirited bidding. He was knocked down to Mr. Wilson, of Boppard, Dumfries-shire, for 310 gs. Tom Muir, by Statter's King Tom, dam Mrs. Muir, was bought for 135 gs. by Mr. Everitt, of Hadleigh, Suffolk. He is a tall giant and no mistake—too much so for most people's liking.

The entire colts rising two years old caused a good deal of competition. The first, Cambridge Tom, by Bultitaf's Honest Tom, a noble colt and a capital mover, was taken into Essex by Mr. Sewell, of Beaumont Hall, for 290 gs. Good for Essex again. Thumper, sire Remedy, was bought by Mr. Benton for 50 gs. Samson, by Young Samson, dam by Thacker's Heart of Oak, a very promising colt, with good legs and feet, and plenty of "bone and feather," was evidently much in request. Lord Spencer secured him for 280 gs. The colt which made the highest price of any horse in the sale, and the dearest we think, was Peeping Tom, by Statter's King Tom, which Lord Macclesfield bought for 370 gs. This colt was put in the place of Emperor, withdrawn on account of lameness, and the competition for him was probably enhanced by the idea that he was intended to be kept for stock at

Worsley until it was found necessary to put him in to take Emperor's place. A gentleman who was bidding for Mr. Micklethwaite was Lord Macclesfield's chief competitor for this colt, and the latter part of the bidding was a brisk duel between the two. Of the colts rising one year we need not say much. Prince Victor sold for 115 gs. to Mr. Bell, of Dorsetshire; Tom's Glory for 65 gs., to Mr. Ellis, of Norfolk; Sultan for 43 gs., to Mr. Saller, of Horseley, near Colchester; British Oak for 85 gs., to Mr. Lyon; and the Shah for 43 gs., to Mr. Ellis.

After the sale the stud stock kept by Lord Ellesmere for his own use and for service in the district were paraded, and occasioned great admiration. The stallions, Young Samson, Pride of the Shires, British Wonder, and Heart of Oak (Thacker), made a grand show, while the mares were a magnificent lot, especially one four-year-old, which many good judges declared was the best they had ever seen. It was obvious that Lord Ellesmere had not kept the culls.

The following is the summary of prices in pounds sterling instead of guineas, excluding the reserved mare:—

	£	s.	d.	total	£	s.	d.
10 mares averaged...	126	10	6		1,265	5	0
19 fillies " ...	87	16	3		1,638	9	0
7 stallions " ...	248	5	0		1,737	15	0
9 colts " ...	153	9	0		1,408	1	0
—							
45 horses " ...	135	2	0		6,079	10	0

The two coaching horses realised £80, thus making the total amount £6,159 10s.

## A SEED WAREHOUSE IN COTTONOPOLIS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Christmas time and its pantomimes, the visiting of friends, and a general consciousness of holiday-time being on, often induce country folks at this season of the year to visit the busy haunts of commerce—our large cities and towns. A few days ago I found myself guided by this principle, and was strolling about in the neighbourhood of the Manchester Exchange. Passing along Corporation-street, which is on the opposite side of Market-street, I came to the agricultural and horticultural seed warehouse of the well-known northern seedsmen, Messrs. Dickson, Brown, and Tait. All things agricultural naturally have an attraction for me, and I stepped inside the warehouse, just to have a look at varieties and stocks, and to refresh my memory on certain details relating to the seed trade in its bearing on agriculture. A member of the firm, Mr. Tait, very kindly placed himself at my disposal for an hour or two, and this was no slight kindness, considering that this is the busy season in the seed trade; and we went carefully through the various departments of the business.

Not being a gardener, and having but an inferior talent for horticultural pursuits, I naturally was most interested in the agricultural seed department, and this was not only interesting, but in a sense wonderful. Few farmers have any correct ideas about the great establishments

which are sustained by and necessary to agriculture—to the advanced agriculture of the present age. Of course, our grandfathers had little or no need for carefully selected and cultivated seeds—seeds of families in which "pedigree" is thought almost as much of by those who make agricultural botany a practical speciality as pedigree is valued by our Skorthorn breeders; and thus careful breeding is reduced to a science, not in the animal world only, but also in the vegetable, and the care and exactness which are necessary to procure a desired result in the one department are equally necessary to success in the other. It can pay no farmer nowadays to seed down his land, either into temporary or permanent pasture, with the grass seeds too many manage to scrape together in their own barns and sheds; but our forefathers used nothing else—in fact, there was then no seed trade as it exists at present. Like many other wonderful industries—the artificial manure trade, for example—the seed trade is a production of modern times, and is indispensable to the agriculture of the present day. Just look back for a moment on the old times, when our farmers either seeded down their land with seeds collected on their own premises, or allowed the land to seed itself down as best it could. Then all the inferior grasses, including couch-grass, *triticum repens*, and many other weeds, were of

course perpetuated. The farmer thought the kinds of grasses which grew in his meadows were the best possible to seed down his arable land with, though the meadows in many cases were low-lying, undrained marshes, growing very few if any of the superior grasses, drowned with water, and overrun with rushes and various aquatic plants. From seeds selected from such sources no good result could possibly follow. But now all is changed: the exigencies of an improved system of agriculture, increasing rents, taxes, and labour bills have made it simply necessary to the farmer that he should sow only those seeds on his high-farmed land which will yield the best return. It would be an unpardonable piece of agricultural heterodoxy for a man to farm highly, so far as cleaning, cultivating, sub-soiling, and manuring the land are concerned, getting his land into the best condition, and then to sow upon it inferior and ill-bred seeds, which in the botanical world are regarded quite as much as vermin as rats and rabbits are so regarded in the animal. But to go on with what I saw:

In the warehouse, the agricultural department—the mixing establishment that is—is very interesting. Here are huge piles of sacks full of seeds, in some instances containing hundreds and even thousands of bushels, the various kinds, clovers, rye grasses, and other valuable forage plants being piled up in separate divisions as they come in from the growers, and preparatory to mixing. The mixing of these seeds is an important, a most important, part of the business. The peculiarities of different soils and districts are well known beforehand, and only those grasses which will flourish best on a given soil are made up into mixtures which are specially designed for that particular soil and climate. Some grasses flourish luxuriantly on a limestone soil, which will quickly die, or not even germinate, on a clay soil; and certain forage plants (for instance, *trifolium incarnatum*, which is valuable in the southern counties, but is found unsuited to the northern) are suited to a given climate, and will not be found profitable in any other; these, of course, are sent only into those districts where they are known to answer well. It is wonderful at first sight where all these seeds are sent to; but when we are informed that the trade of this firm extends—like that of other great seed houses—to nearly all the counties in England and Scotland the wonder vanishes. And yet the figures are startling. Making a calculation of the stocks of grasses and clovers at present on hand, I compute that at a fair calculation there is enough to cover 20,000 acres. The Italian rye grasses are imported direct from the best growers in Italy and France, in which countries better seed is produced than in England; and the perennial rye grasses are grown in the county of Ayr, Scotland, which is noted for this particular production.

In the case of all seeds, it is an obvious gain to the farmer to have them from the best district—healthy and full of vigour. On this the crop to a great extent depends. As in the animal, so in the vegetable world—it is necessary to breed from a good stock, or all is vanity and vexation

of spirit. Well, these seeds are all produced in the districts best adapted to each of them, and thus a result is secured which gives satisfaction to the farm and the seedsmen alike.

Turnip seeds form a very important branch of this firm's business, and special care is bestowed in this procuring of reliable stocks, grown from transplanted bulbs; and as each stock comes into the warehouse its germinating powers are thoroughly tested and registered, and this safeguard is carried out every season. They personally test the stocks sent out to their customers by sowing samples of the different varieties on a piece of land several acres in extent in the neighbourhood, and from these experiments are carefully noted in the course of the growing season the results as to form, correctness of character, &c.; and this information is registered in a stock book kept for the purpose. I give as an example the record of their improved Swedish turnip: "Sown May 5th, 1877; examined September 27th, 1877. Report—Splendid stock, shape good, dark purple, good crop." This was done in the case of all stocks of turnips and mangel seeds sent out last season.

It is also worthy of notice the care that is taken to prevent the possibility of a mistake in sending out rape seed instead of turnip seed. A part of the warehouse is boarded off for rape seed alone, and there is a separate entrance into this portion, so that no order for rape seed is executed where turnip seed is stored, thereby preventing the possibility of a mistake. Rape and turnip seeds, as every farmer well knows, are so similar in appearance that no one but an expert could at sight tell one from the other, and even an expert might fail in deciding between them sometimes, and as it is a matter of considerable importance to a farmer not to have the mistake committed it is commendable on the part of this firm to take such precautions against the occurrence of an error, and to place it almost beyond the bounds of possibility.

The firm give equal attention to the other departments of their business—the vegetable and flower seeds, bulbs, &c.—in each of which a considerable trade is done. The entire establishment, in fact, is full of interest to the farmer, and well repays a visit; and to speak from the manner of my own reception, I can assure my agricultural friends that they will meet with every courtesy at the hands of one or other of the members of the firm, and that they will come away not only satisfied and interested with what they have seen, but where these large quantities of seeds are produced, and where they are sent to. If every firm took equal pains to produce the best stocks from the best districts, and of the purest blood, so to speak, and also free from weeds and all other foreign matter, I may venture to say there would be fewer instances of disappointment, annoyance, and vexation among the farmers who purchase all the seeds of dealers, trusting to them for supplying a pure, authentic, and genuine article. I am, sir, &c.,

J. P. SHELDON.

Sheen, Ashbourne, January 22.

## AGRICULTURAL SOCIETIES.

## HIGHLAND AND AGRICULTURAL.

The annual meeting of the Highland and Agricultural Society was held on Wednesday, Jan. 17, in the Society's rooms, George IV. Bridge. Mr. Hutchison, of Corriowie, senior director present, was called to the chair.

**DECEASED MEMBERS.**—The Chairman said: Before proceeding with the usual routine of the business of this meeting it is my painful duty to advert to the very sad and unexpected intelligence received to-day of the death at Venice of our honorary secretary, Sir William Stirling Maxwell. This is not the time, before the illustrious dead is conveyed to his last resting-place, to move any formal resolution. That is a matter which must remain over till the next general meeting of the Society; but it is impossible to pass over the sad intelligence in silence, and I am certain the meeting unanimously mourn the loss the Highland Society and the country has sustained by the death at such an early age of one of the brightest ornaments of our nation. Sir William Stirling Maxwell was the honorary secretary, and was elected to that office exactly ten years ago. It is further my melancholy duty on this occasion to record the names of some of the more prominent members who have been taken from us by death during the past year. Amongst those I shall mention the name of Lord Kinnaird, who in former years held with much acceptance the offices of extraordinary director and vice-president, and was often a prominent exhibitor and successful prize-taker at the Society's general shows. The next name I have to record is that of Lord Middleton, who, though principally resident in England, took a lively interest in the welfare of the Society, and was also an exhibitor at the general shows. Another well-known member who has been taken away is the Right Hon. R. C. Nisbet Hamilton, who held the offices of extraordinary director and vice-president.

A long list of other members who have died during the past year was also given.

**PROGRESS OF THE SOCIETY.**—The Chairman then said: Although we have to mourn the loss of many well-known agricultural gentlemen who have been useful members of our Society, we have made acquisitions in the shape of new blood, and I would only, for the sake of showing progress, call attention to certain figures extending over the twelve years in which our excellent secretary has had the management of affairs:—Membership—January 1873, 4,600; January 1877, 3,924—increase, 676. Income from invested capital, 1876-77, £2,631 9s. 9d.; 1866-67, £2,105 11s. 11d.—increase, £525 17s. 10d. Annual and life subscriptions—1876-77, £1,921 18s. 6d.; 1866-67, £1,571 17s.—increase, £350 1s. 6d. Premiums at general shows—Dunfermline 1878, £2,733 16s.; Glasgow 1867, £1,600—increase, £1,133 16s. The attendance at shows and interest taken in the exhibitions have also largely increased.

The names of 121 new members were read.

**NEW OFFICE-BEARERS.**—The following noblemen and gentlemen were elected office-bearers to fill vacancies:—Vice-Presidents—Earl of Dalkeith, K.T., M.P.; Earl of Galloway; Earl of Stairs, K.T.; Lord Herries. Ordinary Directors—Lord Polwarth, John H. Deane, of Conistorphine; James Maxtone Graham, of Redgorton; James Hope, Dalhousie;

James Kennedy, of Sundaywell, Brandleys, Saugular; Charles Scott Pannier, of Sanderland Hall; Andrew Riston Glamis. Extraordinary Directors—Robert Vans-Agnew, M.P., of Barabarroch; W. F. Carruthers, of Dormont; John Glechrist-Clark, of Speddoch; Patrick Badger, of Cargen; Robert Jardine, of Carlemilk; Christopher Johnstone, Dunwoodie Lodge; Wellwood H. Maxwell, of Munches; Mark John Stewart, M.P., of Blairderry; Lt.-Col. George G. Walker, of Crawfordton.

**ACCOUNTS FOR 1876-77.**—Mr. MURRAY, of Dallerie, laid the accounts for 1876-77 on the table, and moved their approval.

Mr. OSWALD, of Dunnikier, seconded the motion, which was adopted.

**EDINBURGH SHOW, 1877.**—Colonel GILLEN, of Wallhouse, said: I have, on the part of the directors, to congratulate the Society on the success which attended the great meeting held at Edinburgh on July last. The result cannot fail to be regarded as in a high degree satisfactory, and affords the earnest of the progressive improvement of this important part of Scotland. The interest excited among all classes was perhaps without precedent in Scotland; the show-ground was crowded with highly respectable visitors. The days of the show being remarkably fine added greatly to the effect of the whole proceedings. I have further, on the part of the board, to recommend that the acknowledgments of the Society be conveyed to the local committee for the zealous and able discharge of the arduous duties devolving upon them, and to the Lord Provost, and magistrates, and Town Council, who afforded every facility in forwarding the object of the meeting. The resolutions I have to move are in the following terms:—1. That the thanks of the Society be tendered to the most noble the Marquis of Lothian for his attendance as president at the general show at Edinburgh, and for the interest manifested by his Lordship upon that occasion in promoting the objects of the Society, and for the zeal and success with which he occupied the chair at the President's dinner. 2. That the thanks of the Society be tendered to the Right Hon. the Earl of Dalkeith, Vice-president of the Society, for the efficient services rendered by his Lordship, particularly in discharging the duties of crozier at the President's dinner. 3. That the thanks of the Society be tendered to the Commissioners of Supply for the counties of Edinburgh, Haddington, and Linlithgow for the liberality with which the auxiliary fund was provided. 4. That the thanks of the Society be tendered to the Right Hon. the Lord Provost of Edinburgh, and the other civic authorities, for the zealous and effective co-operation afforded by them, and particularly for the use of the West Meadows for the purpose of the show. 5. That the thanks of the Society be tendered to Robert Dundas, Esq., of Arniston, convener of the Local Committee elected by the counties of Edinburgh, Haddington, and Linlithgow, and to the individual members of that committee, for their exertions in carrying into effect the various arrangements connected with the meeting.

The report was adopted.

**DUMFRIES SHOW, 1879.**—Colonel GILLON, continuing, said: Although the past show at Edinburgh may have exceeded all the preceding ones, I have much pleasure in reporting that from the liberal support the Society has experienced from the counties connected with the district of the show to be held at Dumfries on the 30th and 31st July and 1st and 2nd August next, the premiums will surpass any heretofore offered. The amount of the whole premiums will not be less than £2,763, apportioned as follows: Cattle £986, horses £703, sheep £424, wool £20, pigs £93, poultry £135, dairy produce £115, implements, say £80; Tweeddale gold medal, £20; two silver cups, £50; medium gold medals to former prize animals, say £90; six silver medals to breeders of best aged bulls and best stallion, £4 16s.; extra stock, say £40—total, £2,763 16s. Among the changes which have taken place in the arrangements I may advert to the following:—1st, Strong loose boxes will be provided for stallions and three and two years old entire colts, in which they can remain all night; 2nd, That instead of requiring all new inventions and improvements to be placed in the yard by themselves these articles are to be inserted in the catalogue at the head of each exhibitor's entry, and must be arranged by him at the beginning of his stand according to the numbers in the catalogue. Mr. Maxwell, of Munches, has been named convener of the Local Committee, and I believe he has accepted the office. Messrs. Wilken, Tinwald Downs, Clark, of Culmain, Biggar, Chapelltown, and Matthews, Whitehills, have been appointed a committee to arrange the day for the competition of thoroughbred stallions, and to take the management of the horse after he gets the prize. A site for the showyard has been selected on the estate of Rochell as the most convenient. The fields are level, and water can easily be obtained. It is fully believed, taking everything into consideration, that a more suitable site could not be found in the neighbourhood.

The Hon. G. WALDEGRAVE LESLIE said he understood that an application had been made by the Dumfries Temperance Company to have a temperance stall in the show. He wished to know if the directors were to comply with the request. It was not a matter of the Permissive Billites, but of doing good in the way of reducing the amount of drinking.

The SECRETARY (Mr. F. N. Menzies) said that the subject was before the directors. A site for a stall had been granted, and he had no doubt the conditions would be agreed to. The report was then adopted.

**PROPOSED SHOW AT PERTH IN 1879.**—Colonel GILLON further said: I have, lastly, to report the proceedings taken upon an application for a general show at Perth in 1879, for the district comprising the eastern division in Perthshire, western division in Forfarshire, Fifeshire, and Kinross-shire. The subject was brought under the consideration of the directors in November last by requisitions numerously signed, when feelings very favourable to entertaining the application were manifested by the Board of Directors, who remitted to the General Show Committee to suggest the classes of stock. The list so prepared was subsequently considered by the directors, and was laid before a meeting of members held at Perth on the 28th December last, when various suggestions were made, which were afterwards considered by the directors. I have now to submit the list as finally adjusted, and to move that the meeting approve of the show being held at Perth in 1879, and that the directors be authorised to enter into the necessary arrangements.

The report was adopted.

**CATTLE DISEASE.**—Captain TOD, of Howden, moved that the petition circulated by the Central Chamber be adopted.

Mr. THOMAS RIBBELL, of Meuslaw, moved:—“That this Society memorialise the Government to give effect to the cattle diseases report, and to the recommendations founded thereon with this exception, that instead of the recommendations that all cattle imported into this country shall be slaughtered at the port of debarkation, it shall be limited to cattle coming from countries where disease is known to exist, and that all cattle coming from countries where no disease is known to exist shall enjoy the same advantages as healthy home-bred stock.”

Mr. G. S. DOUGLAS, Edinburgh, seconded the amendment.

After some conversation, the motion was agreed to, two only voting for the amendment.

**COTTAGE COMPETITIONS.**—Mr. CAMPBELL SWINTON said: In the absence of Mr. Maxwell Inglis, of Loganbank, I have to report that during last year the Society's money premiums or medals have been in operation in seventeen districts, and that competition took place in the whole. The sum awarded in money and medals was £38 3s. 6d. The details of the different awards will be given in the next volume of the Society's Transactions. For the present year the directors propose twelve parishes at £3 and four medals each, and ten districts at two medium silver medals each; the gold medal to the proprietor in Scotland who shall report the improvement of the greatest number of existing cottages during the years 1875, 1876, and 1877; the gold medal to the proprietor in Scotland who shall report the erection of the greatest number of approved cottages during the years 1875, 1876, and 1877—making the total sum offered under this head £80 13s.

The report was adopted.

**CHEMICAL DEPARTMENT—EXPERIMENTAL STATIONS.**—Mr. MACKENZIE, of Portmore, said: I have much satisfaction in reporting that during the last six months considerable progress has been made in regard to the experimental stations. The two plots of ground at Longniddry and Pampherston, which have been selected for the stations, are now in the possession of the Society, and are being prepared for cropping; and the scheme of experiments has been carefully revised, and in some respects altered; and in its revised form it will presently be laid before this meeting by Dr. Aitken for approval. With reference to the conditions under which the land for the stations has been obtained by the Society, I may mention that a minute of agreement between Lord Wemyss and Mr. McLagan, M.P., respectively, on the one part, and the Society on the other part, has been prepared and approved of by the directors. It is generally in terms of the resolution of the general meeting in January last, but upon one point the following difference occurs, viz., that whereas it was then arranged that proprietors who might give land for experimental stations rent free were to receive gratis the portion of the crop not required for the purposes of the experiments, it has been now arranged that a money rent shall be paid, and the proprietor of the land shall have the first offer of the surplus crop at market prices. This was considered a more business-like arrangement, and Lord Wemyss and Mr. McLagan have cordially agreed to it. The sanction of the Society to the alteration is now requested. The two stations have been surveyed and measured and laid off into plots of equal size. At last general meeting reference was made to the wish of the Marquis of Tweeddale to have a third station established at Yester. In accordance with his Lordship's desire, a sub-committee, consisting of Messrs. Melvin,

Bonnington; Smith, Whittinghame; Smith, Stevenson Maids; and Swinton, Holyn Bank, and accompanied by Dr. Aitken, visited Yester, and inspected several fields. They reported of one of them that it was well suited for an experimental station; but, having regard to the fact that practical experience of the expense of these stations is wanting, the committee do not feel justified in recommending the establishment of this third station in the meantime. They will, however, bear the matter in mind, and they are much indebted to the Marquis of Tweeddale for his kindness. The question of expense has, however, been carefully considered, and it will be satisfactory to the Society to know that, in the opinion of the committee, which consists largely of practical agriculturists, the total cost of the stations will be well covered by the amount placed at our disposal. They hope to be able to report at this time next year that it has been so. I now beg to move the adoption of this report.

Dr. AITKEN, chemist to the Society, gave a detailed account of the experimental stations, and the work proposed to be done at them. Our report of it is held over.

The Hon. G. WALDEGRAVE LESLIE asked whether the Society intended to ask their chemist to analyse seeds, and then to publish the names of those who sold spurious seeds, as had been done by the Royal Agricultural Society of England.

The CHAIRMAN said that the subject had been before the directors, but no decided course of action had been adopted. The matter would not, however, be lost sight of.

TRANSACTIONS FOR 1878.—Mr. IRVINE, of Drum, said: I have to report that the forthcoming volume of the Society's Transactions will contain as many of this year's prize reports as will make the volume the usual size, with the proceedings at board and general meetings, and the Premium Book for the current year.

AGRICULTURAL EDUCATION—BYE-LAWS AND BURSARIES.—Professor WILSON moved the approval of certain alterations in the bye-laws, which had been notified at two meetings of the Board of Directors, and were unanimously approved of at last general meeting (Approved). On the subject of bursaries he reported that the examination of candidates for the Society's bursaries was held on the 31st October, when John E. Nounen, Edinburgh, and George Wilson, Edinburgh, passed for bursaries of £20 each, and George Harold, Caithness; James Miller, Caithness; and John Geddes Mackintosh, Edinburgh, for bursaries of £10 each.

VETERINARY DEPARTMENT.—Captain TOD, of Howden, said he had to report that the preliminary examination for students for the Society's veterinary certificate was held on the 10th and 11th of July, when 21 students entered their names for examination, and 13 passed.

AGRICULTURAL REPORTS—PREMIUMS AWARDED IN 1877.—Mr. MACKENZIE, of Portmore, reported that the following premiums had been awarded in 1877: £30 to Duncan Clerk, writer, Oban, for a report on the agriculture of the county of Argyll; £10 to the Rev. John Gillespie, Monswald Manse, Dumfries, for a report on the Galloway breed of cattle; £10 to George Armatage, M.R.C.V.S., Hertford, for a report on hoose or husk in calves and lambs; £10 to George Armatage, M.R.C.V.S., Hertford, for report on strangles; £10 to J. B. Smyth (forester), Duff House, Banff, for a comparative return from capital invested in cropping, grazing, or planting land upon hill or moorland; the minor gold medal to James McDonald, *Scotsman* reporter, Aberdeen, for a report on American agricultural colleges.

PREMIUMS OFFERED IN 1878.—Mr. MACKENZIE further reported that the following premiums would be offered in 1878:—On the agriculture of the counties of Clackmannan and Kinross, £20; on the agriculture of the county of Sutherland, £30; on the agriculture of Bute and Arran £30; on the history of leases of lands and farms from the earliest times, £25; on the physiological distinctions in the condition of the Scottish peasantry, £30; on the system that best provides a sufficient supply of labour during press of agricultural work, £10; on the results of experiments for fixing and retaining the volatile and soluble ingredients in farmyard manure, £20; on the advantage of ploughing-in manure at once on being spread, £5; on manures produced by different kinds of feeding, £20; on manure made with and without cover, £20; on improved varieties of agricultural plants, £50; on the cultivation of cabbage as a field crop, £10; on the insects which prey upon agricultural plants, £20; on the vegetable productions of India, China, and America, £10; on the adulteration of agricultural seeds, £10; on the wet season of 1877 and its effects on vegetation and crops generally, £10; on the best modes of housing fattening cattle, £20; on the comparative advantages of grazing cattle and sheep together or separately, £10; on different descriptions of food for stock, £20; on the Cheviot breed of sheep, £10; on the breeding of horses for road or field, £10; on the adaptability of the various soils to the rearing breeding and rearing of horses, £10; on the effect of sewage upon the animal system, £10; on a description of any scheme whereby town sewage has been successfully utilised for irrigation in agriculture, £20; on animal parasites, £20; on rural economy abroad susceptible of being introduced into Scotland, £10. Estate Improvements.—On the general improvement of estates by proprietors, £10; on the most approved farm buildings by proprietors, £10; on the reclamation of waste land by tillage by proprietors or tenants, £10, £10, and £5; on the improvement of natural pasture, without tillage, by proprietors or tenants, £10 and minor gold medal. Machinery.—On the invention or improvement of implements of husbandry, £50; on the best and most approved cattle truck for feeding and watering the animals in transit, £20.

FORESTRY DEPARTMENT.—PREMIUMS AWARDED IN 1877.—Professor BALFOUR reported that the following premiums had been awarded in 1877:—The gold medal to Sir Simon Macdonald Lockhart, of Lee and Carnwath, Bart., for planting on the estate of Carnwath. The medium gold medal to Robert Hutchinson of Carlowrie, Kirkliston, for a report on the Abies Menziesii, and its value for planting in Scotland. The minor gold medal to James Duff, forester, Bayham Abbey, Kent, for a report on the utilisation of waste forest produce.

PREMIUMS OFFERED IN 1878.—Professor BALFOUR reported that the following would be offered in 1878:—On extensive planting by proprietors in Scotland, £10; on planting on peat bogs, £5; on forest trees of recent introduction, £5; on the *pinus nobilis* and its value for planting in Scotland, £5; on the varieties of trees best adapted for planting as shelter in the islands of Scotland, £5; on the growth and cultivation of willows in Scotland, £5; on the old and remarkable Spanish Chesnuts in Scotland, £10; on the cutting and transport of firewood, £5; on the cultivation in Scotland of charcoal-producing plants, £5; on the cause of ring-shaking in trees, £5; on the woods, forests, and forestry of Perthshire, £10; on the woods, forests, and forestry of Ross-shire, £10; on the woods, forests, and forestry of Inverness-shire,

£10; on the comparative advantages of high forest and coppice, or coppice with standard trees, £5 on the utilisation of waste produce of forests and woodlands for making an artificial fuel, £10; on insects most injurious to forest trees, £20

On the motion of Admiral Sir WILLIAM HOPE JOHNSTONE a vote of thanks was given to the chairman; and the proceedings terminated.

## FARMERS' CLUBS.

### IXWORTH.

At a meeting of this Club, held on Monday, Jan. 14, the President, Mr. Edward Greeuc, M.P., occupying the chair,

Mr. J. FISON, Barningham, who was too unwell to be present sent a short paper on the subject of "The Best Mode of Cultivating Barley," which was read by Mr. W. Manfield, Ixworth Thorpe.

The paper pointed out that, for the purposes of barley growing, one good deep ploughing should suffice. Too much was frequently done to the land for that crop. The action of frost in the winter months upon heavy land was commented upon, and was spoken of as having a very vivifying effect. A second ploughing he thought a mistake, but recommended the use of a Colman's cultivator, which, he said, left the land in a fit state to receive the crop. Great care should be exercised in selecting good plump seed.

The discussion which followed the reading of the paper was opened by Mr. Manfield, who pointed out, with regard to the observation that too much was often done to the land for the barley crop, that there was a great difference between light and heavy land. With respect to the latter, if turnips were fed off early, and the land was not in a very good state, he considered a second ploughing beneficial. But one ploughing early in the season was undoubtedly much better than two or three later on. Feeding sheep on the land, especially with cake, often did more good than a second ploughing. All the seed sown should be as good as possible. He last year sowed barley which he purchased at 2s., and was perfectly satisfied with the result. Other speakers characterised a second ploughing as frequently throwing away the labour of men and horses; and as to the quality of the seed, it was said that it could not be too well dressed, especially if there was a tendency to growing. Mr. A. Hensby said he did not care so much about the seed being thin if the stock was right. Mr. Barrett said he had noticed the results of the finest seed, more particularly in potatoes and horticultural seeds; and in the case of potatoes he had observed that the medium quality often produced the best crop. He mentioned the desirability of farmers using the utmost caution as to the seed they used next year, as much of the corn was got up in such a damp state that the stacks heated, and a good deal of that kind of corn would not grow at all. Mr. Blyden recommended ploughing after Christmas as the best, as there was then the probability of the frost having a beneficial action. Several gentlemen alluded to the question of tying the barley in sheaves. Mr. Barrett remarked that he had tried tying oats, but his experience was that it was extremely difficult to secure a thorough drying if the sheaves were once exposed to the wet, and he apprehended the same result would follow the tying of barley. Mr. Blyden, on the other hand, said he had 40 acres tied up, and he found it answered well. He should certainly recommend his brother farmers to make a trial, firmly believing that they would be in favour of the practice. The President observed

that the practice was general in Lincolnshire. He asked whether it was possible to obtain as good a layer by ploughing once as by ploughing twice. He could not obtain a good layer without ploughing twice.

Mr. MANFIELD, in replying to the whole discussion, observed that there was no doubt considerable advantage to the layer in ploughing a second time. As to the question of sowing seed, there was no doubt that two or three pecks of seed per acre would produce as good a crop as three bushels. He found that barley, thinly planted, branched a good deal. He had his wheat-stubble steam-cultivated, and then broken up with the plough *minus* the breast, and on that he planted barley. After the barley he should sow beans, getting a five-acre shift instead of four.

The PRESIDENT then summed up the discussion, and he remarked that there was not the attention paid to the season, and to the juncture, when the land was in the best order, that there should be. There was, perhaps, no question about which there was so much difference of opinion as to the seed, some men only plating a peck an acre. In selecting seed it was important to select that which was fully developed. It was also highly desirable to change the seed from one part of the country to another. For instance, seed from the fen country, because of the entire change, would at first produce a good crop. Another important matter was the changing of the seed from a cold to a warmer climate, the effect being to develop it. With regard to the time of sowing, the early, on most land, was undoubtedly the best, because there was more vitality in the early spring and the following three months than late in the year.

The meeting then proceeded to consider the recommendations of the Select Committee of the House of Commons on the questions of the prevention of the cattle plague and the restrictions on the importation of live stock. In the course of the conversation which ensued it was generally admitted that something ought to be done both in the interest of the home-breeder and the consumer, and on the proposition of Mr. Manfield the form of petition sent by the Central Chamber of Agriculture was signed by the Chairman on behalf of the meeting. The prayer of the petition was to the effect that the recommendations of the Select Committee of the House of Commons might be embodied in an Act of Parliament.

### STOWMARKET.

The usual monthly meeting of this Club was held at Stowmarket, on Thursday, Jan. 17th, under the presidency of Mr. Hervey A. Oakes. Mr. T. ROSE, of Melton Magna, Norfolk, read a paper entitled "A Medley of Agricultural Subjects." After making a brief reference to his recent experience in harvesting corn crops, Mr. Rose went on to say:

We will now briefly glance at an important subject to which public attention begins at last to be directed, viz., a

provision for the education of the middle classes. An education which very well served a farmer some 50 years ago would in these days of scientific and progressive agriculture be well nigh useless. The children of farmers, however, are mostly resident at such a distance from towns that it is impossible to educate them as many parents would wish, unless they are sent to a boarding-school, and this, especially in the present day, is a heavy drain on the resources of a man with a large family, who has to win his livelihood from 200 or 400 acres of land. Middle-class parents residing in towns have an incalculable advantage over their country cousins as regards the education of their children. Take Norwich, for instance, where there is a high school established for girls, which is, no doubt, a step in the right direction. It is a day school, and to those residing in the city it is indeed a boon; but if farmers living at a distance wish their daughters to share in its benefits they must first find a suitable home for them, and this, besides being an anxious matter, with very often unsatisfactory results, makes it equally as expensive to parents as any of the best private schools. The same objection seems to me applicable to the case of endowed grammar schools for boys. Farmers' sons live too far off to benefit by them. So far as Norfolk is concerned, there is a good county school, but it is not every farmer who can afford 40 guineas per annum for the education of his sons, particularly if he has many of them. A small town tradesman can undoubtedly educate his children to greater advantage than can the large farmer. The children of the poor can receive a sound, nay, even an elaborate education at a merely nominal cost. The farmer has to pay a heavy school rate for the education of his labourers' children, while, as I have shown, he experiences the greatest difficulty in educating his own children to meet the requirements of the day, and to give them a fair start with their competitors in the great battle of life. Why should there not be some suitable provision made by Government to meet this pressing need? Some enthusiasts in the House of Commons agitated until they provided ample means to educate the lower classes, and in common fairness to the middle classes they should be equally zealous in making provision for the educational wants of this other important section of the rising generation. This can only be met by the establishment of good day schools on a large scale, under Government supervision, at various centres in our different counties, so as to be within possible reach of our children day by day. It may be objected that there are already Board Schools established in most of our villages, where a good education is provided under Government inspection. Granted; but, I would ask, are the surroundings of these schools suitable for carefully-brought-up children of the upper middle classes? As Lord Carlinton said the other day, "Tenant farmers, if they have any self-respect or ambition, must not allow themselves to be left behind in the race of education; they must neither fall too much behind those who are above them in worldly advantages nor allow the labouring classes, whose fair and proper education we all desire, to tread too closely on their heels." I cannot conceive why the importance of a provision for a suitable education of such an important class of the community has been so completely neglected, I may say ignored. It must, however, I think, be attributable in a great measure to the lack of unanimity amongst ourselves, and it cannot be disputed that we have but few friends and advocates in the Houses of Parliament. True, we have never as a united body agitated for the supply of our need; but if we in our time would win a hearing, mark me, we must do as others, and clamour for attention. Have we been

too long patient with an unintelligent patience, and have we quietly borne burdens until it comes to be a natural assumption that we can bear any amount of pressure, however unjust that pressure may be? I have frequently heard farmers say, "I shall send my boys to school for a year or two, and then have them on the farm to work as I did at their age: that's my idea of practical knowledge. To learn to draw a straight furrow will do them more good than all the 'ologies.'" But consider a moment. Will this purely practical knowledge fit them to cope with the ever and fast advancing intelligence of the age? Why the labourers' children will, by means of the compulsory Education Act, be provided with a better education, and with the scientific knowledge they will be able to bring to bear on subjects of every-day importance, they will undoubtedly head the sons of the middle-class men in the great race. True, it is not altogether the amount of learning achieved by children during their early school days. The important thing is that the mind should be trained that it may be able to grasp and retain knowledge. To take a boy from school at the age of fourteen must be a mistake, and in most cases his mind is only then beginning to open for the intelligent reception and digestion of knowledge; and the, so to say, sudden check to intellectual vegetation is apt to cause the good seed to decay in the ground, instead of bringing forth a vigorous and fruitful plant, and even should it succeed in struggling into any sort of existence, what can it be, without proper care and culture, but a weakly barren plant? It seems to me important that the rising generation of intending farmers should devote much attention to the acquirement of a practical knowledge of agricultural science, and especially chemistry as applicable to agriculture. Liebig, in a preface to his work on "Chemistry of Agriculture and Physiology," says:—"Perfect agriculture is the true foundation of all trade and industry; it is the foundation of the riches of States; but a rational system of agriculture cannot be formed without the application of scientific principles, for such a system must be based on an exact acquaintance with the means of nutrition of vegetables, and with the influence of soils, and action of manure upon them." This knowledge we must seek from chemistry, which teaches the mode of investigating the composition, and of studying the character, of the different substances from which plants derive their nourishment. A knowledge of agricultural chemistry is a requisite to the present-day farmer, in order to enable him to apply proper artificial manures to his different soils and crops. It is really astonishing what trash men will buy under the cognomen of artificial manure, and how easily they are deceived into its purchase by men whose business it is to sell. It is no less surprising that many farmers continue to purchase their manures of little local manufacturers—men who know nothing of mixing chemical constituents suitable for various soils, but who have in some way become possessed of a receipt for manufacturing a manure. Buy only of those who will give a guaranteed analysis. You then get the constituents you require and value for money.

After quoting the recommendations of the Royal Agricultural Society with respect to the purchase of cakes and manures, Mr. Rose concluded this portion of the subject with a few further remarks, and then proceeded to the subject of Cattle Disease, as follows.

Let us now turn our attention for awhile to the meat question, which is of great moment to us in these days of waning agricultural prosperity. It is believed that the question of importation of foreign sheep and cattle will occupy the atten-

tion of the members of the House of Commons early in the present session; therefore, I do not think it will be out of place to discuss it. It is an astounding fact there are people adverse to the prohibition of foreign live stock imports, and as a necessary consequence to the exclusion of imported contagious disease. They accuse farmers of trying to revive the days of Protection. Now for my part I conscientiously believe agriculturists to be the most thorough free-traders on the face of the earth. All that we require is protection against imported foreign preventable diseases. We do not care how much dead meat is sent to our English markets. It the foreigner be compelled to slaughter his sheep and cattle at place of pasturage or embarkation England will doubtless be free from the diseases which have so decimated her home herds and flocks. The primary cause of the diminished numbers of our sheep and cattle is plain—viz., imported cattle plague, foot-and-mouth, pleuro-pneumonia, and other contagious diseases. The present system of inspecting cattle to prevent disease is useless. Foot-and-mouth disease is now raging in Norfolk. We must not shut our eyes to the fact that home stock are steadily and surely decreasing in numbers, notwithstanding that more of our land is being converted into permanent and other grass. As a proof of this, take the following facts:—In the year 1870 we had 18,335,000 acres of arable, in 1874 we had 18,890,000 acres, and in 1877 we had 17,983,000 acres. There were in 1870, 12,073 acres of pasture; but in 1874 there were 13,178,000 acres; and in 1877 we had 13,728,000. In 1870 we had in Great Britain 4,505,000 acres of clover or artificial grasses; in 1874 we had 4,311,000 acres; and in 1877 we had 4,493,000 acres. In 1870 we had 3,587,000 acres of green crops; in 1877 we had 3,584,000 acres, so that there is but a trifling falling off in both these items. Summing these together, we had in Great Britain in 1870 a total of 20,165,000 acres of grass, clover and seeds, and root and green crops; in 1877 we had 21,805,000 acres. Thus, with a greater extent of land under grass or crops for feeding animals, we have now fewer animals than in 1874.

Year.	Cattle.	Sheep.
1868.....	5,423,951	30,711,369
1871.....	5,337,759	27,119,569
1872.....	5,624,994	27,921,507
1874.....	6,125,491	30,318,941
1875.....	6,012,824	29,167,438
1876.....	5,844,741	28,182,951
1877.....	5,697,933	28,161,164

While there was a slight increase in the area of grass and green crops from 1870 to 1874, there was also a slight increase in the number of cattle and sheep, and a continued extension of pasture, root, and fodder crops. Since 1874 there has been a marked and steady decline. It is, therefore, an unassailable fact that the agriculture of Great Britain of the present day, in spite of stimulating prices realised for meat during the period in question, has failed completely to produce the same number of cattle and sheep that it could show three years ago. England is reputed to be the richest land on earth, and yet thousands of human beings are forced to die of sheer hunger every year in the streets of our wealthiest cities; but still in the face of this undeniable fact, one of our leading daily papers busies itself in circulating the slander that farmers desire to return to the days of Protection, and tries to make capital out of a matter it evidently does not understand. This journal professes to write in the

consumer's interest, and fuding that the Duke of Richmond is at length yielding in a measure to the pressure put upon him, so far as to promise, at least, that the report of the Cattle Plague Committee shall receive the attention of Parliament this session, it now writes bitterly of the legislation possibly to be enacted, and says, "The great outbreak of cattle plague from 1865 to 1867 revealed the necessity for changes in our legislation both as regards foreign importations and home precautions. In the summer of 1872 another outbreak took place, and a Select Committee was appointed in 1873 to review the legislation of 1869, in the light of the experience gained in stamping out the second invasion of this disease. The verdict arrived at was this:—'No change in the law respecting foreign importations was requisite.' Early in the year 1877 the disease again broke out, and in July of the same year there was a slight renewal of it, which, however, yielded to the prompt measures adopted for its repression." The journal in question would have us rest satisfied with previous legislation as being fully sufficient to repress cattle plague whenever it chanced to appear, totally ignoring the palpable fact that where cattle plague "slays its thousands," foot-and-mouth disease and pleuro-pneumonia "slay their tens of thousands," and it tries to impress on its readers that it cannot signify how often dread disease visits us, simply because it can in time be stamped out, never heeding that in the meantime our farmers are being ruined by the decimation of their herds and flocks, simply because the advocates of this view of the question want to make political capital out of it, and to use it as a popular party cry. What, in the name of fortune, can it signify to the consumer whether we get live or dead meat to our markets, provided only it is wholesome and sufficiently plentiful? Liberals and Conservatives will agree on one point—viz., "they must eat to live." Neither party can subsist on politics alone; therefore it is not, it cannot be, a question to argue on political grounds. Neither is it consumer *versus* producer, or town against country, for their interests are evidently identical. The facts seem to me to amount to this:—That should we succeed in getting a measure passed prohibiting live imports, and compelling slaughter at place of pasturage or port of embarkation, meat for the million will undoubtedly be cheaper instead of dearer, because our foreign friends and American cousins may ship us as much carcass meat as they please. At the same time our home live stock, ceasing to be decimated by imported diseases, will rapidly multiply, and, as a natural consequence, become more remunerative to the producer, as well as more plentiful for the consuming public. It has been said that the American meat trade is too uncertain and experimental a condition to justify reliance on it; but when we read of the quantities of meat brought in month by month to our markets I think there can be no doubt in any of our minds that the trade in dead meat is being gradually established. During the past year the experiment of bringing fresh (unfrozen) American killed meat into England was first successfully tried, and resulted in an importation of considerable extent into the market, a portion of which arrived in excellent condition during the exceptionally hot weather of August, thus proving its perfect practicability. The quantities of meat brought in during the year were:—January, 125 tons; February, 90 tons; March, 240 tons; April, 405 tons; May, 400 tons; June, 245 tons; July, 200 tons; August, 352 tons; September, 550 tons; October, 733 tons; November, 1,034 tons; and December, 1,134 tons; consisting mostly of beef, but



with some mutton and pork. Much of the meat was of superior quality, and would doubtless prove of great advantage to the country as affording an almost inexhaustible food supply. The Superintendent of the London Market, who has the best means of judging, expresses his conviction that in a short time it will have assumed its proper position among the daily deliveries, and then the full extent of the boon will be appreciated, not only in London, but in the provinces. The number of loads weighed during the year was 95,561—the average quantity of produce brought into the market weekly was 3,324 tons, of which 1,610 tons were foreign and town-killed meat, and 1,714 of country meat, and the average daily delivery was 560 tons, the minimum in any one day having been 188 tons, and the maximum 1,224 tons. And when we consider that the importations from America for one week only, from December 29th, 1877, to January 5th, 1878, amounted to 9,112 quarters of beef, and 1,461 carcasses of mutton, and 50 dead pigs, even the most prejudiced must admit that it has passed its experimental stage, and has become a fact. The Americans will not allow any of our stock to be landed on their shores, because we can never show a clean bill of health; therefore our trade in pure-bred sires, and in pure-bred breeding sheep and cattle, generally, is much injured. Neither Australia nor New Zealand will accept our cattle or sheep on account of the contagious diseases so frequent and prevalent amongst our herds and flocks. We can but feel they are right in taking this course, although their custom is a serious loss to the breeders of pure-bred stock in this country. To the question, What has pure-bred English stock done for other countries? I would answer, Rams have for years past been exported by us to our Australian and other colonies, thereby improving the merinos, and now many of them would be very hard to beat in our English showyards, and their cattle are equally improved by the use of pure Shorthorn bulls from our celebrated English herds. Early in the century Major Simpson bought a son of Comet of Mrs. Colling, and a year or two after sold two of his heifers to an American gentleman for about 300 guineas. Since that time we have been constantly sending pure-bred bulls and heifers across the Atlantic, and now we are reaping the benefit in the prime quality of the meat we are constantly receiving from that country. Take Ireland for another proof. No class of men have done more to improve cattle than have the Irish. For many years they have made a practice of hiring bulls from the grand Warlaby herd and anyone who is old enough to remember the old Irish ox cannot but bear testimony to the vast improvement which has taken place in those anything but "symmetrical" animals. Mr. T. C. Booth has lately affirmed that we have at this time orders in England for pure-bred stock to the amount of £100,000, which we cannot execute on account of the country being so constantly infected with some contagious disease or other; therefore our foreign and colonial customers dare not take them until we can show a clean bill of health, and this I am sure we shall not be able to do until we compel the foreign importers of stock to slaughter, not at the ports of *debarcation*, but of *embarkation*. When this shall be enforced we shall in a short time be free from disease; and having increased numbers from which to breed, and decreased chances of loss by disease, we shall, as a natural consequence, have more home-bred meat, and at a cheaper rate, for the rapidly-increasing population. I believe I am right in asserting that all contagious diseases are of a foreign origin, and that the importation of live cattle is a heavy tax on the

food of the people; and, if so, can this be called free trade? Let us have dead meat free from impost, we don't care how much; but do not let us have free trade in disease, which the foreigner now sends us at his pleasure. A short time since I received a letter from one of the most influential London meat salesmen. He says: "I quite endorse the resolution of the Cattle Plague Committee, and consider the interests of the consumers are identical with those of the producers of stock in this country, and that disease should be prevented by all possible means." He then goes on to say: "You must not lose sight of the fact that every head of cattle which dies from disease is a loss to the consumer as well as the producer; therefore we all suffer." It is now a generally admitted fact that none of these contagious diseases are indigenous to this country. We have Professor Fleming's authority for stating that foot-and-mouth disease has its origin in hot countries where cattle are worked. Certain it is we knew nothing of it in England until the year 1829, when it was said to be imported from Holland by Dutch cows, which, although it was illegal at that time to import cattle from abroad, had been brought over for ships' supply, and on arrival were disposed of as surplus ship stores. From Stratford, by the water-side, it gradually spread to different parts of the country, but we did not experience any very serious losses from it until after the year 1863, since which date it has appeared periodically, and has, since its first introduction to this country, assumed a much more malignant form. It is computed by the highest authorities that although more silent in its ravages, our losses exceed that by rinderpest. Mr. Duckham, when giving evidence before the Parliamentary Committee in 1873, also handed in a paper and returns showing the direct money loss sustained in the year 1872 by the stock-owners of Herefordshire from foot-and-mouth disease, from which it was estimated that if the loss was as great in other parts of the United Kingdom, it would amount to the astounding sum of £20,000,000—a sum four times exceeding the total value of our live stock importations. The well-known veterinary inspector for Norwich Hill and myself entered into a calculation about a year ago of the loss to this country in the years 1873 and 1874 from this disease alone; taking into calculation cattle, sheep, and pigs it amounted to upwards of £27,000,000. And when we see that the value of imported cattle and sheep amounts only to about five millions sterling I do not hesitate to say that we should have more meat and cheaper, and the breeder and grazier would have been remunerated, had we never received a single head of live stock from the Continent. In May, 1875, I wrote to *The Times* and some of the principal agricultural papers, in order to draw attention to the disastrous consequences of this fell disease, which was then raging in England, and then advocated slaughter at the port of embarkation, which was, however, at that time declared to be impracticable. Some few people hold the belief that pleuro-pneumonia is not altogether a contagious disease, but that there are cases where it generates in the system; but a conviction—I may say a knowledge—to the contrary is now obtaining. All I would ask is that any still cleaving to the opinion that it is non-contagious should allow a beast affected with pleuro to be turned amongst his cattle—the result would be a most conclusive test. I see no reason to alter the opinion I formed some time since—viz., that if we wish to protect our herds and flocks from contagious diseases, we must compel the foreigner to slaughter his cattle, &c., at the port of embarkation, and until this is done we shall most surely be subject at intervals to these diseases,

The subject is becoming one of extreme importance, both to producer and consumer. We must loudly and emphatically deprecate the absurd cry of country against town, or producer *versus* consumer—their interests are identical. The present dispute seems a strange one; it is not, it cannot be, a question of free-trade at all. It is simply one of security from disease and its accruing loss. I was one of the first, if not the first, to advocate slaughter at port of embarkation, and now many of the leading agricultural papers are advocating the same views as being best for both Continental producer and English consumer. The former would sustain no loss from disease or accident, as is so often the case during the transit of live stock; there would be no cost for attendance or food and freightage, and insurance would be much less. While the latter, *i.e.*, the consumer, would have no cause of complaint, for undoubtedly meat would be more plentiful, more wholesome, and cheaper, and butchers' bills would cease to be the bugbear they now are. When we find that the United States of America possess 27,220,200 head of cattle, and 53,783,600 head of sheep—just 21,273,898 more cattle and 5,610,649 more sheep than we have in Great Britain—we can but believe they will continue to send us ever-increasing quantities both of their surplus beef and mutton; for with their vast rolling prairie land, on which it is possible to breed and graze unlimited numbers, the meat supplies are more likely to increase than to diminish. I have until lately always held the opinion that mutton resembled a tallow candle too nearly to be a paying speculation across the Atlantic; but it seems it is not so, for we are now receiving it regularly in addition to beef, and both beef and mutton in increasing quantities. This being the case, it is high time for us to consider how we can most profitably breed, rear, and feed our own stock so as best to be enabled to compete on favourable terms with our enterprising neighbours. Assuming that we are fortunate enough to succeed in getting protection from imported contagious diseases, and that our flocks and herds speedily multiply, as doubtless they would do, the question naturally arises—How can we best meet a great want which then, even more pressing than now, would enforce its claims for consideration? We must of necessity have proper means and conveniences provided, such as covered yards, boxes, and other suitable agricultural buildings in which to rear and fatten our cattle. We want to keep them clean and comfortably housed, as well as warm and dry, for under these conditions cattle fatten quicker and with less outlay, and arrive at maturity at an earlier age. Warmth is as essential as food to the young growing animal; also to breeding and grazing animals; and if it cannot be induced in another way it is naturally obtained by extra food, *alias* extra expense. In the summer months covered yards are invaluable to the farmer as a shelter for his stock from the heat of the sun and the torment of the flies. In the hot months cattle make faster progress under cover than when allowed to wander at will over open fields. Besides these benefits agriculturists would derive another and not less important advantage from the erection of covered stock-yards and boxes. Manure made under cover is vastly superior to that made in wet open yards. It stands to reason that it should be so, and is never in any case disputed. The better quality of farm-yard manure we can apply the better heart will our land be in, and the heavier crops we shall obtain. Another advantage I would mention is the fact that more stock could be kept with less straw and food on a given quantity of land, as beasts, either young or old, if kept in a proper state of warmth, do not consume so large a proportion

of food as those which are exposed to the variations of inclement winter weather. In the early spring of 1877 a straw stack was a rarity, and during the wet winter of that year I suppose a clean, comfortable stock-yard was never to be seen. Mr. C. S. Read, M.P., has estimated (and I have never heard it contradicted) the loss to the county of Norfolk in the one item of manure alone to be £100,000 for that wet season. The loss in beef no one, I venture to say, dares to reckon up. It cannot be honestly asserted that the generality of our English farm homesteads by any means meet the requirements of the day. Besides, I consider the erection of covered yards would be equally beneficial to the landlord as to the tenant, because his property would be greatly improved. The manure made under cover being of much greater value, would improve the land to which it should be applied, thereby enhancing the value of the hire. Many of us would, I doubt not, gladly pay a fair percentage for the erection of such necessary buildings. Of course the landowner cannot be expected in all cases to lay fast large sums of money without its paying him a fair profit. We have need to breed and graze to a profit which has been an impossibility during the last few years—at least in the Eastern counties; and all are agreed that (except in very few instances) corn-growing does not pay. So far as the foreign wheat trade is concerned, I can but repeat what I wrote on the subject more than a year ago. I said that war would not materially affect our prices. Nor has it done so to any great extent. A merely temporary advance in the price of wheat is calculated to injure rather than benefit the British farmer. In these days of quick transit, if supplies fail in one quarter, they are sure to come from another. Notwithstanding the vast requirements of her armies in the field, Russia has found time to send us large quantities of wheat; and India has contributed largely to our necessities, and with facilitated means of irrigation and water transit, her hundreds of millions of acres of fertile land, tilled by her patient, frugal, industrious, rice-eating people will year by year send us ever-increasing supplies. It may be interesting to note that Russia, notwithstanding the war, last year sent us 10,838,900 cwt. of wheat, the value being £6,620,616. The main support of this country, however, was the United States, which from the Atlantic and Pacific ports shipped 21,303,667 cwt., the cost of which to the British consumer was £13,535,304. British India, in spite of the famine, exported 6,104,940 cwt., for which the United Kingdom returned in money £3,574,106. The next largest contributor to our wants was Germany, which sent 5,455,763 cwt., valued at £3,593,467. Egypt forwarded 2,447,708 cwt., valued at £1,332,917, and Turkey (including Moldavia and Wallachia), strange to say, exported more than she did in 1876—*viz.*, 1,233,918 cwt., as against 1,233,351 cwt., receiving from us this year £705,043. British North America sent 2,912,178 cwt., at a cost of £1,809,451. France, Denmark, Chili, and "other" countries supplied the remainder, to make up the £3,820,984 which was our expenditure upon wheat alone. From France we imported the largest quantity of wheat-meal—1,900,213 cwt., the price of which was £1,737,876; the United States sent 1,771,583 cwt., valued at £1,549,281; Germany 1,239,437 cwt., at a cost of £1,155,562; British North America, which did not contribute so abundantly as in preceding years, 254,695 cwt., value £226,457; "other countries" forwarded 2,203,626 cwt., valued at £2,134,151. We find on calculation that foreign wheat last year cost 12s. 6d. per cwt., while in 1876 it was but 10s. 6d. per cwt. Foreign oxen per head last year averaged £21 16s. 6d.; in

1874, £21 7s. Cowe, although only half the number of those imported in 1876, made only £17 10s. per head to compare with £18 14s. Sheep per head last year made £2 8s. 2d.; in the preceding year £2 2s. I feel that I have already trespassed on your patience; neither would time allow of my bringing any more subjects under your notice, or dilating further upon those I have already brought before you. It now, therefore, only remains for me to commend those already mentioned to your consideration, and to thank you, gentlemen, for the kind and patient hearing you have given me.

The CHAIRMAN, in opening the discussion, said in introducing Mr. Rose he expressed a hope that no new trouble had been found for farmers, but it seemed that as time wore on their troubles increased. The Chairman then touched upon various matters dealt with by the lecturer. As to drainage, he remarked that all his neighbours round about him were getting on to the broad stretch, and there were no water furrows, as far as he knew. As to the labour question, he trusted that after the recent little disputes they had had with their men that they would get from them a fair day's work for a fair day's pay. With reference to the education question, he was of opinion that they would find that not only the present Government, but the Governments which might come after it, would insist upon the poorer classes being educated; and if they could not pay for it themselves it would have to be paid for by the class above them. Whether this class above the labourers was able to pay would hardly come into consideration. He thought the middle classes had a much better education than the higher classes, and the expenses in the one case were not half so great as in the other. The expenses in the higher class schools were increasing, and to such an extent that the higher classes could hardly afford to send their sons to these schools. The consequence of this would be that the higher class schools would fall off until they came down to the level of the middle class schools. They were all probably aware that if a school was not founded by voluntary aid the Government would provide one. He had had some little experience with Board Schools, and he would advise them to do without having a Board School if they could. It had been said that farmers sent their boys to school, and then when they came home they were taught to draw a furrow; but this he thought was a good thing. He spoke in favour of giving a good education to farmers' sons, expressing a hope that the day would come when all farmers would know what sort of manure to put on their land, and the right sort of crop to grow when on the four-course system. As to having the manure examined, he should hope to have a crop growing by the time this was done. Mr. Rose had said that American farmers would not take our stock into their country for fear of the disease; but he thought another good reason was that they had a great deal to send to us, and we a very little to send to them.

Mr. WOODWARD thought the lecturer deserved their thanks for his very able paper. The education of the middle classes—to them as middle-class men—was as much deserving of their consideration as any subject which could be introduced for discussion at any time. It was quite certain that their labourers' children received a much better education than the middle-class man could afford to give his own. They could not send their children to a school under 40 guineas per annum. There were very few schools in the county, and he did not know of one, excepting the Albert College, where they could send their sons for less money. They were perhaps favoured

in having a middle-class school in the county. He hoped this would flourish because it was a great boon to middle-class men to get their children educated for 25 or 30 guineas a year. As to the dead meat question, he thought that the consumption of meat had much increased of late years by reason of the increase in the price of wages. He quite agreed with the lecturer that the importation of dead meat had not brought down the prices anything like what they expected, for they were still getting the same prices for their own meat. He spoke in favour of some check being put upon the importation of live cattle, remarking that the question was worth the consideration of the consumer as well as their own. If they were of opinion that the greatest amount of disease amongst cattle in this country was caused by the importation of foreign stock, the sooner they united for the purpose of preventing its importation the better for all classes of the community. He alluded to the present method of feeding stock, which he thought might be improved on, and observed that if the country could produce a sufficient amount of live stock for its own consumption, it would be much better than encouraging the importation of live stock into the country to spread disease amongst our herds and flocks. He had a few sheep on his farm, which was a heavy-land farm, and these he managed to struggle through with, and he should not feel at home unless he had a few hoggets.

Mr. S. PAGE thought that the thatching bill put in by Mr. Rose was hardly big enough. £4 17s. for thatching 272 acres of corn, 16 of which were thrashed out, seemed hardly enough. He (Mr. Page) did not know what sort of land Mr. Rose farmed, but he thought it must have been a very poor crop, and if his thatching bill had been three times as much he would have been the better off because his crop would have been better. As to the Education Act, he could not see the force of having to put his hand into his pockets to educate other people's children when he could not educate his own. His motto was, "Let every man educate his own child." A man who paid a penny a week could get a better education for his child than he as a farmer could give his children. He questioned the truth of the statistics which were put forward as to the dead meat which had been imported, and asked what had become of the meat which had been slaughtered in our own country previous to Christmas.

Mr. HENRY CROSSE said in 1839 he lost a great number of sheep through the foot-and-mouth disease, and he then wrote to Professor Simmons asking what was good for the disease. Professor Simmons told him to take care of the animals as well as he could, and to use nothing but salt for their tongues, and he also told him to keep them clean. He followed these instructions and with good results. He spoke in favour of the slaughtering of foreign cattle at the point of embarkation instead of debarkation.

After some further discussion the meeting concluded.

#### TUNBRIDGE WELLS.

On Friday, January 18th, the annual dinner in connection with the Tunbridge Wells Farmers' Club took place, and was attended by a large and influential number of farmers and others. Mr. B. S. Wilmot one of the Vice-presidents occupied the chair, in the absence (through illness) of Mr. T. Batchelor, the President.

Mr. J. J. BARROW, in proposing the health of the Marquess of Abergavenny and the landowners of the county, said the noble marquess was in London no doubt influencing for good

others upon the most momentous question that had ever affected this country. He believed Lord Abergavenny to be one of the soundest men he had ever met, and he hoped he would show his soundness in the House of Lords, where he was engaged that evening on the momentous difficulty now sought to be solved in the Eastern Question. He coupled with the toast the name of Sir Edmund Filmer, who was a good landlord, and he hoped he would continue to occupy the high position he held.

SIR EDMUND FILMER, who was most cordially received, said no one regretted more than he did the absence of the Marquess of Abergavenny. Mr. Barrow had made use of a very happy expression when he said that his lordship was a sound man. His lordship was a sound man. He was a man with an opinion of his own, and was not ashamed to show it. As a landlord of the county of Kent, he (Sir Edmund) tried to do his duty. As a landlord he had been very much interested in reading the Queen's Speech, and finding that the present Government were going to bring forward a measure on what were called County Boards. This was no political question at all, for he believed it to be agreed on both sides that County Boards were a necessity. Although the magistrates of the county worked the finances of the county, and did them as well and as cheaply as possible, still at the same time they had a large class of men who were particularly able and capable of dealing with these matters. These men could be brought in to help the magistrates in the financial work of the county. Theoretically and practically the system must be sound, because as we saw year after year such a large amount of money spent, taken out of the ratepayers' pockets, it was only right and proper that gentlemen should be elected by those ratepayers to spend that money. At the same time the magistrates would not be at all jealous, because they felt sure they would be supported. Next he referred to the labour question. He said that he and his tenants, many of whom were far-seeing men, had joined in endeavouring to meet this great difficulty. The only way was to keep the labourer contented at home. If the landlord and tenant could pull together and get a better class of houses for their men, making them feel they were men and not dogs, they would go a long way towards solving the difficulty.

Mr. W. DELVES proposed "Success to the Farmers' Club and the health of the President," and Sir EDMUND FILMER proposed "The Tenant Farmers," and in the course of his speech he said it behoved the landlord and tenant to pull together, so that the land should be worked in the best possible manner. In the rating, for instance, for the convenience of landowners, they contracted that their tenants should pay the rates. It was the duty therefore of those tenants to look after the rates to keep them down as far as they could. On that question alone landlord and tenant must be one. The tenant farmer should be encouraged in every possible way, and if a landlord found a man who had capital and energy he should encourage him, and give him one of the few things most desired, a lease. He should leave the tenant unrestricted except on certain occasions. Changes might take place either by death or adversity, and a tenant should have a farm a certain number of years to enable him to work it. He wanted to see this come, and in the county of Kent particularly it must come. He could not see how any one could take a farm, if he had any energy or capital, without putting on his own shoulder the weight of the burden. Having adverted to the causes of changes in holdings, the use of artificial manure, the influence of agents or laud stewards

as between landlord and tenant, and other topics, he coupled with the toast the name of Mr. T. Williams, of Bayham, who responded.

A number of other toasts followed.

#### G A L A S H I E L S .

At the last meeting of the Galashiels Farmers' Club a paper was read by Mr. Thomas Swan, cattle salesman, Edinburgh, on "The Cattle Supply of Great Britain."

Mr. SWAN said it was a matter of surprise that the prices of beef and mutton continued so high in view of the general commercial depression. In 1877 beef had rarely been lower than 9s. 9d. and often higher than 19s. 6d. per stone of 14lb.; and mutton had sold at about 10d. per lb. From statistics recently gathered the consumption in Edinburgh, Glasgow, Liverpool, and Manchester was in the aggregate—in 1866, 245,587 head, and in 1876, 520,695, or showing an increase by more than double in ten years; while prices in consequence of an annual increase in the population were fully higher at the latter than at the former period. The restrictions placed on their importation by Government might fairly be reckoned as accounting to some extent for the deficiency in the supply of foreign cattle; but from the operation of trade-unions, strikes, &c., which had driven our capitalists out of the market, and discouraged labour, and with it the consumption of meat, this country could not under present circumstances expect to receive, even with open ports, an approach to previous importations. He wished to draw their attention to the rapidly decreasing number of our home-stock of cattle. From the agricultural returns from the period from June 25th, 1876, to June 4th, 1877, it appeared that in England there were 96,760; in Wales, 20,435; in Scotland, 29,013; and in Ireland, 117,666—in all, 263,874 fewer cattle at the latter than at the former date. Again, the foreign importation showed a remarkable decrease. For the nine months ending September 30, 1876, the numbers were 175,639, and in the same period in 1877, 133,792—deficit, 36,847. We were driven to the conclusion that this country was short of cattle by 263,874 in June last, compared with the same month in 1876. The question then followed, Is Great Britain independent of all other countries in regard to its meat supply? Some of the witnesses before the Committee went too far, and some not far enough. It had been stated that the risk of disease had checked the breeding of cattle in this country, and that the total prohibition of live-stock importations would stimulate and revive this system, and render us independent of foreign stock. He remembered when the markets of Falkirk and Trinity Muir were supplied in a great measure from Morayshire, Inverness-shire, and the other rearing and breeding districts of the North. Shorthorn and cross breeds from England or Ireland were, as store cattle, scarcely known twenty years ago, long before cattle plague was heard of in the country. But there had been a gradual substitution of a feeding for a breeding stock. This new system was gradually extending itself, as each year store cattle buyers were finding out. 1877 had been one of the worst farmers' years on record—there being a bad and late harvest, increase in the price of labour, and a nearly total failure of the potato crop—and buyers of store stock last autumn determined to make amends for other shortcomings by the purchases of feeding and wintering cattle. Everything appeared to favour them in this respect. With one of the most miserable turnip crops ever known, and a large proportion of the straw of middling quality, the farmers naturally expected

that store cattle would be had at their own prices. There was a time at the early part of the season when prices were comparatively low, but as the great autumn markets came on, they found that the numbers were not equal to the demand, and latterly, perhaps the larger proportion of the farmers of Scotland had found themselves laid in with their winter cattle at higher prices than last year. Now if this took place in such a season as last, it was not easy to imagine what the value of store cattle would have been, or where the supply would have come from to meet the demand, had the turnip crop been good and the harvest favourable. He believed that were the returns now taken, the numbers of cattle throughout the country would be found to be still decreasing. Mr. Swan concluded by some remarks on the importance of providing a sufficient supply of butcher's meat for the people of Great Britain.

A discussion followed the reading of the paper.

Mr. LYALL (Caddonlee) gave as one reason why cattle were becoming fewer in the county, that fat cattle were killed and sent into the market younger than formerly, and said that the question of feeding as against breeding would right itself. Farmers would breed as soon as it paid better than to feed, and if farmers were protected against the importation of disease, they needed no favour.

Mr. ELLIOT (Blackhall) contended that the importation of foreign disease lay at the root of the present state of things. It was not only cattle plague but foot-and-mouth disease that cut off the cattle, and the latter malady did more evil than the former. No serious malady was indigenous to this country. He asked that farmers should be protected against the importation of disease.

## A PARABLE.

BY A MAN OF MARK LANE.

In a beautiful and fertile island lived a prosperous people, whose agriculture, commerce, and system of government were the envy of the world. Their fields were highly cultivated, and the produce of the land had been improved during many generations by judicious selection. But at a not very remote period of their history the crops in several parts of the island were observed to be in an unhealthy condition, which was ascertained to be due to the impregnation of the land in the districts with salt water. For a long time the origin of this source of mischief was a disputed question, some of the learned men of the island contending that the salt was "in the air," and fell on the land by means of the condensation of salt vapour, whilst others argued that as the salt water was first noticed near the coast, and only spread irregularly through the country by gravitation and contact, it must have come from the sea. At last it was remembered that, on the occasion of a high tide, the sea water had flooded the land in the neighbourhood of a channel running into the island, and left unguarded after having previously been carefully closed for a long period. This explanation was accepted by all qualified students of the subject, though the ignorant masses still believed in the "in-the-air" theory; and the question arose, How should the evil be prevented? There was much discussion on this matter throughout the island, and in the Houses of Legislature, and various schemes were propounded for stopping the spread of the salt water, which was seriously diminishing the produce of the land, and rendering it a question amongst the farmers whether it was worth while to grow the crops affected by the evil.

A few wise men suggested that the island should be carefully guarded against the encroachment of the sea; but they were only scoffed at by the majority of the people, who were almost unanimously in favour of what was called a Free Ocean. These were led by a powerful body of men, chiefly engaged in commerce, known as the Free Ocean Party, whose arguments were generally thought to be conclusive, although in the case at issue there was more rhetoric than logic in their utterances. "Who shall presume to limit the free, the ever-bounding sea?" they indignantly asked. "Does it not carry our commercial products all over the world, and thus conduce to the prosperity of the island? Do not our ships and the ships of foreign countries bring us by its means an abundance of goods at cheaper rates than we can produce these goods at here?" These and the like questions were asked with an air of triumph which imposed upon the ignorant multitude, and even the most sagacious of the statesmen feared to oppose popular clamour in favour of a Free Ocean.

The few wise and bold men who dared to raise their voices at all during this early stage of the controversy, pointed out that nobody wanted to interfere with the freedom of the ocean in its own bed, but only to keep it from killing and injuring the crops of the island. They showed that there were many channels into the island through which the salt water flowed at every unusually high tide, and that it was gradually spreading itself over all parts of the island; but their words were of no avail.

After a time the farmers began to get used to the evil of the salt water, and to put up with it as one of the inscrutable inflictions of Providence. Some-

times for a period there was very little salt water in the country, and they would hope it would subside entirely; but soon there would come a fresh high tide, and the mischief would again be great and wide-spread. At last it was found that the salt water was encroaching on the island, and it was generally admitted that something must be done. None dared to outrage the feelings of the Free Ocean Party, so it was agreed to dig small ditches, large dykes, and reservoirs, in all parts of the island, in which to confine the salt water. The mischief was checked a little by these means, and the Free Oceanists were jubilant. But presently there came a great tide, which not only filled all the dykes and reservoirs, but overflowed the whole island, greatly diminishing the supply of food for the people. Then the farmers began to cry out in earnest, and even the consumers began to fear that the salt water, although coming from the Free Ocean which they loved so well, might do them harm. Once more the wise men raised their voices and implored the rulers of the island to keep the sea water out of the island, and this time a portion of the farmers joined with them. But the Free Oceanists would not hear of any interference with the Free Ocean. They taunted the farmers with desiring to create for themselves a monopoly in the produce of the land, to the prejudice of consumers and showed that they cared little for what injury was done to home produce, as the ships of all countries were bringing foreign produce to the island.

But there came a time when it was acknowledged generally that the encroachment of the salt water was a national calamity, and then it was admitted that effectual measures must be taken to keep it out, at least during periods when high tides prevailed. After much discussion it was agreed to place temporary flood-gates across all the channels of the island through which the sea water flowed. Then arose the question as to the height of the flood-gates. Those who knew how high previous great tides had risen proved that the gates should be twenty feet high. But the Free Oceanists would not hear of such a monstrous interference with the freedom of the ocean as this' and, as the legislators were men of compromise, it was agreed to make the gates ten feet high, although the wise men of this island pointed out that such gates would be quite useless, and the expense of making and taking charge of them would go for nothing.

The first high tide that came swept over the low gates, and deluged the land with salt water. There was again an outcry, and once more the wise men

said: "You must make your gates twenty feet high if they are to be of any use." Again the Free Oceanists were up in arms, and the voices of the wise men were drowned in clamour. After a great deal of investigation, the rulers of the island decided to have gates fifteen feet high placed some distance up the channels, so as to allow the Free Ocean to come in, and for a time only a little water rose above them, and this was kept from doing much mischief by means of the internal dykes and reservoirs. But again there came a period of high tides, and once more the country was flooded with salt water.

This time the farmers were united, and they strongly protested against the destruction of their crops, and the waste of the national food supply. They showed conclusively that the destruction of crops by salt water, and the diminished cultivation of the land owing to the fear of it, taken together, caused food to be more scarce, in spite of importation, than it would have been if no foreign food had ever been brought into the island. Still the Free Oceanists were not convinced. Indeed, they could not be convinced, as they rarely listened to argument, but strove to drown reasonable speech with shouts of "Free Ocean!"

A committee of the rulers of the island sat to consider what should be done, and the evidence in favour of twenty-foot flood-gates was so conclusive that a large majority recommended a fresh and more stringent Flood-gate Act. The great preponderance of the evidence brought before them was in favour of the erection of twenty-foot flood-gates at the mouth of every channel into the island. This, they said, would be too extreme a measure, and one that the Free Oceanists would never allow to pass. So they advised that some flood-gates should be made twenty feet high, and placed at the mouths of certain channels, and that other gates should be only fifteen feet high, and placed in the channels some distance inland. Now the wise men of the island had shown that neither fifteen-foot gates nor inland gates were completely effectual; but they were not listened to, so fearful were the legislators of appearing to show a lack of reverence to the Free Ocean, which had been made into a fetish since the death of its chief prophet, and was worshipped by the people. Herein was shown how true it is that "the letter killeth," for the people began to reverence the Free Ocean for itself instead of for what it brought to them, and to make it their lord instead of their servant. Under the influence of this blind superstition were the people still labouring when the last intelligence from the island was obtained.

## THE CORK BUTTER MARKET.

The following article has been sent to us. It relates to a matter of considerable importance, exposing as it does a system of trade tyranny and protection perfectly astonishing in the present age:—

There are a number of old Acts of Parliament relating to the Cork butter trade, from the 4th Anne to 40 Geo. 3, c. 100 (Irish Parliament), which last Act practically superseded the others. It appoints a weigh-master, and gives very minute regulations for weighing, branding, &c., butter and casks; directs how the butter is to be packed; and authorises all butter not brought to the weigh-house to be seized, with heavy penalties, for non-compliance with its regulations. 53 Geo. 3, c. 70, a private Act, makes the previous Act perpetual, and adds more regulations. 3 Geo. 4, c. 185, a local Act, adds still more stringent regulations as to the size of casks, and how the butter is to be packed and dealt with. Then came a change:—9 Geo. 4, c. 88, repeals many of the sections of 40 Geo. 3, c. 100, as to casks, etc.; and 10 Geo. 4, c. 41, repeals all previous Acts, so far as obligatory enactments are concerned, but gives a power of voluntarily acting under the regulations of the previous Acts to any one who likes to do so.

The substance of the foregoing is, that the early Acts had established a compulsory system, regulating how butter was to be packed, inspected, and weighed. 10 Geo. 4, c. 41, meant to repeal the compulsory part of the system, but so far to preserve the system, as that any maker of butter who thought it advantageous might get his butter inspected and branded as to its quality and weight. The Act, however, was unluckily worded, and, in fact, it was held that any one voluntarily acting under the system must do so in its entirety, and conform to all the minute regulations of the old Acts, as to size of casks and every other particular. It was the number of these minute regulations that was a chief cause of the repeal of the compulsory powers of the old Acts, and plainly, no one would voluntarily undertake the same burden again. Then the Committee of Merchants, as it was called, *i.e.*, butter merchants, who had managed the compulsory system under the old Acts, formed rules of their own, leaving producers practically no choice but either to accept their rules or act voluntarily under 10 Geo. 4, c. 41, with all the previous restrictions, which were worse than the new system. Thus the present system grew up of which we complain.

The market stands partly on the site of the old Corporation weigh-house (we believe the Corporation still holds the lease) partly on adjoining land taken by the Committee of Merchants or some one on their behalf; but it is believed all buildings, &c., were paid for out of the fees and tolls levied on the producers. It was and is wholly in their hands—*i.e.*, the hands of the buyers, and is managed accordingly, so as to give them a safe profit and an advantage in every small detail, and strictly to limit competition. No one is allowed to buy in the market who does not promise in writing to conform to the rules; but the rules have never been published, nor, so far as is known, are they even in existence in a collected form. Some, of course, are known, and the original rules are known, but the whole body of them exists only in the minute book of the Committee, among its ordinary business, and new rules are occasionally made. Yet the Committee have power to expel and fine traders for breaking the rules. No one is allowed to buy in the

market except a trader who has signed the rules. A producer cannot send in butter to the market, have its weight and quality branded, and export or expose it for sale afterwards, if he does not like the price. A trader may not sell either within or outside the market in Cork to another trader who has not signed the rules, and a regular staff of men is kept at the quays to watch who is exporting butter, and report if it is done by a merchant who has not signed the rules.

The traders in the market are divided into two classes, called "butter buyers" and export merchants. The "butter buyers" are supposed to act as brokers for the farmers; but as they buy from farmers in the first instance all the butter that goes into the market, it is plain they are not disinterested, or in the true position of brokers at all. Some butter buyers export on their own account. It is a common practice for the buyers, at certain seasons of the year, to overhold the butter, and speculate for a rise thereon. Both classes, butter buyers and exporters, meet every morning, and between them fix the prices of each quality of butter for the day, the producers being allowed no voice. All sales must be at those prices, but a deduction is besides made from the producer of 3s. per cwt., which is divided between the butter buyer and the export merchant. This is only 3 per cent. on first quality at 100s., but it is 6 per cent. on sixth quality at 50s. Thus the trader's profit is more on bad quality than on good, and he has no motive to urge the farmer to improve his quality, or to obtain the highest available price for the butter consigned to him. Every other regulation of the market is contrived in the same way to give a certain profit to the buyer. There is a regular system of buyers lending money to farmers who have dairies. The money is very freely lent, much more freely than banks lend, because the butter buyer is, in fact, himself pay master. If the farmer wished to wrong him he could hardly do it. He sees at once if the week's butter does not come in, and can take steps accordingly.

The market is thus wholly under the control of the buyers. The officers of it are their servants, appointed by them, and obliged to follow their orders. They pay them, and fine them and dismiss them, and pension them at their pleasure, and all salaries being paid out of the fees charged, amounting to many thousands a year. This is the case, too, as to the inspectors. There is a general impression amongst farmers that the standard of quality is often regulated according to the directions the inspectors receive from their masters, the buyers, to be strict or easy. It is certain that equally good butter gets quite different qualities, one year from another, and even at different times of the same year; and as by the system of fixing prices the buyers are able to vary the relative prices of the different qualities also, it is plain how all sorts of manoeuvres can be carried on which it is very hard to detect; *e.g.*, the usual prices of second quality are from 10s. to 15s. per cwt. below first, and often more; but a few years ago seconds were, on some days, the same price as firsts, and seldom more than 4s. per cwt. less. This year, however, seconds have been from 12s. to 16s. per cwt. below firsts, and sometimes more.

There is generally a rise in the price of butter of 20s. per cwt. between summer and winter, and one great source of profit to Cork dealers is buying cheap in summer and autumn, and

holding till winter. But it is only heavily salted butter that will so keep. It is inspected when bought, and the quality branded, and when it is exported out of the store six months after, is sent as being of the same quality, though necessarily much deteriorated by keeping; so that, if then inspected, their own inspectors could not help giving it a much lower quality. This, of course, brings the brand into utter disrepute.

Formerly Cork butter went to many foreign markets, and the brand was perhaps of some use in that trade. Now nearly every one of these markets is lost, and England is almost the only market, and the brand is comparatively useless. The foreign butter has nearly driven Cork heavily-salted butter out of the London market within the last few years.

The great evils of the whole system are:—1. The competition in the Cork market, the largest in Ireland, is not open to the public. 2. The Cork dealers have, by their own plan of deductions, a safe profit from quantity alone, so that their motive to exertion in improving the trade and the quality of the butter is weakened. It can at once be seen that the profit on near 500,000 firkins a year, at 3s. per cwt., amounts to a large sum divided amongst 60 or 70 dealers, and this is only one of their sources of profit. 3. The great effort of the dealers is to keep the trade in the old groove, encouraging this heavily-salted butter, which only they can store till winter. They thus get extra profit by working their system of fixing prices, keeping them as low as they can in summer and autumn, when they are buying, and as high as possible in winter, when they are selling, and when farmers have very little butter to send in. The Cork butter market is so important that a rise or fall of prices in it will affect the prices of the kingdom.

Formerly Cork butter was in the highest repute of any made in Ireland. Now other open markets take the lead. Yet it is believed the best butters, from the light soils of this county, in consequence of the constant damp, mild climate causing a fresh spring grass, are equal to any in the world. The system of the market spoils them by inducing high salting, so that they do not bring their true value. In 1859 the Cork butter dealers promoted a private Bill to legalise their system. It was opposed by the County of Cork Agricultural Society, who claimed that the producers of butter should name half the governing body. The committee of the House of Commons decided accordingly; the dealers then at once withdrew their Bill. There have been several actions of late years tried against the market, in hopes of opening it. In every single case the jury has disagreed, and there has been no verdict. The juries have agreed upon the first issue, viz., that it is a public market, but not a step further. There is no doubt the Act of 1829, 10 Geo. 4, c. 41 (which was one of Mr. Huskisson's Acts), meant to allow any one to send his butter to the market, have it weighed, the quality inspected and branded, and then leave him to sell it as he pleased, making it an open market, like all others. If the right of using the market by both buyers and sellers freely could be enforced *bona fide* it would break up the present system. Our object is simply to get a free and open market, without restrictions, and with fair competition. The trade in butter is probably the most important in the South of Ireland. There is no reason whatever why the trade should not be as free as the trade in corn or in cattle. But the system of the Cork butter market is caused by the greater power of combination which a number of traders living in the same town, and with like

interests, have over producers, who are mostly small farmers scattered about the country districts.

There cannot be a clearer proof of the outcome of the system than the fact that in December, 1877, butter of good quality was selling in the local markets, which supply the Cork market, at 10d. per lb., whilst as good butter could not be bought retail in London and other English markets under 20d. per lb. The evils are just such as in theory would be looked for from such a system, which counteracts all the recognised principles of free-trade. There are besides other evils arising from the practice of the traders lending money to the farmers, which are very injurious and wrong in principle, and bad in results. The whole is probably the most curious survival of a bygone system such as formerly was common in many trades that can be found in the kingdom. At the present moment great efforts are being made in all the dairy countries of the North of Europe to improve the quality of their butter, and with good success. It is believed that by opening the Cork market, and putting it on a sound system, competition would be increased, which would improve the quality of much of the butter made in this county, and in every respect tend to the good of the farmers and the country, as well as yield a much higher price to producers.

SOUTH AUSTRALIAN "TERRITORY."—The squatters have their eyes on the territory along the telegraph line from Adelaide to Port Darwin. It is reported that Dr. Browne has taken up over 2,000 square miles of land at Newcastle Waters, 1,500 miles from Adelaide; and about 6,500 square miles on the Katherine and Fitzmaurice Rivers, 1,770 miles distant, for pastoral purposes. A party starts shortly to take charge. They take 7,500 sheep, 2,300 cattle, 80 horses, and twelve months' provisions. The Newcastle country is to be first settled, and more cattle from Queensland and sheep from South Australia will be obtained for the Katherine and Fitzmaurice Rivers. It is also intended to establish a horse station, to breed horses for India, and eventually to combine agricultural with pastoral pursuits, and if necessary to import labour from the Madras coast. From Port Darwin comes news that Mr. Sergison and party have returned. They report having discovered splendid country on the Daly, Fitzmaurice, and Victoria Rivers. The climate is stated to be cool, and there are running creeks in all directions.—*Sydney Morning Herald*.

ANECDOTE OF VICTOR EMMANUEL.—Speaking of the late king, I may quote an interesting anecdote. His Majesty was very fond of shooting, and on these occasions preferred preserving his *incognito*, going about with his gun over his shoulder, with his dog as his only companion. One day, in the Savoyian Alps, a peasant, who had seen a master-shot of his Majesty, went up to him and asked if he would shoot a marten which had done much mischief among the chickens of the peasants. Of course the peasant had no idea of the rank of the sportsman, and promised to pay him two small silver coins if the order were punctually executed. Before daybreak next morning the king was on the peasant's land, and had soon killed the marten. The countryman paid the price agreed upon, and asked him who he was. "This," said Victor Emmanuel, "is the first money I have ever honestly earned, my son; I am thy king."—*Mayfair*.



## DISEASED MEAT.

There should be no difficulty in determining whether or not the flesh of animals which have been the subjects of disease is injurious to other animals when partaken of as food. Reasoning on the point is practically a waste of time, however ingenious it may be; and whenever the circumstances are opposed to an experimental investigation the question must be settled arbitrarily or it must be left undecided. Direct experiments cannot as a matter of course be conducted in reference to the effects of diseased meat on the human constitution. Prejudice is so strong among men that very few of those to whom meat is a luxury rarely enjoyed would consent to subsist on the flesh of diseased animals; and if they did, the experiment would be vitiated by the disturbing influence of sentiment. Indeed, if two sets of experiments were to be tried, in one of which a certain number of individuals were to be fed on diseased meat which they were led to believe was quite healthy, and another set on healthy flesh which they believed to be from diseased animals, we should expect to see the most distinct indications of the food disagreeing with the latter. The traveller in China who partook freely of a dish which he took to be represented by "quack, quack," suddenly retired from the feast when the attendant described it as "bow wow." Something of this sort would happen if all the diseased meat which is now sold and eaten apparently with impunity were to figure on our tables as pleuro-pneumonia beef, foot-and-mouth disease mutton, or typhoid pork; but set these before the guests without any comment, and as far as can be seen no harm results from their consumption, always presuming that the meat is what a meat-inspector would describe as of good quality; and most certainly the flesh of diseased animals may be thus described in the majority of cases.

Mr. Simon some years ago stated his opinion that the flesh of animals in the febrile state is unfit for food, and it must be admitted that this is the correct view for scientific men to adopt. In the absence of satisfactory evidence of the effects of the flesh of diseased animals on human beings any positive statement must be based on the general principle that the healthy sustenance of the body demands healthy pabulum, which clearly cannot be furnished by diseased animals.

With the question of how much impurity in food is consistent with the maintenance of an ordinary state of health the scientific adviser is not concerned, and in answer to the inquiry which is often put to us respecting the fitness for food of the flesh of animals affected with pleuro-pneumonia, foot-and-mouth disease, and other affections of a febrile character, we do not scruple to suggest that the members of the veterinary profession are bound to oppose the idea that the consumption of diseased meat is sanctioned by sanitary laws. They are not called upon to usurp the functions of the meat-inspector, as we repeatedly contended, but as physiologists and pathologists they are pledged to the advocacy of right principles. They are well aware that the flesh of animals which have suffered from some forms of disease—anthrax, for example—is actively poisonous, and they will act consistently if they decline to sanction the use of diseased meat of any kind under any circumstances.—*Veterinarian.*

## A VISIT TO A TURKISH BATH.

The writer of a column of Chit-chat in the *Crewe and Norwich Chronicle* recently gave the following laughable experiences of a Turkish bath:—

One whose name shall be "Nameless" (and a very nice name, too) sends me the following:—"I went to the Turkish bath the other day. It was in this wise. I was feeling a good deal like a bundle of frowzy second-hand clothes, with a limp, flabby man inside of them. The fact was I had been up late the night before slogging at the desk and consuming the midnight gas jet. I did not feel to be worth more than about three ha'porth of copper, and seriously thought of going 'on tramp.' Not only had I gone to bed late, but I had got up earlier than usual. I was fevered, debilitated, unstrung. Mental and physical fibre were relaxed, and though the moral fibre still retained sufficient strength to deter me from actively going about to steal anything, it is possible that my utter laziness was my only safeguard in that direction. I might have committed suicide, indeed, if it had not been too much trouble; but, a happy thought striking me, I strolled into the Turkish. You know where it is—by the California, 'The Captain,' who looked as comfortable as ever, was ready for me, and ushered me into the little dressing-room. Retiring behind the curtains, I soon reappeared clothed in all the majesty of the human form divine. The reception chamber, by the way, is not *very* Oriental in its character, but there is a divan round two sides, with clean linen-covered mattresses, upon which they put 'the remains' to cool when they have done with you. The Captain now called me into his hot shop, and I passed through into the next place, where he was standing on the tiles, also in his pristine vigour and beauty. 'Pnew! Captain, it's rather warm to-day, isn't it; what have you got it up to?' 'Oh, it's only 154, sir; you'll soon get used to it; would you like a newspaper to read while you are waiting?' Here he put me on a kind of sofa with a long reclining back. I said I wouldn't mind, and though at the same time that I wasn't so much unlike a large Christmas turkey in the oven. 'Don't get against the wall, sir; it's rather hot. So it seemed when I touched the bricks, so I kept off it, and reclining with my back against the clean towelling on the mattress, I was soon cooking very comfortably, and at the same time reading the war news. Presently the gravy—I mean the perspiration—stood out like dew in little clear drops, dotted at regular intervals over my skin, and the Captain said I was doing very nicely. By that I suppose he meant I should soon be ready for serving up. Then he went into the far corner, where there was a long slate slab and a block, and a complete apparatus of pumps and pipes and taps and spouts, and while he was adjusting these he set the shower going. I felt the heat drop a few degrees instantaneously. I was enjoying the cooking, too, and after the Captain had thrown a little more water on the tiles to cool them a little for my feet, I walked into the hot closet, which is a little hotter still, where they finish you off nicely and brown you all round. I didn't venture to sit down on anything here, and said I didn't mind standing, if he'd excuse me. I was careful, however, to step on a mat. The Captain thought I would do now. He is a famous hand at roasts, and if they didn't have him to baste Mr. Knott's barou of beef, it was because they didn't know of him. He now brought me back to the slab, and invited me to recline on it. The tablean here was something like those old fashioned prints of the Patriarch Abraham offering up his son as a sacrifice. When he had got me down he carefully extracted my liver and kidneys, which were sent upstairs to the man who cleans the cook-house tins, to be rubbed up with sand and properly scoured out. It was done very adroitly, and I didn't notice it. [Moral fibre still

slightly affected, if I may judge by the fibs.—C. in M.] He next peeled off my skin much quicker than a slavey would that of a new potato, and, rolling it up in a little parcel, threw it into a corner, slipping on a fresh new skin in the twinkling of an eye. You see the Captain has studied under Herr Dobler, and other great wizards, and knows how to 'palm' you properly. He now put me under the falls of Niagara for a moment, just to freshen me up a little, and then, placing my feet in warm water and my body on the slab again he unscrewed my head, and with a vigorous application of a flesh brush and lather *ad lib.* he polished it off under his arm in a manner that would have done credit to Tom Sayers or the Benicia Boy. With a rapid movement of his dexter hand he screwed on my top-knot again, sending it home with a click which was reassuring. Taen came shampooing all down the back and legs. Talk about agricultural 'cultivators,' they are not in it alongside that flesh brush of the Captain's! My liver and kidneys replaced, I had another turn under the taps. Taps hot and taps cold, taps round and taps flat, little taps and big taps, taps above and taps below; in fact, taps of all sorts all round one. In fact, this part of the bath is may be described as hand with tap-estry. Here the Captain put me in a fresh spine, and after he had run me up and down the thermometer sufficiently, he finished me off with a shower of little pins and needles, which made me feel as sharp as a steel trap. Then he let me out—repaired equal to new—into the dressing-room, where I was to cool off before I should be ready for use. He just polished me off with a dry towel, and then he

Wrapped me up in a nice clane shate  
Au' laid me out upon the bed,

like the celebrated Mr. Timothy Finnegan, and a very illegant corpse I med, so he towld me. I proved, however, like Mr. Finnegan, to be rather a lively corpse, and when I was thoroughly cool and could be handled without spoiling, I got up and pulled my garments on with considerable vigour, while the Captain chatted with me about the virtues of the bath and the splendid effects it had in some cases of rheumatism (though he said it was poison for rheumatic gout or heart disease), and the capital thing it was for the liver and kidneys."

THE JAPANESE RIP VAN WINKLE.—The Japanese have the story of Rip Van Winkle in another form. A young man fishing in his boat on the ocean was invited by the goddess of the sea to her home beneath the waves. After three days he desired to see his old father and mother. On parting she gave him a golden casket and a key, but begged him never to open it. At the village where he lived all was changed, and he could get no trace of his parents until an aged woman recollected having heard of their names. He found their graves a hundred years old. Thinking that three days could not have made such a change, and that he was under some extraordinary spell, he opened the box. A white vapour rose, and under its influence the young man fell to the ground. His hair turned gray, his form lost its youth, and in a few months he died of old age.

It was an Irish pilot who, being asked if he knew the rock<sup>s</sup> in the harbour, replied with confidence: "I do, your honour, ivery won av them. That's won," he added calmly, as the ship struck it, filled, and sank.

## THE FARM BOY.

Charles Dudley Warner, in his inimitable book, "Being a Boy," recently published, says: There are so many bright spots in the life of a farm boy that I sometimes think I should like to live life over again; I should almost be willing to be a girl if it were not for the chores. There is a great comfort to a boy in the amount of work he can get rid of doing. It is sometimes astonishing how slow he can go on an errand—he who leads the school in a race. The world is new and interesting to him, and there is so much to take his attention off when he is sent to do anything. Perhaps he couldn't explain, himself, why, when he is sent to the neighbours after yeast, he stops to stone the frogs; he is not exactly cruel, but he wants to see if he can hit 'em. No other living thing can go so slowly as a boy sent on an errand. His legs seem to be lead, unless he happens to espy a woodchuck in an adjoining lot, when he gives chase like a deer; and it is a curious fact about boys, that two will be a great deal slower in doing anything than one, and that the more you have to help on a piece of work the less is accomplished. Boys have a great power of helping each other to do nothing; and they are so innocent about it, and unconscious. "I went as quick as ever I could" says the boy; his father asks him why he did not stay all night, when he has been absent three hours on a ten minutes errand. The sarcasm has no effect on the boy. Going after the cows was a serious thing in my day. I had to climb a hill which was covered with wild strawberries in the season. Could any boy pass by those ripe berries? And then, in the fragrant hill pasture there were beds of wintergreen with red berries, tufts of columbine, roots of sassafras to be dug, and dozens of things good to eat or smell, that I could not resist. It sometimes even lay in my way to climb a tree to look for a crow's nest, or to swing in the top, and to try if I could see the steeple of the village church. It became very important sometimes for me to see that steeple, and in the midst of my investigations the tin horn would blow a great blast from the farmhouse which would send a cold chill down my back in the hottest days. I knew what it meant. It had a frightfully impatient quaver in it, not at all like the sweet note that called us to dinner from the field. It said, "Why on earth doesn't that boy come home; it is almost dark, and the cows ain't milked?" And that was the time the cows had to start into a brisk pace and make up for lost time. I wonder if any boy ever drove the cows home late who did not say that the cows were at the farther end of the pasture, and that "Old Brindle" was hidden in the woods and that he couldn't find her for ever so long! The brindle cow is the boy's scapegoat many a time. No other boy knows how to appreciate a holiday as a farm boy does, and his best ones are of a peculiar kind. Going fishing is, of course, one sort. The excitement of rigging up the tackle, digging the bait and the anticipation of great luck—these are pure pleasures, enjoyed because they are rare. Boys who can go a-fishing any time care little for it. Tramping all day through bush and brier, fighting flies and mosquitos and branches that tangle the lines and snags that break the hook, and returning home late and hungry with wet feet, and a string of speckled trout on a willow twig, having the family crowd out at the kitchen door to look at 'em and say, "Pretty well done for you, bnb; did you catch that big one yourself?"—this is also pure happiness, the like of which the boy will never have again, not if he comes to be select man and deacon and to "keep store."—*Pacific Rural Press.*

## FARMERS' CLUBS.

## BOTLEY.

A meeting of this Club took place at Botley, on Monday, January 21st, the President, Mr. W. Warner, in the chair. The object of the meeting was—"To take into consideration the Report of the Select Committee of the House of Commons on the Importation of Foreign Cattle," and it was introduced by Mr. J. D. Barford. Mr. Jackson, of Darley, was elected a member of the Club. The CHAIRMAN having briefly introduced the subject,

MR. BARFORD then said he had great pleasure in complying with a request of the Chairman and some members of the Club to fill up a gap on the present occasion, and he felt that the interests of the Club would not be sacrificed in ventilating a matter which he had long been of opinion could not be too much ventilated. It was a matter fraught with national interest, and he hoped the members would discuss it in no party or mean spirit—the interests of the producer as well as those of the consumer were included, and therefore it should be dealt with in an impartial and not a narrow manner. He would venture to lay before the members a retrospective glance of the causes which called for the appointment of the Select Committee of the House of Commons to inquire into the importation of foreign animals and infectious diseases, and which body had arrived at a certain code of regulations in order to prevent so serious a disaster in the future. He would first notice the cause that gave rise to the formation of this Committee, which was, no doubt, the outbreak of cattle plague in London in the early part of last year, and in order to connect the two circumstances he would give a brief outline of the outbreak. On the 17th or 18th of January, 1877, the ship *Custor* landed at Deptford a small cargo of 38 or 40 beasts, from Hanburg. Here he should not omit to bring to their notice that the disease was quite distinct from pleuro-pneumonia and foot-and-mouth disease. Well, the cattle disease, after its first appearance, was heard of at various times, and there were several different outbreaks, and in every single case could that outbreak be traced, not to the infection from diseased animals, but to what was known as "mediate" contagion, and wherever the plague was most rife there was it found that mediate contagion had been carried in some shape or the other, in men's clothes, shoes, or anything they wore. Thus it was spread last year, and he need not tell them that the outbreaks lasted for some months, and that the attention of the Privy Council was repeatedly called to the matter. Hitherto the magistrates, corporations, the Metropolitan Board of Works, and the police had been entrusted with the carrying out of the orders of the Privy Council, recommended from time to time, and thus left in the hands of the local authorities, they had been, he did not hesitate to say, most imperfectly and carelessly carried out. A large amount of the cattle disease from which the country suffered might be attributed to this laxity in carrying out the regulations. The Duke of Richmond and others at the Privy Council then determined to take the matter out of the hands of the local authorities, and from that time—from that day—they could trace the stamping out of the disease. In consequence of the

unsatisfactory way in which the regulations had been carried out nearly every Chamber of Agriculture in England including the Royal and other leading Societies, met and discussed the question. The result of their deliberations was that they all joined together, went to the Duke of Richmond, the President of the Privy Council, and represented the matter to him, stating their opinion that the process of carrying out the regulations had failed. He (Mr. Barford) thought they had acted wisely, and the result of their action was that a Select Committee of the House of Commons was appointed to inquire into the matter, and it was an abstract of their deliberations and the proposals they made that those around him had now met to calmly and dispassionately discuss. It had been said that it was a question whether the agricultural interest were sufficiently represented on that Committee. However, he felt otherwise. The chairman was Sir H. Selwyn Ebbetson. He (Mr. Barford) had read a great deal of the evidence given before the Committee, and he must say that he felt that the questions put from the chair evidenced a masterly dealing with the subject. Colonel Kingsford, again, the President of the Royal Society for this year, had shown an excellent knowledge in the matter; besides whom there were Sir R. Knightley, Mr. Chaplin, Mr. Torr, brother of the eminent Shortlorn breeder, and Sir G. Jenkinson, the latter, also, being a most practical man. With these names he might surely say that every member of that Committee, before the report was issued, was possessed of sufficient firmness not to have signed it if he had not been perfectly satisfied with the result arrived at after its deliberations. Then, also, was it interesting to notice the names of those summoned to give evidence before the Committee and examined by it. They were men capable of giving useful and good information. First among them was Mr. Clare Sewell Read, one of the first practical agriculturists in the country. Then there were Messrs. J. Howard, W. Stratton, of Wiltshire, J. Wilson, of Northumberland, J. Prince Shelton, C. Booth, and the head of the Government Veterinary Department—Professor Simonds, besides other eminent men and three or four foreigners. These men were all well capable of giving evidence to the Committee, and they gave it of a mixed character, from which different ideas might be gathered, and from which, when the whole was weighed and put together, much truth could be elicited. He would now briefly call the attention of those present to the conclusions at which the Committee arrived. They might be stated as three separate propositions:—First, the entire cessation of the importation of foreign cattle; second, the slaughter of all animals at the port of embarkation; and, third, the slaughter of all animals at the port of debarkation. With regard to the first of these, the question naturally arose—Are we able to do without the foreign supply? For himself, he thought not, and he considered that no one else would have the temerity to say so. As to the second proposition, there was much to be said both for and against it. With regard to beasts coming from German ports, they were told by official authority that if that system were adopted the supply would be diverted to Berlin and Paris. Then, as to the slaughter of animals at the port of debarkation, he thought that if the regulations of the Committee were carried

out that the risk of importing diseased cattle would be reduced to a minimum without having recourse to the slaughter of the animals at the place at which they were landed. At all events, the Committee had come to the conclusion not to recommend it to Parliament to be enacted for the present. He might say that Germany had generally given the earliest information as to the presence of disease in that country, but the instance above referred to had occurred in which a cargo of beasts was landed in London some hours before any notification was received as to their state. Therefore, no dependence could be placed on that system. Russia, with its immense tracts of swampy country, was the hotbed of the disease, was the only country in which it was indigenous, and it was quite right that it should be regarded as an infected country, as was, and ought to be Germany, for Russian animals would find their way to this country through German ports. On some account Belgium should also be included as some thousands of animals, chiefly sheep, came from that country.

The CHAIRMAN: That includes dead meat, slaughtered there?

Mr. BARFORD: Yes. The Speaker then reviewed the regulations proposed by the Select Committee. He thought the appointment of officers by the Privy Council to supervise the action of the local authorities would be attended with advantage. With regard to the slaughter of animals in premises adjoining those actually infected, he considered such a course extremely desirable. There were so many ways of carrying the contagion that it was necessary that complete isolation should be obtained, and it was laid down that a cordon enclosing a circle of a mile should be drawn. He was glad to find that no alteration had been made with respect to compensation allowed for infected animals ordered to be killed—the amounts remaining at one-half for infected animals, and full value for non-infected animals. This would have a beneficial effect, because it would encourage persons in the case of disease to give notice of the same, and thereby enable the authorities to take earlier measures to prevent the spread of the outbreak. In the absence of these conditions the authorities had great difficulties to contend with in the outbreak in 1855 and 1856, when information was oftentimes withheld. The suggestion for the payment of compensation for slaughtered animals from the Imperial funds was, he thought, wise, and he might cite the case of Cheshire, in 1855-56, when the loss of cattle was great, and the demands on the local rates extremely heavy, in support of his opinion. The proposal that there should be a uniform code of rules for England, Ireland, and Scotland was most important, and it was rendered necessary because many different regulations had been carried out by the various local authorities. It was possible that a farm might extend into two or three counties, and, if so, the different regulations would bring about much complication in some places. They would never make satisfactory progress in the matter till uniform regulations were established throughout the kingdom. He did not quite see the reason for deciding, but supposed there were good grounds for it, that compensation for pleuro-pneumonia and foot-and-mouth disease should be taken out of local funds. Another important resolve was that no stock exposed in Islington Market should be allowed to leave London alive. He felt that this was a point that could not too strongly be impressed on the local authorities, as he had no doubt that nine-tenths of the disease in the country had arisen from animals removed into different districts after importation into the London

market. He was much in favour of the removal of all dairy establishments from the Metropolis, as he felt they were one of the greatest sources of disease in the country. He came to this conclusion even after reading the evidence of several of the witnesses examined by the Committee, because he believed that some of them were interested in the matter, and misrepresented circumstances. As to the restrictions, he did not think it was necessary to impose those laid down for Great Britain and Ireland on the Channel Islands, as every animal landed from the islands was now examined. As to the restrictions in cases of pleuro-pneumonia and foot-and-mouth disease, he thought it important that the movements of cattle so infected should be prohibited, as laid down, the former for 28 days and the latter for two months, and unless owners and occupiers observed these conditions they would not be able to reduce the amount of those outbreaks to the extent they desired. He had grave doubts as to the dead meat trade as a commercial success. Evidence was given by men from London, Manchester, and from Scotland. It showed that in Manchester, from the large influx of American meat, eighteen depots were established for its sale. There was a considerable trade done in February, March, April, and May, and after that it declined, and one or two of the largest then stopped business. It was proved beyond demonstration that the meat to be disposed of at a profit must fetch 6s. per lb. By far the larger amount of that imported last year did not fetch 6d. Therefore he did not think that the speculation would prove sufficiently remunerative to eventually provide a certain supply. Last year, in his official capacity, he inspected 6,300 American sheep and 3,600 beasts from the same country, landed at Southampton, and out of the 3,600 not 150 suffered from the voyage. He would not, however, wish to be understood to say that the animals did not lose condition whilst on board ship. Out of a total of 10,000 animals that had passed through his hands he had not to reject one. Then, again, he had passed 6,820 Spanish animals. Of the total of 31,000 animals he passed last year, excepting some poor description of sheep from the River Plate, not a single animal showed any signs of disease. Those figures gave a fair inference that with the restrictions of the Privy Council, the importation of animals from those countries was not dangerous. With regard to Russia, Germany, and also Belgium, it was different, and France and Denmark were scheduled countries, that was—the animals imported from them were not allowed to land without being slaughtered at once. With the proposed restrictions he thought the risk of infection from foreign animals was reduced to the extreme minimum. With these few remarks he would leave the matter in the hands of the meeting.

The PRESIDENT said he had received a letter from Mr. W. C. Spooner, who was unable to be present, but had sent the following observations upon the topic of discussion:—"In the report of the Select Committee of the House of Commons on the questions relating to the importation of cattle and the prevention of disease there are a few points which stand out with unusual prominence and are worthy of discussion. 1st—It is recommended that almost all matters relating to the rinderpest itself should be dealt with by the Privy Council, and that such expenses as the destruction of affected and suspected cases should be provided by Imperial sources, and also that the amount paid for affected animals should be as at present one-half the value, but for others suspected the full value, not exceeding £10 each, should be

showed. This appears to be very fair. 2nd.—As regards pleuro-pneumonia and foot-and-mouth disease, these are recommended to be placed under local management regulations which, in case of outbreak, are very stringent. This is, certainly, as it should be. 3rd.—Importation of live animals is to be prohibited from certain countries, and it is rather, but not strongly, recommended that all fat animals should be slaughtered at the port of debarkation.

[The PRESIDENT: That is not the case is it?

Mr. BARFORD: No.]

If this be the case the rules must be universal, for it will never do to insist on the slaughter of cattle coming from Spain and Portugal, where there has never been any disease, and to allow them to come alive from America, and be distributed throughout the country. 'Since for the goose must be sauce for the gander.' The Committee recommend that long notice should be given before this port-slaughter is carried out. If it be done vessels with cattle should be certainly allowed to discharge at more than one port, which would relieve, in a measure, the stringency of the rule, and which may be urged as a new point not taken up or alluded to by the committee. 4th.—Careful legislation is required as to the movement of cattle in this country, and particularly the export from Ireland, which has no doubt been the fertile source of the perpetuation of the foot-and-mouth disease throughout England. There are so many anomalies connected with this disease that after 40 years' experience we are still at fault as to its origin and its fresh outbreak from time to time. One thing, however, stands out clear—that the less animals are moved about the less there is of this disease, and, therefore, without recurring to the absurd and ridiculous, and, I may add, the cruel regulation that used to prevail in affected districts of not allowing animals to be moved from one field to another, or from field to shed, it is still necessary to forbid the movement of cattle from affected farms for a proper length of time, and it appears equally necessary that store cattle coming from Ireland should undergo a quarantine as well as those coming from abroad. I do not think any exception can be taken to the proposed greater stringency as regards the movement of cattle in districts affected with pleuro-pneumonia or with foot-and-mouth disease. Whilst the probable inundation of cattle, alive and dead, from America may seriously interfere with the prospects of future grazing in this country, the public may, I think, safely dismiss from its mind any fear of the dearth or dearness of meat to arise from the prohibition of cattle importation from tainted or suspected countries."

Mr. BLUNDELL expressed himself gratified with Mr. Barford's treatment of the subject. He felt that up to the appointment of the Select Committee the matter was in a complicated state, but he hoped they had now arrived at a more satisfactory settlement, though it would be necessary to make further regulations in the future. The farmers had been called upon to submit to restrictions in order to prevent the spread of the disease. They did so, and they would be willing to submit to further restrictions if it were necessary, after, perhaps, a little grumbling. He had read the evidence given before the committee, and he thought they should throw aside all party feelings and not deal with the question alone as affecting farmers, cattle breeders, or cattle dealers. He thought they should adopt all the regulations proposed by the committee. Mr. Barford had shown with extreme clearness how the disease was propagated when once it had made itself felt in the country. Were those regulations sufficient, even if the

animals were killed at the port of debarkation, to prevent the spread of disease? If not, everything tended to show that they must have recourse to the dead meat trade. The consumer said—"Give us meat;" the farmer said—"Protect us against disease." But which was the safest way to prevent disease? They would reduce this danger to an atom if they imported nothing but dead meat, and then they would do away with the wonderfully complicated regulations as to live cattle. They would also do away with the services of the hundreds and thousands of men employed in the supervision of cattle. He thought, with Mr. Barford, that all large towns were the centres of disease; and also that the whole of England, Ireland, and Scotland should be under the same rules, and that the restrictions should be enforced to prevent animals leaving the large markets alive. Whenever the London markets were closed they were comparatively free from disease, and it was just the same as to animals sent from other large towns. Of those which left Edinburgh 58½ per cent., and of those which left Dublin 54 per cent., were diseased. There should, certainly, be a cordon around large towns, and then they would be in a measure free from disease. Statistics showed that in the last two years the stock of sheep in the country had decreased by three millions, and there was a reduction of three-quarters of a million in the number of cattle. This meant a loss in value of more than nine millions of pounds sterling. What was the reason of it? No doubt many were slaughtered on account of the disease, which had a deterrent effect, and men were afraid to buy cattle. Irrespective of pleuro-pneumonia and foot-and-mouth disease, the importation of live cattle did not check the high price of meat, but, perhaps, one of the indirect effects of such importation was that the animals brought disease with them, thus retarding what it was hoped they would alleviate. During the period from 1801 to 1841 the population was nearly doubled, rising from ten millions to nineteen millions, and during those years there was a comparative immunity from disease, yet the price of meat was in 1801 5s. 4d. per stone, and in 1841 it was 4s. per stone. Why was this? Simply because there was no cattle disease, and farmers were not interfered with, but showed that they were equal to the occasion and to any emergency that was likely to arise. For the consumer he would say, give him the dead meat instead of the live meat, and that was his opinion whilst approving of the recommendations of the Committee.

Mr. STUBBS was willing to endorse Mr. Bundred's opinion as to the supply—let it be dead meat rather than alive,

Mr. WITHERS also supported that opinion, and feared that it would be impossible to get rid of the disease till only dead meat was imported.

Mr. HARRIS differed from Mr. Barford as to the desirability of removing the dairies from the metropolis. At present they had not too much milk in the country, without being obliged to forward further quantities to London. He thought it would be advantageous to import dead meat only, which would do away with disease now existing, and bring meat down in price, perhaps to 4d. or 5d. per lb.

Mr. GATEB said Mr. Barford had so well laid the recommendations of the Committee before the meeting that he would not go over them again. What they had to do was to make up their minds whether they were right and proper, and if so, support them. The Committee was composed of able men, and they had taken the evidence of men in different positions in society, and well qualified to give useful information, both sides of the question being fairly represented. The question naturally arose in considering the matter—How was

this disease propagated? Was there a something that might be detected by the aid of a microscope—some germ which reproduced itself when it found congenial soil in which to breed—a germ which, if destroyed, would be powerless to bring disease? This would be a great result, if ascertained. A pretty quarrel might be got up between the agriculturist and the consumer by those who were endeavouring to show that the agriculturist wished to go back to the old protective system, if people could be got to believe that such was the farmer's object. Such could not be done, however, as it would prove of little advantage to any one. The prevention of the importation of foreign stock would not remove the system of free-trade. They did not mind free-trade, nor did he, as he was an old free-trader, but they objected to a free-trade in noxious germs. If they could not get corn imported into this country without a germ that would destroy the next crop they would come to the conclusion that it would be better to be without it. So, under like circumstances, would they stop the importation of the potato. If it were necessary to import live animals, and with each one a live wolf were introduced, they would soon stop such an importation. They must get the advantages without the drawbacks of the importation of live animals, but at the same time there was a sincere desire not to reintroduce the policy of protection into the country.

Mr. T. WARNER thought it would be impossible to stop disease as long as live cattle were imported, but the danger might be lessened if the animals were slaughtered at the port of debarkation. Dead meat could not at all seasons be brought with advantage, especially in warm weather. He thought that when animals were disembarked they should undergo a quarantine, and when moved from a market each beast should have a ticket attached to it, by which it should be enabled to be taken only a certain distance in one day. He suggested this because he felt that much disease was caused by animals being over-driven. These tickets might be supervised by the police. He thought the metropolitan dairies might be entirely done away with, as the grains, &c., could easily be conveyed into the country, and the animals would be much better provided for.

Mr. BELL said, being no farmer, he should not presume to speak before a purely agricultural meeting but that he felt the question was one of national importance, and he therefore ventured to take a little interest in it. It was right for the committee to decide to exclude cattle from countries where disease was known to exist and where it was possible for it to exist. There was an increasing population and a decreasing emigration, and last year the importation of food cost the country twelve millions more than in the preceding year; therefore the supply of meat was an important question. The restrictions imposed had no doubt acted as a deterrent in the purchase of cattle. It might be a trifle, but it was the last straw that broke the camel's back. He trusted that they would not become too dependent on the foreign supply of meat.

The CHAIRMAN said the subject had been well ventilated by the meeting. The previous regulations had not been found sufficient to prevent the disease, and therefore it was considered desirable to have a Select Committee of the House of Commons to enquire into the matter, and they had taken into consideration the best means of imposing such regulations with regard to the importation of cattle as would entail

the least chances of disease. They had arrived at certain conclusions which had been brought before the meeting, and he hoped that all present would join in signing a petition in support of the Committees' recommendations *in toto*, without any alteration or objection whatever. The recommendations might be fairly tried, and, if they did not succeed, then other means might be resorted to. Mr. Gater had said that he would not stop the importation of live meat unless it brought disease with it, and he agreed with him that if it did so it would be necessary to stop it, and have dead meat instead. He quite agreed that the rules should be uniform throughout the country, not one rule for one division and another for a different one. He thought the compensation laid down would induce owners to give early information of cases of outbreak.

Mr. BARFORD, in answer to Mr. Gater, said he did not believe that any animal had been known to recover from the rinderpest, and then briefly remarked on the different opinions expressed by various speakers.

On the motion of the Chairman, seconded by Mr. Sutton, it was unanimously agreed to sign the petition in support of the recommendations of the Committee of the House of Commons, and the business terminated with a cordial vote of thanks to Mr. Barford for the able manner in which he had introduced the interesting discussion.

A NOTE FOR BEER DRINKERS.—A general impression prevails that "ignorance is bliss." This manifestly depends on the nature of the ignorance and the nature of the bliss; for example, it surely cannot be a blissful state to be acquainted with the following preparations that are advertised, and, we presume, used by town and country brewers:—"Bavarian bitter, lib. equals 64lb. of hops. For adding to copper, or when racked." "Bisulphite of lime, for the prevention of acetous fermentation of beer." "Double Humulin (aroma), for flavouring mild like-pale ales, 1lb. equal to 52lb. of hops." "Bartou water crystals, especially recommended to brewers for rendering ales more preservative, improving attenuation, dropping clearer, paler in colour, more sparkling." The quotations we have given are from the advertisement sheet of a well-known and officially published class journal, and clearly show that ignorance produces at any rate in the beer-drinker, headache and stomach-ache, rather than the bliss that poets write of. Now, if we could but restore the brewers of England to that condition of ignorance when they could only brew beer with malt and hops, we might fairly regard it as a case of ignorance being bliss. As it is, however, this age of science has produced brewers that are chemists and wine merchants that are perfect masters in that mysterious department of knowledge which is euphemistically called "blending." We can scarcely complain of the danger that has arisen from a little knowledge; our trouble has clearly come from our drink makers knowing too much.—*Medical Examiner*.

CLOTH FROM FEATHERS.—A new industry is said to be extending rapidly in Paris: it consists in the manufacture of a cloth five times lighter and three times warmer than wool from the feathers of domestic and other birds. The material is waterproof, and takes dye readily.—*Journal of Applied Science*.

## CHAMBERS OF AGRICULTURE.

## BUCKINGHAMSHIRE.

The annual general meeting of this Chamber was held at Buckingham, on Wednesday, January 16th. Mr. C. S. Cantrell, of Datchet, occupied the chair. After the Report and Balance-sheet had been adopted, the Rev. J. R. Prettyman read a paper on "Sick Pauper Relief," as follows:—

The great increase of pauperism which has occurred in England during the last fifteen years renders it imperative to take measures for obviating its causes, unless we are prepared to return to the disastrous state of things which existed before the passing of the Poor Law Amendment Act of 1834. The minds of the wage-receiving part of the population are deeply infected with the spirit of pauperism. "The Parish" is looked to for the supply of almost every human want. Relief is used as an instrument for extracting an increase of wages, and the rates are thus turned into a "strike fund." Habits of reckless improvidence in the expenditure of wages are generated by it; drunkenness and immorality are encouraged by it; and the quality of labour is much deteriorated. Now, in the opinion of many authorities and experts on the subject, one of the chief causes of this prevalence of pauperism is the manner in which sick pauper relief has been administered. "It will be generally granted," says Mr. Hensted, the medical officer of the Whitechurch Union, speaking at the Poor Law Conference for the South-Eastern District, held at Basingstoke, in 1873, "It will be generally granted that in the majority of instances the first step towards pauperism has been, and is, the obtaining of medical relief; or, in other words, applying to the parish doctor, which leads to the fact of getting the name upon the parish book or medical relief list of the doctor." Another gentleman, versed in the subject, pointedly describes sick pauper relief as "the back door of pauperism." Another gentleman, Mr. W. Portall, of Hampshire, varying the figure of speech, but in the same sense, observed, at the same Conference, thus:—"I think we all agree that the first step down the ladder of pauperism is that first doctor's order of two pounds of mutton."

Probably most of you gentlemen here present are of the opinion now stated, and could confirm it by your own observation. A man, we will say, who has hitherto maintained himself by the wages of work, falls ill; he has never calculated upon sickness as one of the adverse contingencies of human life, against which a man should make provision for himself; he shares "the popular idea that the parish is bound to find a doctor for the poor;" hence he applies to the parish for medical relief, without respect to wages or family. This is the first step in the downward path from honest self-dependence to abject and contented pauperism, and in this, as in other matters, we know it is but the first step which leads often to the worst consequences. Having once broken the ties of self-respect which would restrain him from throwing himself upon his neighbours when he might have taken care of himself, he feels no difficulty afterwards in resorting to the parish when, either from circumstances out of his control, or through his own act, he is out of employment, or when failing strength in age compels him to leave off work.

Another typical case is that of persons who are not exactly sick, but in weak health—not quite up to their work. They think that a diet of meat and port wine, or a *æ*, or brandy, which they see prescribed for others, would do them good, and they have recourse directly to the parish doctor. This gentleman thinks so too, pronounces them suffering from weakness or "debility;" and influenced by a benevolence exercised at others' expense or (for doctors are not exempt from the moral weakness or debility of humanity) under pressure of the applicant's solicitation, or even from a desire to court the popularity expressed in the phrase "that good doctor," orders so much beef or mutton, with or without spirituous liquors, to be administered to the patients. Having thus tasted parish relief in an agreeable form, the "patients" are but too apt to hunger for it afterwards, and with little or no sense of shame, to look to the parish for aid or support under any pecuniary exigency which may befall them from whatever cause. In such, and in many other cases which will readily occur to your memory, sick pauper relief contributes to the pauperisation of wage-earners, and to the increase of pauperism.

I will mention two or three other cases in which this kind of relief, as now too commonly administered, contributes to the same effect. You will all admit that the demoralisation of the wages-earning population leads to their pauperisation. If, therefore, I show that this sick relief system leads to their demoralisation, I shall show that it leads to their pauperisation as well, for a demoralised man of that class is likely some day or other to be a pauper, if he is not a pauper already.

One way then in which sick poor relief, as at present administered, leads to demoralisation is by encouraging a great amount of fraud. There is no little of what is termed "malingering," or what at school used to be called "shamming" sickness, in the receipt of sick relief. This relief, for example, is often continued to be received for a longer or shorter time after the sickness, the original reason for it, has ceased. In proof of this I will quote an instance given by a Poor-law Inspector, Mr. Sendal, in his report for 1873-4:—"The relieving-officer found a man who had been twenty years in receipt of relief (given in the first instance on account of some bodily infirmity), and who eked out his parish allowance by keeping a mangle, to work which he employed two grown women." The Inspector adds that "a hint to present himself to the Board had the immediate effect of severing the long connection between the parish and this enterprising pauper." Another form of fraud to which medical sick relief, as at present given, leads is mentioned by the same Inspector in the following words:—"The tickets, which are convertible into meat, wine, &c., are convertible also (can it be doubted?) into other things besides them; while the only assurance the relieving-officer can have that the wine and meat, when procured, are employed, as directed by the doctor, for the benefit of the patient, is derived from enquiry and observation, in which he may easily be deceived. In town districts especially abuses arising from this source are of frequent occurrence, the week's supply of meat for the sick child or the grandparent's beef-tea often furnishing the Sunday dinner for the hale members of the family." In confirmation of his statement Mr. Sendal, whose words I have just quoted, refers

his readers to the following testimony of a relieving-officer:—“Nobody knows if the patient gets the meat ordered in case of sickness. Believes that in most instances the meat is cooked for the family, and states the following case—A woman, whose husband was dying, received two pounds of meat for beef tea, ordered by the doctor for the husband. The relieving-officer happened to visit the house two hours after, and found all the meat in the frying-pan.” Such are the rands which sick relief, as it is at present given, favours and encourages, to the great demoralisation and pauperisation of the parties concerned.

In another way this form of relief operates to the demoralisation of the wage-earning classes and the poor. It exempts relatives who are better off from their duty of aiding their sick kinsfolk, and thus weakens the obligations of the family tie. We know well that in thousands of cases relatives who might provide improved diet for persons in a weak condition, and medical care for the sick, leave all this to be done by the parish, *i.e.*, at the expense of the ratepayers, and so long as the parish is willing to take all this upon its shoulders, the relatives of ailing or sick persons will contentedly leave it to be borne by the parish.

Such, then, as I have briefly reminded you, is the operation of our method of sick relief in promoting pauperism. It is often the beginning of life-long habits of dependence on the parish; it gives occasion for a great amount of fraud in various ways; it weakens the family tie by exempting relatives who might succour their sick from the discharge of that obvious duty of kinship. The question now comes—Are there any remedies in the present state of the law for these ill effects of sick pauper relief? and also the question—Is any amendment of the law desirable in a remedial point of view? To these questions I will briefly answer that, as it now stands, much may be done to improve the administration of sick pauper relief. As to any amendment of the law on this point, I will only suggest that a full and complete discretion might advantageously be left to Boards of Guardians with regard to the granting, the mode of granting, the refusal of sick pauper relief, and indeed of all kinds of relief. The Guardians, with the help of their relieving officer, must know more than any other authority can know of the circumstances, habits, and characters of applicants who come before them. In Holland, according to the “Report on Foreign Poor Laws,” the District Board, which answer to our Boards of Guardians, is entirely left to its own unfettered discretion in granting relief; and there is much less pauperism there than here. Are not our Boards of Guardians equally fit to be entrusted with a similar discretion?

But to come to the more practical matter of possible amelioration of sick pauper relief, under the law as it stands, I would suggest—first, a considerable reduction in the granting of stimulants in the shape of malt liquors, wine, and, above all, spirits, under medical orders. I hold in my hand a return of the amount of these liquors distributed in the way of sick relief during the year ending Michaelmas, 1876, for the counties of Leicester, Lincoln, Nottingham, and Rutland. From this return it appears that in that year 227,595 pints of malt liquor, 7,979 pints of wine, and 12,360 pints of spirits were given as relief to the sick. Now the number of paupers in this district, sick and in good health, men, women, and children included, is 35,424. The proportion of adult sick paupers who drank all this spirituous liquor must be small. We may therefore imagine how large a quantity each of them, on an average, must have consumed. It may be presumed that this

return for the counties in question is a fair representation of the consumption of spirituous liquors by sick paupers which goes on in other districts of the same amount of population. Now, without advocating the principle of total abstinence either for those who are in good or in ill health, one may safely assert on the authority of many medical men of high repute, and, indeed, on the evidence of common sense, that such a consumption of malt liquors, wine, and, above all, spirits by persons really or ostensibly sick is excessive, and ought to be diminished. It certainly offers a great temptation to persons to get themselves placed on the sick list, or to continue unduly on that list, especially when that temptation is reinforced by the prospect of the usual ration of “two pounds of mutton.”

The next practical suggestion which I would offer to your consideration is that some further check be placed on the well nigh arbitrary power of medical-officers to grant orders at the expense of the heavily-burdened ratepayers. Surely these orders ought severally to have the express sanction of the Board before they are carried into effect. The sick list itself might also advantageously be overhauled occasionally by a committee of the Board in order to prevent the too frequent continuance thereupon of persons whose cases no longer require parish aid in the form of nourishment and stimulants.

The last suggestion which shall be offered for the better administration of sick relief is that, except in irremovable cases, as of serious accident, violent seizure, or infectious disorder, sick out-relief be, gradually at least, and as opportunity offers itself, discontinued. In the House, patients would receive more careful treatment and better appliances; the meat, wine, spirits, malt liquor, which may be thought necessary for their recovery would not be intercepted on the way to them; while the exclusive offer of the House will often induce relations in competent circumstances from very shame to come forward and undertake the expense of the medical treatment and dieting of sick persons.

A great improvement in present practice of sick pauper relief seems on all hands to be admitted as desirable. Such improvement would not only be for the interests of ratepayers, but also, and much more, for the benefit of wage-earners, in teaching them the lesson of a true, self-respecting, and manly self-dependence, and in strengthening the bonds of family affection by stimulating relations to help each other in case of sickness.

I shall conclude with appealing, in support of these views, to no other authority than that of the Chairman of the Conference of the Agricultural Labourers' Union, held May, 1877, in London, who, in his address to the assembled thousands, thus expressed himself:—“One of the subjects which would come before the Conference would be the formation of a benefit society in sickness, and he advised them to support the society, and to keep themselves from the operation of the Poor-laws; and he pointed out that a man was as much a pauper when he received an order for medicine and medical advice as when he received pauper food. He urged the labourers to adopt an honourable system of self-help, and so get rid of Poor-law relief.” [*Times*, May 16th, 1877.]

It is usual at meetings like this, after reading a paper, to propose a resolution founded upon it, which may give a hinge on which the discussion may turn. With your permission, then, I would propose the following resolution:—“That in the opinion of this Chamber sick pauper relief requires amendment, and that its amendment would be promoted by retrench-



ing the amount of spirituous liquors administered, by a frequent revision of the list of sick paupers, by the requirement that medical orders for food and liquors shall be carried out only when they have received the sanction of the Board, excepting in certain cases of sudden seizure, and by the gradual but effective abolition of out-door sick relief, except in cases of irremediable sickness."

The CHAIRMAN said he was very much pleased with the remarks contained in Mr. Prettyman's able paper, it being a subject in which they were all interested. His only regret was that another engagement compelled him to vacate the chair to catch an early train, and he would therefore not have an opportunity of hearing the discussion which was sure to follow. Before leaving he would, however, propose that the thanks of the Chamber be presented to Mr. Prettyman.

Mr. FOWLER said he was sorry their Chairman was obliged to leave, as his practical experience of one of the best conducted Unions in England would have been of great service in the discussion.

The CHAIRMAN remarked that he could heartily endorse all Mr. Prettyman had said, having had frequent opportunities of testing the truth of his observations while sitting as a member of the Slough Board. Mr. Cantrell then retired, and Mr. Fowler took the Chair.

Mr. FOWLER, in seconding the vote of thanks, said it not unfrequently happened that papers of that description were too lengthy and oftentimes tedious, but such could not be said of the one in question, their only regret being that the paper was not longer. He agreed with the rev. reader that the first step to pauperism was an application for medical relief, invariably for a midwife, and although the circumstances and necessities of the family must have been known for months, no effort on the part of the applicant would appear to have been made to meet these necessities. At the Aylesbury Union they had come to the conclusion of giving relief by way of loan. With reference to paupers becoming permanent charges on the ratepayers, he would mention one case to show the necessity of extreme caution being exercised in granting out-relief. A man had become ill six or seven years ago from spinal disease, and had continued to receive relief not only for himself, but for his family during that period. The case was investigated before the Board last week, and the wife stated to the guardians that her youngest child was only one year old. That state of things ought not to exist, and the ratepayers were justly beginning to ask themselves why they should be called upon to rear families in a state of pauperism. The proper course, he believed, would have been to have ordered the man into the House, and thus prevented the ratepayers being saddled with additional burdens. The Board of Guardians had been frequently asked to give a money surety when paupers were admitted to the infirmary, but lately they had refused to do so, believing that it had a tendency to encourage pauperism. A series of resolutions had last week been passed at the Aylesbury Board of Guardians on the subject of out-relief, and amongst them was the loan system, which he believed would be productive of very great good. Benefit societies was another source of assistance. He congratulated the labourers on their increased wages, and hoped they would put them to a proper use by becoming members of benefit societies, and making whatever provision they could against a rainy day. He could not disguise the fact that a deal of the poor-rates went towards something which the poor had nothing to do with. He had noticed that when a fresh Act of Parliament was passed, and provision was re-

quired to be made for some officials, the salaries were invariably ordered to be paid out of the poor-rates, so that the poor themselves did not receive more than half. In conclusion, he thought the basis laid down by Mr. Prettyman was a very good one, and he had great pleasure in seconding a cordial vote of thanks.

The vote was then put and carried unanimously, Mr. Prettyman briefly acknowledging it.

Mr. COALES said in the Newport Union, of which he was guardian, they did not grant medical relief for more than a fortnight at a time, and they found that to be much better than going on for an indefinite period. In a few cases, if the paupers did not get better, they ordered them into the House. For the last few years their rates had much declined. He thought the greatest kindness to the sick poor people was to order them into the House, where they received better attention than they could at their own homes. They frequently did so, and found it answer very well. Their paupers had been reduced from 1 in 13 to 1 in 30.

Mr. GRIFFIN said he had one remark to make with reference to giving paupers medical orders. It appeared to him, from his knowledge of the labouring classes, that they thought they had a right to have a medical order even if their little finger ached. Every medical order should be revised by the Board, and in the majority of cases they ought to be consulted before they are given. They could not be too careful in granting medical relief, as amongst a certain class there was great improvidence, and even then it ought to be given by way of loan. He was pleased to hear that the labourers were forming benefit clubs of their own, for in his parish there appeared to be a prejudice against them. He thought the guardians ought to give poor men every facility for forming such clubs, as they could not encourage them too much. In the Wycombe Union, when they found an applicant belonged to a club, they assisted him liberally. He concluded by proposing the resolution referred to by Mr. Prettyman at the end of his paper.

Mr. COALES said in their Union they always gave 1s. extra to persons belonging to a club.

Mr. SHAKSHAFT seconded the resolution. He thought that the granting of medical orders should be left to the discretion of the guardians, and the medical-officers were best able to judge whether spirits of wines were necessary. Where poor men belonged to a club, he thought Boards of Guardians ought to encourage them in every possible way. The Board should also use its discretion in granting out-relief to labourers sixty years of age and upwards. He made that statement on the ground that the old labourers had not the same opportunities of making provision for old age as the labourers of the present day enjoyed. The men in their employ at the present time were earning much higher wages than they did years ago, when the labourers were inadequately paid and scarcely able to live.

Mr. TREADWELL (who entered the room some time after the business commenced) expressed his regret at not hearing the paper read, but said he would make a few remarks on the resolution. He had been engaged all the morning in trying to carry out the provisions of the Poor law. With reference to clubs, he did not quite endorse the observations made on them. Clubs were institutions supported by people to help them in time of illness. If they were in a good position they would not require assistance from the ratepayers. To encourage clubs was a very good thing, but he reprobated

supplementing them by relief. If a person had sufficient income from a club he did not want to be assisted by the rates. If, however, a person was destitute, give him the House; and that would be a means of their joining clubs. He was not aware but that sick clubs existed in every district, where, by the payment of a small sum, they were entitled to its benefits, and did not require any assistance whatever from the Board of Guardians. Where orders were made for particular things to be supplied to a pauper, the guardians called upon the doctor for a special report with reference to the medical extras. Old people should have every consideration, as they had not had the same opportunities of saving as the labourers had now. Mr. Hemsted truly said that medical relief was the beginning of pauperism; and he (Mr. Treadwell) thought there could be but one opinion on the subject. At the Board of Guardians that day they had struck out a great many names on the out-relief list without increasing the in-door cases. He might also add, that during the last ten years nearly £4,000 had been saved to the Aylesbury Union, the greater part having been effected within the last two years, by a thorough investigation of every case on the books of the Union. They had taken a leaf out of the Newport Pagnell Guardians' book, and found it had answered remarkably well. In conclusion, he cordially approved the resolution, which was then put and carried unanimously.

The Central Chamber petition on Cattle Disease was read and laid on the table for signature, and the Clerk was instructed to transmit the same to the Home Secretary.

**SOUTH DURHAM AND NORTH YORKSHIRE.**

On Saturday week the annual dinner of this Chamber took place at the King's Head, Darlington. The President, Mr. Edmund Pease, M.P. for Darlington, occupied the chair. After dinner,

Mr. JOS. WHITWELL PEASE, M.P., read a paper on the "Meat Supply of Great Britain." He said:—The number of cattle in this country (Great Britain) in 1876 was 5,844,141; in 1877, 5,697,933. In forming an estimate of our meat supply the first question we must ask ourselves is, What is our annual home-growth of butchers' animals? The late Sir Harry Meysey-Thompson went carefully into this question in a paper he contributed to the Royal Agricultural Society's *Journal* in 1872. Taking the whole country as one large, self-sustaining farm, he calculated that 25 per cent. of its entire stock came annually to the butcher. This would give 1,461,035 head for 1876, and 1,424,483 head for 1877. These he calculated, on well-considered data, would weigh 600 lb. per head, equal to 7,826,973 cwt. for 1876, and 7,629,552 cwt. for 1877. The total foreign imports during 1876 were 269,798 head. These, Sir H. Meysey-Thompson calculated, would average 520 lb. per head, or 1,252,633 cwt. The foreign imports for 1877 were 204,195 head, giving on the same calculation 948,048 cwt. In addition to this we had from Ireland in 1876, 322,181 fat animals, which, at the same weight as the foreigners, would give us 1,495,375 cwt.

This gives a home supply from the United Kingdom in 1876 of ..... 9,322,318  
 And a foreign one in live meat..... 1,252,633  
 10,574,951

In that year we also received in dead meat (of which 144,336 cwt. came from the United States) ..... 172,268

Or a total supply of..... 10,747,219

of which 27 per cent. were home grown and 15 per cent. foreign. We must not overlook the fact that the dead meat trade set in with much greater rapidity in 1877. During January, February, and March of that year we received no less than 477,598 cwt. Of this 393,685 cwt. came from the United States and 6,925 cwt. from Canada. I formed an opinion, at the time of our inquiry, that this trade was likely to be a fluctuating one, from reasons which I shall shortly touch upon. The detail statistics of 1877 are not yet before us, but I find that at Liverpool there was landed, during the first three months of 1877, 198,283 cwt., more than half the quantity received by this country; and during the last nine months only 248,469 cwt. This trade, which began the year at 66,000 cwt. per month, dropped to 27,500 cwt. per month. In 1876 we only received from non-European countries 2,955 head of cattle, whilst 16,647 head have been landed from America at Liverpool alone during the last nine months of 1877. The Board of Trade returns of the supply of meat alive and dead for the year 1877, which are just issued, will, I think, excite some surprise. We have been constantly hearing throughout the year of the large and increased quantities of dead meat from America and other producing districts arriving in this country; but this comparatively large supply has not equalled the falling-off in the importation of live stock for meat. We have, therefore, actually been less dependent on the foreigner during 1877 than we were during 1876. The actual figures stand as follows:—

1875.	1876.	1877.
Head.	Head.	Head.
263,698.....	271,576.....	204,195

These, according to Sir H. S. Meysey-Thompson's calculations, would produce in meat—

1875.	1876.	1877.
cwt.	cwt.	cwt.
1,294,612.....	1,260,888.....	948,048

The dead meat imported during the same periods were—

1875.	1876.	1877.
cwt.	cwt.	cwt.
35,012.....	170,711.....	465,319

or a total supply of foreign meat, alive and dead, of—

1875.	1876.	1877.
cwt.	cwt.	cwt.
1,259,324.....	1,431,599.....	1,413,367

or, in 1877 we received 13,332 cwt. short of the previous year. At the same time the home supply had gone down 197,421 cwt., or we had less meat, home and foreign, in 1877 than in 1876 by 215,653 cwt. With regard to the diseases with which we have principally to contend, I think we may summarise them as follows:—By far the most to be dreaded for its infection and fatality is cattle plague. Whilst there is some evidence of this disease being indigenous, it is of so distant a date that we may now fairly look upon it as a disease coming to us solely by importation from abroad. We have dealt with it so strongly and so effectually that I may aver it is now the least important factor in a consideration of the diseases which prey upon our meat supply. And yet, from this imported disease it is estimated that—

In 1865-67 we lost	£5,000,000 sterling.
In 1872	5,000 "
In 1877	22,000 "

the last two items being reducible by one-half for the value of

carcases sold. In 1877 herds containing 1,084 animals were attacked. Of these—

Died .....	34
Sickened and were killed .....	214
Killed as precaution .....	835
Not accounted for .....	1
	1,084

The evidence is conclusive that the dairy-sheds of London and other large towns have frequently proved to be the hiding place of this formidable disease, and that from these sheds it has often burst out afresh, when the authorities had thought it "stamped out." In the case we investigated, the evidences of the disease having come from abroad within a recent period amounted almost to a matter of demonstration. As regards pleuro pneumonia, it may be classed as the most insidious of these diseases. In 1876 Great Britain slaughtered 4,673 animals, and paid compensation £31,991. But by far the worst enemy of the meat supply of Great Britain is that which is known as foot-and-mouth disease. Constantly at work, breaking out here and there, not generally fatal in its immediate action, but constant and widespread in its effect, the extent of its damage to the farmer and to the consumer is not likely to be so accurately ascertained as is the injury due to the ravages of the cattle plague and pleuro-pneumonia, whose deadly effects at once call into action stringent regulations for their arrest. In a paper in the Royal Agricultural Society's *Journal*, in 1873, Mr. Jenkins, Secretary to the Royal Agricultural Society, stated that, from the passing of the Contagious Diseases (Animals) Act, in 1869, to the end of 1871, no less than 1,344,625 animals were attacked; or one-fifth of our entire stock. I do not believe that the case of my friend, Mr. Thomas C. Booth, is an exaggerated one. He stated in his evidence that between 1865 and 1872 he lost more than half his herd by foot-and-mouth disease; that this disease, as he believed, was conveyed to his cattle by animals travelling along the high roads adjacent to his farm; that, out of 17 cows in one field, was produced in 1872 only one living calf. Mr. Stratton stated that in Wiltshire, in 1872, out of 79,350 head in the county, 27,444 had had foot-and-mouth disease; and in 1875, 24,000 had this complaint. Multiply Mr. Booth's experience by the farms each of us has known similarly affected—by the experience of gentlemen around this table—and then cast an eye over broad England, and over the 6,000,000 head of stock she possesses, and the loss in breeding stock, in fat cattle deteriorated, and in store stock thrown back, if it could be put into pounds, shillings, and pence, before our eyes, would be an amount so formidable as to rouse into action both producer and consumer of meat. I now come to the manner in which disease is imported from abroad. As regards cattle plague, we only know it as a foreign disease, and that it has come to us through Germany and Belgium, from Russia, its great hotbed. By a return moved for by Mr. Elliot it appears that in the three years ending 31st March, 1877, 12,389 cargoes of animals were landed in Great Britain. Of these cargoes,

- 1 cargo had cattle plague.
- 13 cargoes had pleuro-pneumonia.
- 1,381 cargoes had foot-and-mouth disease.

1,395, or nearly 11 per cent., = 1 in 9 of all the cargoes received during these three years, conveyed disease.

Professor Brown says that in 1875 and 1876 about 30,000 animals affected with foot-and-mouth disease were landed at various ports. Still, he says, in 1876 it was common to hear the remark, "foot-and-mouth disease has left us. There are no cases in this country." How he reconciles this with the report of his own Department, to which I have already alluded, I cannot imagine. He also says—"The introduction of disease into the country is, therefore irregular and occasional." The fact is that it entirely depends on the vigilance, or otherwise, of inspectors at the ports, a state of things which cannot be satisfactory to the producer or consumer of animal food. As to the transmission of disease at home, there is ample evidence of the same character as Mr. Booth's—that cattle travelling convey it from farm to farm as they pass along. In 1862 it spread through the country from the Breton cattle at the Royal Agricultural Show at Battersea. In fact, we all know too well how easily the infection is spread. I now come to the more practical part of my subject, the evidence in favour of a plan for arresting these diseases at home. I think the evidence of Count Danneskiold-Samsøe, who represented the Agricultural Society of Denmark, proves satisfactorily that internal regulations will, if properly applied, stamp out these diseases. They have had no cattle plague in Denmark since 1772; in the Duchy of Holstein since 1813 and 1814. They have had no pleuro-pneumonia since 1861—"none of late years,"—one instance in 1843, one in 1831, confined in each case to one farm. As regards foot-and-mouth disease:—

In 1872,	19 cases on	4 farms with	60 head of cattle.
" 1873,	4	" 1	" 80
" 1874,	8	" 2	" 40
" 1875,	130	" 13	" 117

In 1875 they made the laws on foot-and-mouth disease assimilate to those on cattle plague and pleuro-pneumonia, and in 1876 they had but one case of foot-and-mouth disease on one farm. Here we have a most instructive instance of the benefit arising from strict internal regulations. Whenever any of these three diseases break out, the place or district is localised; no communication with it is allowed; each place is under police surveillance. The result is freedom from disease. No cattle are allowed to come in from Germany, no cattle-truck is allowed to return from Germany. Barrels, boxes, packing-cases containing straw and hay are prohibited, unless the merchant agrees to burn the contents. Horned cattle, sheep, goats, undressed parts, such as hides and skins, wool and hair not smoked, and tallow not melted, are all prohibited articles from Germany or other countries. Professor Brown endorses the views held by Mr. Booth and others that similar regulations at home would reduce these diseases to a minimum; and whenever a district has been under the cattle plague regulations we have the fact that foot-and-mouth disease has almost disappeared. Consequently, both our own experience and that of Denmark is conclusive on the point that proper home regulations would keep our herds almost clear of these diseases. Such regulations might produce some inconvenience at first, but I think it is beyond doubt that the result would soon be one of great general benefit. Having come, therefore, to the conclusion that it is possible to keep our herds almost free from these diseases by home regulations, my next head is a very important one, viz., the manner in which disease can be kept out from abroad. I have already indicated how formidable is the risk we run from imported disease. But, as our great object is a cheap supply, it is obvious that in regulating the import trade we must have the maximum of safety with

the minimum of regulation. Sir Henry Selwin Ibbetson, in his draft report, suggested:—That in respect of foot-and-mouth disease and pleuro-pneumonia, Sweden, Norway, Denmark, Spain, Portugal, and America should only be placed on the list of scheduled countries on the breaking out in any of them of contagious disease. But the committee reported, by a considerable majority, not only in favour of the prohibition of all animals from Russia, and of cattle from Germany (except Schleswig-Holstein) and Belgium (as suggested by Sir H. S. Ibbetson), but they also advised that other animals than cattle from Germany and Belgium, and all animals from the rest of Europe, should be slaughtered at the port of debarkation. An exception was made for store cattle—which should remain 14 days in quarantine and then be two months under inspection—a regulation which almost amounts to prohibition. This appears to me to be the reverse of my proposition—it is the maximum of regulation, and it is not required by the safety of the home stock. The countries supplying us may be fairly classed into—the dangerous, the semi-dangerous, the safe. Germany, Russia, and Belgium are admittedly dangerous; we cut them off at once by entire prohibition as regards cattle—by this we lose about 26,000 head of supply. The total of those countries for 1876 was 77,000 head, but the largest proportion of this number came from German Schleswig-Holstein. Of the 26,000 we cut off there were in 1876 no less than 3,328 diseased animals. This operation is a necessity, as here we have a minimum of supply with a maximum of danger. The semi-dangerous countries are those where regulations such as I have described as existing in Denmark are not in existence, or not enforced, and from whence pleuro-pneumonia and foot and-mouth disease may be feared. It is not a safe thing to continue to run the risk of cargoes coming in in a diseased condition; let these animals be slaughtered on arrival. As regards the safe countries (so long as they are safe) I see no reason why we should do more than be vigilant abroad and closely inspect at home. Count Samsøe's evidence is amply borne out by the fact that in 1876, out of 57,914 Danish animals arriving, not one case of disease was found. At Newcastle, out of 101,305 from Denmark, and 5,566 from Schleswig-Holstein, 1875, 1876, 1877, there was not one diseased animal. Out of 21,000 from Spain only 14 cases of disease. In 388 animals from America not one case of disease. It, therefore, appears to me that, so long as these countries show such clean bills, we have nothing to gain, but all to lose, by making regulations which may be, and will be, attended with inconvenience to the consumers, and really afford no protection to the producer. I now come to the meat supply of the United Kingdom. It is quite plain that the quantity required, even at the present market prices, is an increasing quantity. The numbers of heads of cattle exhibited for sale in the under-mentioned places—comparing 1866 and 1876—shows this most plainly. Exhibited for sale in—

	1866.	1876.
Edinburgh .....	15,494	39,384
Glasgow .....	48,294	73,717
Liverpool .....	112,980	126,074
Newcastle.....	45,109	103,794
Manchester .....	109,610	167,846
	<hr/>	<hr/>
	325,587	510,695

An increase of 57 per cent. in 10 years in these five towns. But, with this increase of consumption, the last returns before us show a decrease in our home stocks. It is to be par-

icularly noticed that our stock has gone down between 1874 and 1876 by 279,000 head; and between 1874 and 1877 by 427,558 head, or by an amount far more than equal to our whole foreign supply of live meat. No doubt the decrease may be in part attributable to the laying down larger areas of land to permanent grass—an operation which the increased value of labour has much promoted. The permanent pasture of this country has increased from 12,072,000 acres in 1870 to 13,313,000 acres in 1875, to 13,515,944 in 1876, and to 13,723,355 in 1877—the acreage of cultivated and grass land in this country being about 31,500,000 acres. It is a great fallacy to suppose that permanent pasture will carry as large a stock of cattle as the same area under cultivation. Still, we cannot look at this fact without realising its gravity. It is notorious that the price of meat ought to have paid the farmer for breeding cattle; but it is obvious that for two years past our herds have steadily decreased, whilst it is the common interest of producer and consumer that they should have increased. The operating causes must be—the fear of loss from disease attacking the herd; hesitation to move cattle from fear of infection, thus limiting the available feeding grounds; the avoidance of adding strange stock to healthy herds, from fear of infection; and the enormous loss occasioned by the outbreak of disease in large herds. These are reasons which, when distributed over a large area, one cannot doubt, have conduced to the results exhibited in the returns—viz., diminution in breeding animals and consequent diminution in young stock. I have already endeavoured to show how small a proportion of our live meat supply comes from abroad. But if we take my figures of 13 per cent. as approximately correct, we have a figure of great importance in determining the price of meat in the market, and a factor which, in the consumers' interest, we cannot for a moment desire to curtail. It would be well if the statistics of our meat supply were definite, and not dependent, as at present, on individual estimate. Some fault has been found with the recommendations of the Committee on the question of compensation. Their recommendations were:—In the case of cattle plague full compensation should be given for all animals slaughtered on suspicion, and the present rate of compensation (two-thirds value) for those slaughtered in the complaint, and that this should be paid from Imperial funds. In case of pleuro-pneumonia that compensation should be given at the same rate as in the case of those killed for cattle plague, but paid out of local funds. In the first case the Privy Council would have power to deal with every case, and also with animals on adjoining premises. In the case of pleuro-pneumonia the disease was less formidable, and consequently less national in its immediate effects. It would be left under the care of local authority, and local funds would be used, and local authority is always supposed to be careful in the use of its funds. The reason for the payment in full was not so much in order to compensate the unfortunate owner, but in order to secure the early knowledge of the existence of such cases. There is little or no doubt that animals already smitten with cattle plague, or coming from sheds in which it had broken out, were at once dispersed and sold, in order that the owner might obtain their full value, rather than only two-thirds; and in this way disease had been spread. In other cases the animals had been killed and sold, no doubt realising more than their two-thirds value. It was, therefore, in order to procure an early discovery of disease, and to prevent the spread of infection, that the Committee came unanimously to this recommendation, and I believe the policy is a wise one

In conclusion, whatever may be the result of slaughtering all, or only the semi-dangerous portion of, our supply at the port of debarkation, I believe that the labours of our Committee will bear good fruit. Our consuming population must look at this question in no narrow light. It must be obvious to them from the figures they have before them that the risks attending the holding of cattle have had a great tendency to reduce the numbers raised at home and prepared for the market. They must be aware that their great supply is not from abroad; it is from home. The supply from abroad is but an auxiliary—a most important auxiliary, no doubt, and one not to be neglected; but, so far as this country is concerned, it is handicapped in competition by the state of the markets nearer the source of supply, by inland transits to the coast, and by expensive sea voyages. It is my humble opinion that hitherto, in our haste to bring these auxiliaries into the field, we have received a very doubtful benefit. We have feared that any regulations would be a protection (in the sense of a virtual import duty) in favour of the farmer at the consumer's expense—a point on which we are all rightly jealous. All regulations must not be restrictions on the importation of cattle, but restrictions on the importation of disease. The effort to obtain a good meat supply must be in all senses a united effort. It must be a united effort in the sense that regulations as to the purity of our foreign supplies must go hand-in-hand with stringent internal regulations to prevent the spread and secure the extinction of disease. It must be a united effort on the part of the consumer and producer to obtain the largest supply of meat at the lowest possible cost. The producer must be relieved from much of the risk and loss of imported and home-grown disease, which have in the past formed so large an item in his cost of production. The receiver will obtain the benefit of a continued supply from abroad. If it is even a little curtailed by the inconveniences of regulations, he will, in all probability, be more than repaid by an increased supply at his own door. The cost will be held in check by the fact that the dead meat trade will always thrive at a price. The national wealth will be increased, not only by the people having an article of most necessary diet at the lowest possible price, but the tendency will be to deduct a portion from one of those items which at present make the "balance of exchanges" so much against us, as our money would be sent for home instead of for foreign supplies. If the efforts of the Committee of 1877 tend in these directions, which I venture to believe will be the case, their investigations will not have been in vain.

Mr. T. C. BOOTH (Northallerton) said he had hardly any criticisms to offer upon the question with which Mr. Pease had dealt. However, he did not quite agree with Mr. Pease in some of his figures. Of course, in calculating the consumption of food in this country on the same basis as Sir H. Meysey-Thompson, he (Mr. Booth) had included the whole of the importations of animals from Ireland; while Mr. Pease had only taken the fat stock. But the whole of the importations of stock from Ireland in the course of a year goes into consumption, they were not kept here for breeding purposes. He made out that in the year 1876, instead of the number of animals from Ireland amounting to 322,181, as Mr. Pease brought out, the number was 666,000; and that, according to Mr. Pease's calculations, rather exceeded the quantity of the total supply of meat during 1876 as compared with the previous year. He (Mr. Booth) took it in the following way. Taking the consumption of England, Scotland, and Ireland as one-fourth of the

9,731,000, it gave 2,433,000; and taking the average weight of these upon the basis of Sir H. Meysey-Thompson's calculation at 44 stones for each fat beast, and taking his own calculation of 8s. 3d. a stone or about 7d. per lb., which he believed to be the average price, the total value of the food consumption in the United Kingdom of Great Britain and Ireland amounted to £44,000,000. The imports from foreign countries in 1877 amounted to 204,000 head, and taking the same basis—fat was 520lb. per animal or close upon 37 stones of 8s. 3d. per stone, that amounted to £3,311,000, or not quite  $\frac{7}{8}$  per cent. of the whole production of this country. At the same time, the declared value for imported beef increased from £162,947 in 1876 to £1,266,280 in 1877, or more than two-fifths of the value of the live stock. He thought also they ought to take into consideration the immense increase that had been going on in imports during the present year. In the first fortnight for this year we have had 16,000 quarters of beef landed at Liverpool, representing 4,000 head of stock from America alone. If that supply went on at the same rate we would see in the present year an immense excess over anything we have ever had before. Now, taking one-fourth of the cattle of England—on Mr. Pease's calculation 1,425,000—and to that add 666,000 which come from Ireland, we have a total supply of 2,091,000. Taking the consumption of England and Scotland alone, and putting these at the same value as before, we reach a total of £33,600,000, and taking the imports at £1,111,000, it gives a trifle over 8 per cent. of imports of live foreign stock against the production of home food. Adding the imports to dead meat we have a total value of imported food of £4,377,000, or about 10 per cent. of the whole value for the kingdom. Mr. Pease made it to be 13 per cent., but now it would appear that in 1876 the total imports from all foreign countries were 274,585, and the imports in 1877 were only 204,195. Thus there was a falling off of 70,000 head. This exactly agreed with Mr. Pease's calculation, but it was rather singular that this falling off was almost entirely due to the outbreak of the cattle plague in this country. The German supplies ceased owing to this cause. It was stated before the committee by Mr. Gebhardt, and other foreign salesmen, that if the foreign cattle were stopped there would be a famine in London during the last autumn. They forgot that during the time they were giving their evidence these German cattle were actually prohibited, and still there had been no outcry of famine. We have seen beef during this last autumn at a lower price than we have had it for very many years. This, he thought, was one reason why foreign animals were not coming. Mr. Pease had alluded to the falling off in the American meat supply, and he (Mr. Booth) thought that the fact that beef in this country went down something like 2s. a pound was enough to satisfy any man. This reduction in price was sufficient to debar the foreigner from sending, and he had no doubt it had had a very great influence on supplies during the autumn. But why had the price of meat gone down? Why, it was the old story—supply and demand. If there was too much of a thing in the market—as very many gentlemen in that neighbourhood had known to their sorrow lately—it was almost impossible to keep up the price. So it was with beef. There had been an excessive supply, and down went the prices. Consequently the foreigner was shut out. He did not think that any man in the room would suppose for a moment that the foreigner would not send his animals to the best market he could find. It was stated the other day by a deputation of foreign salesmen to the Duke of Richmond and Gordon—the same gentlemen who gave their evidence before the

committee, namely, Mr. Gebhardt, Mr. Lyons, Mr. Hall, and others—that the stoppage of this trade was going to ruin the country. But it was stopped at the time, and they never thought about it. The fact was that it was the prices that would rule the trade. If prices went down the foreigner could not afford to send. But depend upon it no foreign nation would ever think of giving up producing beef. They knew too well that it paid them, and they would seek the best market. The other day, when in London, Professor Simonds said to him, "You are diverting the supply; it is going to foreigners." But why was it going to foreigners? Simply because there was a better market. One point upon which he and Mr. Pease differed was this—What were they to do with these foreign cattle when they were landed here? What he had been urging as to the question of prices held good with regard to the stopping at the port of landing. The foreigner would still send the cattle to the best market, and what did it matter whether these animals were slaughtered at one end of a railway journey or the other, so long as the consumer got them at a cheap rate? Why were we to care for the foreigner? Newcastle was one of the largest importing towns of the North of England, and there they had ample preparation made. He had been told by Professor Brown, the very clever veterinary inspector for the Privy Council, that Newcastle had one of the best appliances for a dead meat market to be found in the ports of the kingdom. Why should not these cattle on being landed at Newcastle be slaughtered and sent to the different markets, and thus go to the people in the cheapest form possible? No argument which he had ever heard by the men most interested in this trade—these were the meat salesmen and butchers—have ever in the slightest degree convinced him that there was any impossibility in bringing the trade to a successful issue. One of the great faults of this trade had been that we had scheduled certain foreign countries. These countries never knew whether their cattle would be slaughtered or whether they would be allowed to go free; but according to the principle which he advocated—that was the slaughtering of all animals at the port of debarkation—there would be a regular trade, and wherever that was the case there would always be a regular demand. Butchers and meat salesmen would go where they could buy, and animals being slaughtered at the port of debarkation would tend to the delivery of this foreign meat to the consumers in this country at a cheaper rate than by having it sent by rail to the different slaughter-houses and private butchers' shops. No one had raised a great outcry against this except the butchers, and it was a novel idea for the butcher to become the advocate of the consumer. He could not help smiling the other day when he read a report of a large meeting of butchers at Huddersfield. They stated that they numbered 6,000 in Yorkshire, and that they were the representatives of so many millions of consumers. Why, the only thing was that there was a new trade springing up, and the butchers' profits would be reduced. The West Riding butchers cried "Famine" about the German cattle not coming to Hull; but Hull had been closed for months, and not a foreign animal had been landed there. Where was the famine? Why, we had lower prices than ever we had before. He repeated that it was simply a question of supply and demand. He wished to impress upon the Legislature that if they did not carry out the recommendation of the Committee as to the slaughter of animals at the port of debarkation they need do nothing whatever as regards the stoppage of cattle in this country. He was astonished when he saw that return about Newcastle, be-

cause he knew that in 1876 there were five animals condemned for foot-and-mouth disease in Newcastle, and these animals were from Denmark; and he also knew that last autumn, in a cargo which came into London from Denmark, two were found with foot-and-mouth disease, and the cargo was condemned. Telegrams were sent to the authorities in Denmark, and through the whole of the country they could not find a case of foot-and-mouth disease. This simply showed the insecurity of this country. Had these animals been allowed to go into the country they would have spread the disease; and he felt most strongly that if the Legislature did not accept the regulation as to slaughter at the port of debarkation, it would be no use asking the meat producers of this country to accept the regulations proposed for them. Witness after witness stated this before the Committee, and it was the feeling of the country; and Lord Brasconsfield was aware of it when he told the deputation it must be understood that if cattle were slaughtered at the port of debarkation, the English farmer must bear without a murmur the restrictions which would be put upon them. The same feeling of insecurity would permeate the whole of the country if live cattle were allowed to come in, because they would never know when they were free. He thought it would not be tolerated for a moment that certain nations should be allowed to send their animals here unless there was some outbreak of disease in this country; and the fact that eighteen out of twenty members of the Committee, ten representing the largest towns, supported Mr. Norwood's proposal to slaughter at the port of landing must have a great influence in deciding the question. After that he might say that half the battle was won; and considering also that Mr. Elliot's clause, prohibiting entirely all arrivals from Russia and Germany, and requiring that all animals from the rest of Europe should be slaughtered at the port of landing, was carried by 15 to 8, he hoped that that would settle the question. The dead meat trade in this country was largely increasing, and he thought the best thing which could happen to this country would be to have no live stock markets, but that the whole should be a dead meat trade. He hoped his remarks would convince his friend Mr. Pease that he ought to vote in favour of the slaughter of all animals at the port of debarkation.

An interesting discussion followed, and a vote of thanks was given to Mr. Pease and to Mr. Booth for their addresses.

#### EAST SUFFOLK.

The annual meeting of the East Suffolk Chamber of Agriculture was held at Ipswich, on Tuesday, January 22nd. The proceedings commenced with a public tea. Colonel St. John Barne, M.P., the President of the Chamber, occupied the chair.

Mr. C. H. BERNERS said he felt that in accepting the office of President of the Chamber for the ensuing year he placed himself in a somewhat anomalous position. He had been requested to preside over gentlemen who had been brought up to agriculture from their youth. He was glad to see present this evening those whom he knew by reputation and personally as thorough good farmers; and he felt the position which he had accepted in compliance with the request that had been made to him was an anomalous one, because he himself knew comparatively nothing about farming. He felt it a very great honour to be asked to become the President of a Chamber in one of the most essentially agricultural counties in England. With regard to the matters which were to be brought forward

in the ensuing Session of Parliament the Rev. Mr. Hervey had alluded to the establishment of County Financial Boards, which was a very important question. No details of that measure promised were as yet forthcoming, but he (Mr. Berners) thought—and in this he felt he should have the concurrence of every gentleman present—that it was in every way desirable that County Financial Boards should be established. He said this because he considered it right that ratepayers, or those who had to pay the money, should be directly represented, and not because he thought there would be an actual saving to the ratepayers, because he felt convinced that the magistrates conducted the affairs of the county with the greatest possible economy.

The report having been read by Mr. EVERETT, the secretary,

Lord John HERVEY moved that the report just read should be received, adopted, and printed. He said he ought, perhaps to apologise to the Chamber for taking so prominent a position as to move the adoption of the report, because, like one of the preceding speakers, his knowledge of agriculture was more than limited. Before he came to this meeting one of his friends said to him, "At all events you have considerable connection with the land." He (Lord John Hervey) could not help thinking that though his connection with the land was considerable it was slight in its character. He was not an owner nor an occupier of land. A connection of some sort he might have, but it was of archaeological character rather than pecuniary. However, it seemed to him that the report, the adoption of which he had just proposed, did not deal so much with agricultural as it did with political topics. The last thing he should wish to do at a meeting of this kind, composed as it was of members of different parties, would be to make a party political speech. Therefore he trusted that it would be understood that by any reference he made to the various topics alluded to in the report he had no party motives whatever. He rejoiced that the Government accepted Mr. Clare Sewell Read's proposal last year and determined to bring in a measure for the purpose of establishing the representative principle in County Government. He (Lord John) had always been one of those who thought that in dealing with this question of Local Government, Chambers of Agriculture had been inclined to attach too much importance to the question of Local Taxation and too little importance to the question of Local Government. However, he was exceedingly glad that the Government had determined to deal with this question of Local Government, and that they determined to introduce the representative principle. But that was not the only thing they had to do, because the state of things still remained as described in a valuable report on this subject compiled by Mr. Goschen when president of the Local Government Board, viz., that Local Government in the counties with its confusion of area and jurisdiction and offices and rights was quite in a chaotic state. So he (Lord John Hervey) thought the Government in the measure they were about to introduce would have to turn their attention not only to the introduction of the representative principle, but would have to bring some kind of order out of the chaos at present existing in our local government. With respect to the representative principle itself, he thought there was likely to be something of a rub when the question came to be discussed in Parliament. The question probably would be as to whether the representation of the ratepayer was to be direct or whether it was to be indirect. Everyone had, of course, a right to hold his own opinion. His personal opinion was strongly in favour,

though it had not always been, of direct representation of the ratepayers. What he felt about it was that if he were himself a ratepayer—which he happened not to be and in that respect was more fortunate than most gentlemen present—if he were a ratepayer he should want to have his share in settling what was to be done in respect to matters of local government. He fancied that other people of his own class would have the same feelings. If he were a clergyman, a lawyer, a professional man, he should certainly want to have his share in managing the local affairs of the county, and he therefore wished clergymen, lawyers, and professional men should have that share. If he were a tenant farmer occupying land and paying rates he should wish to have his share in managing the local affairs of the county, and he therefore wished that tenant farmers should exercise that control. And if also he were an agricultural labourer he should wish to be able to take his share in managing local affairs in which he should have an interest. Therefore it was his wish that agricultural labourers should also have their share in the management of local affairs. With regard to other measures affecting the local rate, he thought the Government had acted properly in taking over the prisons. He considered that the management of prisons was more of a national than of a local business. He held that the prisons could be worked, not only more economically, but also more efficiently when they were all managed under one system and one administration. With regard to the contributions made under the head of the maintenance of lunatics, he did not agree with what had been done by the Government. He doubted whether these contributions were at all politic ones to make. He did not approve of one set of people being able to dip their hands into money which came from other people, and he did not believe it was politic to allow Boards of Guardians to determine who were to be the lunatics to be maintained at the public expense, when the money for maintaining them came, in great part, from the Imperial Exchequer. He took great interest in the Board of Guardians, and one day in the summer when in the Shires he attended a meeting of a Board of Guardians there, and an application was made by a man to have his wife treated as a pauper lunatic. The man up to that time had himself paid for the support of his lunatic wife. But now that there was the contribution to be given out of the national Exchequer the Board of Guardians allowed the man to treat his wife as a pauper lunatic on condition that he repaid to them the difference between the sum which was required for the cost of her maintenance and the sum contributed by the Government. It was easy to see that if any system of that kind arose here who were taxpayers as well as ratepayers might suffer.

Mr. BUNCH seconded the adoption of the report.

The CHAIRMAN said there was a gentleman amongst them that evening—Mr. Waller—who had great knowledge on the subject of cattle disease, and had come especially to say a few words to them.

Mr. BIDDELL, as one who knew Mr. Waller and what he had done, gave him a hearty introduction to the Chamber.

Mr. WALLER said the subject of cattle disease, to which allusion had been made, and about which they had been kind enough to say he had some practical experience, he reminded them was not one of party politics, and never ought to be made such. The question of cattle disease was not one of class interest, of town against country, or country against town. The consumers were as much interested in the question as the producers, and any legislative settlement of the question must

be made on the basis of national benefit and public good. His experience of contagious cattle disease was that it was not spontaneous in its origin, but that it was derived from importation abroad. In the second place he held that the disease was controllable, and he would only ask them to reflect on the experience of the past year. When the cattle plague regulations were put in force some few months since, diseases of other kinds disappeared, and for months he had not known where to find a single case of foot and mouth disease. This fact showed that there was a connection between sanitary regulations and the existence of disease. After alluding to cases of disease in cattle from America and Portugal, Mr. Waller said he heartily joined in the concluding portion of the report, in which a hope was expressed that the question of cattle disease might be satisfactorily settled this Session. He advised them not to commit themselves to any expression of opinion until they knew what the provisions of the Bill were. If the Government—as he had every reason to believe they were—were disposed to take an agricultural view of the case, then he should like to strengthen their hands as much as possible. The honourable and gallant gentleman who presided over them knew that there was a great difference between a Bill when it went into Parliament and when it emerges as an Act, and it would be their duty to act as Parliamentary agents in the matter, and endeavour to get as good a measure as possible, fairly protecting owners of stock in the country from preventable diseases, and freeing their home trade from the excessive restrictions to which it had hitherto been subjected.

Mr. EVERETT said he had received a petition from the Central Chamber on the subject of cattle disease, and he asked Mr. Waller whether he thought it would be advisable to join in the prayer of this petition or wait until they were acquainted with the provision of the new Bill.

Mr. WALLER said he would remind the meeting that there was some misunderstanding as to what were the recommendations of the Committee. It seemed that there was some incongruity between the summary of the recommendations, and the paragraphs which appeared in the report. What the Committee intended was that the entire report should be taken, and not that parts should be picked out. It was necessary that they should go to Parliament a united party, and if they committed themselves prematurely they could not do this. He, therefore, thought that they had better wait until they had made themselves acquainted with the provisions of the Act before they joined in the petition.

Mr. BIDDELL said he believed that when the petition came before the Central Chamber to approve there was a large attendance of members, and as they all knew at a large meeting there was no chance of a thing of this kind being gone through properly.

Mr. EVERETT said he should like to ask Mr. Waller what was the proportion of imported cattle to the home supply.

The CHAIRMAN asked Mr. Waller what his opinion was with regard to the slaughter of cattle at the port of embarkation.

Mr. WALLER said he had not been favoured with the name of the disease. He merely repeated the opinion of scientific men when he said that the disease was imported. Scientific men denied *in toto* the doctrine of spontaneous disease. He knew that the idea was prevalent in many quarters that it was spontaneous, but they never heard of the spontaneous reproduction of rabies for instance. He had had the small-pox, but

he did not believe it came down from the clouds, or sprang up from the ground. He believed he must have caught it. They had evidence before the Parliamentary Committees on this point. Where the disease was epidemic, and existed on all sides, then cases occur where it seemed impossible to trace any connection. The first case of foot and mouth disease which occurred this year he had no doubt came from the London market. In many cases he had been able to trace disease, and he thought that the scientific evidence could not be disputed. As to the Chairman's question as to slaughter at the port of embarkation he would advise them not to ask of any Government a matter of what party, things which were impracticable. Governments were very properly chary of interfering with the food supplies in the country. Vessels were not yet adapted to the conveyance of dead meat, but he believed it was only a matter of time. The increase in the amount of dead meat imported since the restrictions had been put on were something enormous, and he should think that where there were 60 boxes of mutton imported some few years ago there were now 600 boxes, each containing 20 carcasses. He believed that the dead meat trade would increase. He was of opinion that the experiments which had been made within the last twelve months in the importation of American meat would lead to much larger importations. He urged upon the Chamber the necessity of not making an unreasonable demand upon the Government, and concluded by expressing an opinion that they were now making a very favourable impression upon those who had previously not concurred in their views.

Colonel BARNE, M.P., the Chairman, said farmers were suffering greatly from foreign competition, as were other classes of the community; and from the distress now prevailing in South Wales and the causes from which it arose, it was clear that dear labour simply meant ruin to the country. He thought the time was coming when working men would see the folly of making themselves the slaves of Unions.

Mr. HERMAN BIDDELL was glad to say that he was not well up in the cattle disease question. Since he first began business eighteen years ago he had been successful in keeping the disease from his animals, all of which he bred on the premises. To his mind nothing was more vexatious to a man who was trying to do his best as a breeder and grazier than to have disease introduced amongst his animals. He had not yet made up his mind as to what were the proper precautions to take to prevent disease, but he was glad that Cattle Defence Associations and Chambers of Agriculture had taken the matter up. He could not help thinking that they would do much better, if they could arrive at the way of keeping out disease, by limiting the supply, or at any rate curtailing the importation of live cattle in some form or another. He was perfectly willing to leave the question to those who were working it out. When the Chairman was reading the results of Mr. Lawe's experiments he could not help thinking that Mr. Lawe had made a fortune out of artificial manure. He (Mr. Biddell) had had an invitation to go to Mr. Lawe's farm, but had been unable to go. Those who had been, however, and were best able to judge, came back with the most exalted idea of the practical knowledge of agriculture which Mr. Lawe manifested. They could not get over the fact that Mr. Lawe had grown only one kind of grain on the land for thirty years, and this was a fact they had to deal with. He had read over and over again Mr. Lawe's lecture, and the more one read it



the more astonishing it seemed as to the sale of straw and green crops, it might be very well near a town; but in the country the means of sale would soon be exhausted. At the same time he thought there were clauses in leases which had been handed down from generation to generation which ought not to be there. When straw was £3 and more per ton he thought there was no earthly reason why they should not sell it. Mr. Lawes had proved to demonstration that straw was worthless as manure, and was only valuable as a vehicle for carrying manure. He believed that its actual manurial value was only 11s. per ton, and therefore it was absurd to put this upon the land when its value was £3 per ton in towns. As to Mr. Cowell's advice as to barley, he had no doubt that the better the quality of the barley the more readily it could be sold on Ipswich market; but when good barley was grown the crop was not nearly so large as when barley of a poorer quality was grown. If they grew a small crop, and cultivated it well, they would frequently get a good crop; and if they set to growing high priced barley, then they must sink the idea of getting a large crop. He was glad to have met their Chairman that evening, for he liked to exchange ideas with those above him. He was glad to hear their Chairman—who came from one of their old Suffolk families—speak so practically and so unselfishly about agricultural matters. He was sure they would all congratulate themselves that there were proprietors of the soil rising amongst them who at least saw that they had an interest in those who became their tenants. He had farmed 600 acres of land in that county for years, and had considerable experience in covered yards. He thought there were very few farmers who would not pay a fair building interest to have their yards covered.

Mr. R. L. EVERETT remarked that the discussion that evening had taken a very practical turn. In alluding to the smallness of the meeting, he said that whilst there were a great number of people who watched public matters with a great deal of interest, and criticised what was done and that which failed to be done, yet the actual carrying on of public

work was left to very few people. He was sorry that the members of that Chamber did not meet their Parliamentary representatives in larger numbers to acknowledge their kindness in sacrificing their own time by coming down to be present on these occasions. They all looked forward to the opening of Parliament with profound feelings of interest, and when they opened their papers the next morning to see whether the issue was to be peace or war there was a feeling of joy throughout the country to find that they were not committed to a warlike policy at present at all events. Although war was the finest thing out for farmers, yet he was sure there was no farmer present who would wish for war. There were two matters which they all trusted Her Majesty's Government would earnestly take into consideration—one was the question of Cattle Disease, and the other of County Boards. As to the former question, for his own part he viewed legislation with great indifference, for he firmly believed that consumers were very much more interested in the question than producers. It made him angry to see the efforts which agricultural communities had made to bring in wise restrictions for the purpose of keeping out disease set down as an attempt to revive the protection of British interests, which, as they all knew, was one of the exploded theories of the past. The cattle imported into the country was a very small percentage, he believed, of the cattle reared in the country, and he had heard stated again and again that disease imported into the country had swept off more than the total amount of animals imported. It therefore struck him that the consumer would be quite as much benefited as the producer would by adopting more stringent measures to keep out disease. As to County Government, this was a question which had long and urgently pressed for settlement. As to the question of representation on these proposed County Boards, he trusted that if the members of the Board were elected by the ratepayers that they would have none of that party spirit which unhappily had been introduced into municipal contests.

## THE PAUSE IN THE DEVELOPMENT OF STEAM CULTIVATION.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—It is a well-acknowledged fact that the progress which was being made a few years since by farmers in the adaptation of steam power to the cultivation of the soil has been very seriously arrested. It being a primary law of Nature that causes precede effects, we naturally ask our selves the question, "What can be the reason or reasons why the progressive adoption of steam power to the cultivation of the land has been seriously checked?"

There are two reasons which present themselves to my mind just now, but there may be others. One cause I believe to be the indisposition on the part of farmers to invest more capital in an undertaking which has been for some time past the reverse of remunerative, and which certainly does not hold out any immediate prospect of improvement; and such will continue to be the case, especially so long as freedom of cultivation of the soil and the sale of its produce is interfered with by antique and frivolous clauses in leases—clauses which are utterly inoperative in the present day, however conscientiously a

tenant may desire to conform to the requirements of his lease. As affecting my first reason may be added the rapid and serious depreciation in the value of steam machinery after only a few months' use, if for any reason it has to be disposed of, cases having come to my knowledge in which the purchasers of steam cultivating apparatus have sold their sets after very little use, and to all intents and purposes equal to new, for less than half cost price.

Such I believe to be one chief reason why there exists this sharp check in the outlay on steam power for the cultivation of the soil.

The other chief reason I believe to be the uncertainty as to the good results which have accrued from the use of the steam plough, digger, and cultivator. Many employers of steam have admitted that they have sustained more harm than benefit by its adoption, and many more would be added to the already long list of admissions if men had the candour and moral courage to speak out, as that

hitherto valiant champion of the application of steam to the cultivation of the soil, Mr. Mechi, has done. I refer readers of these remarks to Mr. Mechi's paper, "The Seed-bed and Steam Plough," which appeared in *The Mark Lane Express* of Jan. 14th. However good a thing or a system may be, it is subject to abuses, and I am disposed to think that nothing relating to agriculture—nothing intended to promote the development of the resources of the soil—has been so misused as steam cultivation. I have always noticed that as soon as a farmer has become possessed of steam tackle he is prone to use the power to excess, the consequence being that the implements are driven to a depth far below what could be expected of the horse teams, and far below that which is profitable to the growth and perfection of cereals. I fell into the same error when I first began steam cultivation, the ill effects being visible for two or three years after the operation. My first experience was sufficient to cause me to use power more cautiously, and since that time I have been content to turn the soil at a depth not exceeding 6 to 7 inches, relying upon the subsoiler to stir the soil to any greater depth that may be considered advisable.

Far more mischief has been done by cultivating too deeply than by too shallow ploughing. Two principal prejudicial effects are produced by turning and loosening the soil too deeply, viz., impoverishing the surface soil—that which contains the elements of nutriment for the plant—and contributing to the disposition of the crops to become root-fallen. My own opinion is that the actual depth of ploughing should not exceed that if the horse-team were used, and to accomplish the disturbance of the subsoil in a very gradual manner by the use of a subsoiler. Three years since I ordered of Messrs. Howard a set of their steam-tackle, at the same time expressing a wish that a method of subsoiling should be attached to the plough—a method which I had, after considerable thought, worked out. The Bedford firm at once acceded to the suggestion, and placed their shops and a set of men at my disposal for a few days, the result being a very efficient method of subsoiling, which can be adjusted to the greatest nicety, and which works in a very satisfactory manner. I am told by the gentleman who controls that department of the firm that their customers think very highly of the plan, and request to be supplied with the addition. No doubt a great deal of the mischief which has arisen in the use of steam-tackle could have been avoided if farmers could have increased gradually the depth of soil instead of rushing into the extreme.

In the paper I have referred to, Mr. Mechi writes:—"I want to know whether others as well as myself have tested their crops by comparison in the same field. A great many of my agricultural friends have been steam-ploughing for some years, and I should be glad to hear from them if they have made any comparisons." I think Mr. Mechi may take it as answered in the negative. Very few, if any, take the trouble either to

adopt the two systems of horse and steam-ploughing in the same field or to follow up and note the results by the bushel. My experience has taught me that nothing is more deceptive than to estimate the results of deep steam cultivation by the appearance of the crops in their earlier stages, as upon land so treated they usually look better than upon the shallow-ploughed land.

Now I believe that steam power is destined to become very much more in favour on the farm, but it will have to be supplied to us in a much cheaper form, the present price of steam tackle being out of all proportion to the price of iron and labour; and when we possess it we must exercise a little more home-bred judgment in its use, not being led away by the stock advice to cultivate deeply, thus gaining a greater depth of soil at the expense of impoverishment, to be made good by a general application of solid manures, which advice means to adopt a course which shall ruin the present race of tenants for the benefit of those who succeed them.

Mr. Mechi navelly tells us that a neighbour of his parted with his tackle some years ago because he found his crops so much smaller than the Tiptree Hall crops, and less than he formerly grew under horse culture. He further adds: "I have cross-examined several members of our Central Farmers' Club, and they have confessed, rather reluctantly, that they parted with their steam-tackle because they found that their crops diminished." Tell it not in Bedford; publish it not in Leeds and Peterborough!

If further evidence were needed of farmers having put aside their steam-tackle in disgust I can furnish it.

The object I have in view is not to discourage the use of steam—quite the reverse—yet I have attempted to show why the onward march of this system has been arrested. Only let manufacturers awake to the fact, and act upon it—that their present prices are out of all reasonable proportion to the means of production; let landlords be more reasonable and commercially progressive in the terms of their agreements; and let farmers not be too exigent of the iron horse, but use with proper discretion the power at their command—then, and then only, will steam cultivation resume those strides which have been so abruptly cut short. I am, &c., W. D.

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TOO STRONG A TEMPTATION.—The following anecdote is told of Sir Philip Francis, who was a great gourmand. Once at a city feast he enviously watched his next neighbour, who was busy eating a bowl of turtle soup, and keeping a piece of green fat for the *bonne bouche*. Sir Philip unable at last to resist it, seized the delicate morsel with his fork, and transferred it to his mouth and then giving the stranger his card, said, "Sir, I am ready to make you the most ample apology, or give you the satisfaction of a gentleman, but I must say you had no right to throw such temptation in my way."—*Suisse Express*.

## TRACTION ENGINES FOR AGRICULTURAL PURPOSES.

The economic value of traction-engines to agriculturists has long been so universally and so practically admitted that it is of great importance that the objections to its use should be carefully considered and removed. It is a somewhat curious fact that side by side with the improvements which have been made in these machines year by year there has grown up an increasing dislike of them by a certain small but powerful section of the public. The number of engines employed has during the same time enormously increased in spite of the effects of this dislike. There are, therefore, two co-existent and opposed parties, whose interests direct their attention to the road-engine. But as the one party cannot be supposed to buy and work traction-engines for amusement and as the objections by the other party cannot all be explained on sentimental grounds, or ascribed to thoroughly useful and unreasoning obstructiveness, it becomes important, in view of the large interests concerned, that the reason for the wide difference, not only of opinion but of action, should be ascertained, in order that the cause of that which is so detrimental to the interests of agriculturists should be removed. Inasmuch as the absolute necessity for these engines, under the modern conditions of agriculture, is universally admitted and proved by the fact of their common employment, it can hardly be necessary to say anything in their support; but it is necessary to examine the arguments of those who, sometimes with reason, but most often with evidence of the want of it, oppose their working.

The most fruitful cause of this opposition is the destructive effect with which the use of the heavier classes of these engines is attended on the more inferior roads in agricultural districts. The assertion, however, that all this wear is attributable to these engines is untruthful. On good roads it is well known that improvement rather than destruction is a result of their use, and even on the very inferior roads the wear is more generally attributable to the wheels of insufficient width with which the heavily loaded waggons and other vehicles drawn by traction-engines are fitted. The load per unit of area of the broad tires of the engine wheels in contact with the road is generally much less than it is with the waggon wheels. Moreover, the fore and hind-wheels of the engines are generally set at a different gauge, so that they do not run in the same track, while most waggon

wheels, being all on the same gauge, follow in one track, and thus on some roads soon form and deepen grooves, which destroy the road. Much has been said of the destruction caused by the engine wheels fitted with cross-bars; but though some of the wheels thus fitted, and with bars too narrow and too far apart, did undoubtedly cause considerable damage, it can be proved that the wheels with wider bars placed closer together, as is the case with many now in use, and as shown at Islington last December, do less damage than smooth wheels of a cylindrical form, which cannot possibly get a good bearing across their whole width, and which, in attempting to find that bearing, slip, and then cause the damage of which complaint is made. In a paper read before the London Farmers' Club on the 4th Feb., which we print elsewhere, Mr. Thomas Aveling has in a very fair manner criticised the present law and its operation with reference to this subject. His recommendation, that the form of the wheels should be left to the manufacturer, subject to certain regulations defining the relation between their width and the weight carried, is one that should be supported, for the interests of the manufacturer are, as he says, identical with those of their customers. The objections raised on the ground of emission of smoke are, as a rule, of the most absurdly frivolous character, and were it not that the infringement of the rule relating to it often forms a pretext for the most vexatious prosecutions, the objections would be too silly to attract notice. As the law at present stands, traction-engine owners may be and are constantly being fined for allowing smoke to issue for a few minutes from the funnel, while on the other hand railway-engines running through towns, in some places on the street level, and sometimes for miles parallel with country roads, do so with as much impunity and as little fear of actions-at-law as the vagrant owner of a travelling house traverses the country with a smoking fire. Again, the restrictions as to hours of working are not only extremely detrimental to the interests of the farmer, but are, especially as regards the country, extremely unsatisfactory, and powerless to afford the protection supposed to be required. But this is another direction in which magistrates abuse the power entrusted to them, and many desire to reduce the working hours to from two to eight hours after ten o'clock at night. Every one who has travelled

in the country much at night will acknowledge that he would rather meet a dozen engines in the day than one in the darkness of midnight. Horses are less easily managed, more easily alarmed, and assistance if wanted cannot be had. These restrictions should, as Mr. Aveling has pointed out, be removed, as also should, as our correspondent "G. A. H." suggests, the rule relating to the red flag ahead of the engine, which, by-the-way, is worse than useless as regards a vehicle approaching from behind, for it takes the man from his most useful position on or near the engine, and puts him where he cannot be communicated with. The regulations as to speed are disgracefully anomalous, and in some cases impose the performance of impossibilities on engine-owners. For instance, an engine requiring to pass through London must travel twenty miles in eight hours at a speed of two miles per hour, and the owner will be fined for not accomplishing it if he is caught within the Metropolis after 6 p.m. The restrictions as to bridges and culverts impose upon the owner of an engine the costs of any damage done by a ten-ton engine, while a timber or stone merchant doing greater damage with a twenty-ton load will pay nothing. Such are the anomalies and unjust restrictions of a law which places a much-abused power in the hands of prejudiced magistrates. It must, however, be pointed out that the destruction to roads is the real cause of most of the prosecutions, though the smoke and other restrictions are appealed to as pretexts for persecutions, which have their origin in the desire expressed by many magistrates that the engines should be abolished. As many are working for this end, it behoves owners to exercise care in keeping the loads on waggons as low as possible and otherwise in working to give no opportunity for reasonable offence. There are many districts where roads are badly constructed and badly maintained, because the rates are insufficient to supply a fund for their repair or reconstruction by really competent men and good materials. Traction-engines are, however, indispensable, and opposition to them is only a repetition of that of fifty years ago to railways. The roads must be made good, and for this purpose it is necessary that funds should be forthcoming by a readjustment of the rates providing them, by County Highway Boards, and, if necessary, by Government assistance where the traffic is great on roads between great centres and passing through districts not benefited by it. On February 7 the first general meeting of the National Association of Owners of Agricultural Locomotive Steam-engines was held at

London, and the resolutions of the Association were unanimously approved. The principal object of the Association is to secure reform in the Road Locomotives Act, based upon the Report of the Select Committee of 1873. Though nearly five years have elapsed since this Report was published, its recommendations have been unheeded; but it is to be hoped that the objects of the Association will be furthered by all representatives of the interests of the agriculturist, which demand that the baneful Acts of 1861 and 1865 shall be repealed in favour of an Act embodying the wise recommendations of the 1873 Report. Mr. Thomas Aveling presided at the meeting, and in his remarks advised owners of engines and trains of waggons to exercise their judgment in regulating the load on the latter in accordance with the nature of the road over which they were travelling. It is very well known that in some districts, though engine-owners are sometimes cautioned as to infractions of the regulations which the present law imposes, the magistrates show their wisdom by recognising the necessity for steam-power on high roads, and consequently no actions of the frivolous character complained of in other districts take place. At the meeting alluded to Mr. David Greig, of the firm of Fowler and Co., stated that he sometimes received six summonses per day, and generally his firm paid £30 per week in fines; while a traction-engine owner living at Cranbrook stated that he paid about £60 per year in fines. The necessity for the traction-engine is shown by the fact that in spite of the persecution which these figures represent, the numbers employed increase so rapidly that several English manufacturers turn out from two to four per week, and the number of manufacturers is increasing. On the one hand we have the English Society for the Promotion of Scientific Agriculture, namely the Royal Agricultural Society, offering prizes for the best traction engine, and which has already awarded £6,000 in prizes and seventy gold and silver medals for improvement in this class; and on the other we have these obstructive magistrates imposing an almost prohibitive tax on some of those who have bought the engines. This is a state of things which is highly discreditable to our country, and one which fully warrants the combination of all agriculturists in their endeavours to remove it. The cause of the mischievous action of, and abuse of power by, country magistrates is the inefficient state of the roads under their charge. Many need widening, and others reconstructing, and those who have charge of them will do better by seeking the funds for accomplishing this work than by wasting their energies in opposing the irresistible general opinion of the agriculturist.

## AGRICULTURAL SOCIETIES.

## ROYAL.

Monthly Council, Wednesday, February 6th, 1878.

Present—Colonel Kingscote, C.B., M.P., president, in the chair; the Duke of Bedford, Earl Cathcart, the Earl of Feversham, Lord Chesham, Lord Skelmersdale, Lord Vernon, the Hon. W. Egerton, M.P., Sir T. Dyke Ackland, Bart., M.P., Sir A. K. Macdonald, Bart., Sir E. Welby-Gregory, Bart., M.P., Sir Watkin W. Wynn, Bart., M.P., Mr. Arkwright, Mr. Aveling, Mr. Aylmer, Mr. Booth, Mr. Cantrell, Mr. Chandos-Pole-Gell, Mr. Dent, Mr. Druce, Mr. Elmonds, Mr. Evans, Mr. Brandreth Gibbs, Mr. Hemsley, Mr. Howard, Mr. Boweu Jones, Mr. Leeds, Mr. McIntosh, Mr. Martin, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Rawlence, Mr. Russell, Mr. Sanday, Mr. Shuttleworth, Mr. Stratton, Mr. Torr, M.P., Lieut.-Col. Turbervill, Mr. Jabez Turner, Mr. Wilson, Professor Simonds, and Dr. Voelker.

The following new members were elected:—

Bennett, Joseph Richard, of Clax Hill House, Gloucester.  
 Blenkinsopp, G. J. L., of Hoppyland Park, Bishop Auckland.  
 Broderip, Edmund, of Cossington, Bridgewater.  
 Brooke, John Arthur, of Fenay Hall, Huddersfield.  
 Bushfield, Walker, of Charlton, Radstock, Bath.  
 Carver, W. Rees, of Coln Cottage, Colnbrook, Bucks.  
 Chalk, Thomas, of Linton, Cambs.  
 Clark, Henry, of Eford Manor, Plymouth.  
 Cole, Joseph, of Bengeworth, Evesham.  
 Cottingham, R. M. J., of The Elms, Great Chesterford, Suffolk.  
 Crossman, Alexander, of Barton-under-Needwood, Bur on-on-Trent.  
 Dain, Benjamin James, of Park View, Whitechurch, Salop.  
 Davies, John, of Alleston, Pembroke.  
 Dowle, Thomas, of Iton, Chepstow, Mon.  
 Dudleston, William, of New Lodge, Donnington, Newport Salop.  
 Dungey, Walter, of Pattenden Farm, Goudhurst, Kent.  
 Danning, Rev. W. B., of Mickfield Rectory, Stonham, Suffolk.  
 Egmont, Earl of, of Cowdray Park, Midhurst.  
 Forrest, Robert, of St. Fagans, Cardiff.  
 Graham, William, of Hawksdale, Carlisle.  
 Hague, John, of Cranbrook, Kent.  
 Hallifield, William, of Misterton, Gainsborough.  
 Hancock, Thomas, of Pricaston, Pembroke.  
 Harris, Henry, of Long Parish House, Whitechurch, Hants.  
 Harvey, J. J. S., of 7, The Mall, Armagh, Ireland.  
 Hatchett, John, of Preswylfa, Neath.  
 Hickman, Thomas Poole, of The Grange, Quarndon, Derby.  
 Highmoor, J. R., of Ainderby, Queenhow, Thirsk.  
 Hodkinott, James, of Lipyeat, Bath.  
 Hollings, John, of The Watchetts, Farnborough, Hants.  
 Hunt, John, of Manor Farm, Coln, Cambridge.  
 Lamming, W. D., of Binderton, Chichester.  
 Leycester, Rafe Oswald, of Toft Halt, Knutsford.  
 Lloyd, Francis, of Plassey Farm, Wrexham.  
 Meade-King, Herbert, of Ellinorpe, Stoke Bishop, Bristol.

Morris, Philip Henry, of Whitechurch, Salop.  
 Moulin, Jules Nicholas, of Rue de Chartres, Hliers, Eure et Loire.  
 Mullock, Richard, of Pits Cuddington, Malpas.  
 Nunnerley, Joseph, of Hammer, Whitechurch, Salop.  
 Owen, Daniel Howell, of Great Ness, Salop.  
 Owen, Francis Browne, of De. field, Ellesmere, Salop.  
 Owen, John Dorsett, of Deefield, Ellesmere, Salop.  
 Palethorpe, Thomas, of Sanst orpe, Spilsby.  
 Parlett, William Ireland, of West Dean Farm, Chichester.  
 Pinkett, Thomas B., of Ben Hotel, Worcester.  
 Phillips, Sydney H., of Bosser Chalke, Salisbury.  
 Portman, Edward W. B., of Knighton House, Durweston, Blandford.  
 Povey, Henry, of Ellesmere, Salop.  
 Powell, Joseph, of Pembroke.  
 Randles, Thomas Jordan, of Jockleton, Shrewsbury.  
 Reilly, Owen, of 1, Abbey Green, Chester.  
 Reynolds, W., jun., of Colton, Cambridge.  
 Robinson, Alfred Roberts, of Bathurst Wharf, Bristol.  
 Rogers, Thomas, of Rosehill, Caversham, Reading.  
 Rope, Arthur M., of Lower Abbey, Leiston, Saxmundham.  
 Sampson, Geo., jun., of Beauchief Abbey, Sheffield.  
 Sanders, John Williams, of Upton House, Teddington.  
 Sharpe, Charles, of Sleaford.  
 Slocock, Benjamin, of Upton Court Farm, Slough.  
 Smith, William, of Fladbury, Pershore.  
 Spake, William, jun., of Jordans, Ilminster.  
 Stinton, William, of Forthampton, Tewkesbury.  
 Straker, John C., of Stagshaw House, Corbridge, Northumberland.  
 Suffolk, Earl of, of Charlton Park, Malmesbury.  
 Taylor, Francis Oddin, of Thuxton, Attleborough.  
 Tebb, Robert Palmer, of "Belap," Crystal Palace Park, Sydenham.  
 Thornton, Richard, of Trimrose Hill, Nateby, Garstang.  
 Waring, Henry, of Beenhaw House, Reading.  
 Warner, Robert Charles, of Oaksey, Cirencester.  
 Weal, William, of Pinkney's Farm, Maidenhead.  
 Wilkes, Martin, of Claverley, Bridgnorth.  
 Williams, William Watts, of Hendre, St. David's, Pembroke.  
 Woodcock, Samuel, of Chur on House, Pulverbatch, Salop.

FINANCES.—Mr. RANDELL (Chairman) presented the report, from which it appeared that the Secretary's receipts during the past two months had been examined by the Committee, and by Messrs. Quilter, Ball, and Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on January 31 was £1,224 17s. 2d., and £3,000 at deposit. The balance-sheet for the quarter ended December 31, 1877, and the statement of subscriptions and arrears, were laid upon the table; the amount of arrears then due being £706.—This report was adopted.

JOURNAL.—Mr. DENT reported that he had been elected chairman for the current year. He further reported the progress of the "Memoir on British Agriculture" for the Agricultural Congress to be held in

Paris next June in connection with the International Exhibition; and the Committee recommended that it be published and distributed to members of the Society in place of the autumn number of the Journal.—This report was adopted.

**GENERAL.—BRISTOL.**—Lord SEELMERSDALE (Chairman) reported that the Committee recommended, with the sanction of the representatives of the Bristol Local Committee, that the terms of the prizes offered for dairy cattle be amended by substituting the words "milking properties to be specially considered" for "other than pedigree." They also recommended that members of the Gloucestershire Agricultural Society may enter for local prizes on the same terms as members of the Royal Agricultural Society of England.—This report was adopted.

**VETERINARY.**—Hon. W. EGERTON, M.P., (chairman), reported that he had been elected chairman for the current year. Mr. Harpley had presented to the Committee a report of the examiners at the recent examination of students from the Royal Veterinary College, in which it was stated that originally there were seven candidates, but three failed to come up on account of impaired health. The report showed that the technical part of the examination was not so satisfactory as could be wished. A letter had also been read from the President of the Royal College of Veterinary Surgeons, drawing special attention to the above, and expressing his opinion that the term or period of study was formerly too short, but this is now remedied. The Committee recommended that a copy of the report and letter be sent to the Governors of the Royal Veterinary College. Dr. Burdou Sauderson had recommended that the cattle hitherto experimented upon for pleuro-pneumonia be kept for other experiments, and that fresh ones be procured for further experiments in pleuro-pneumonia: that it is desirable that the improved method of inoculation for pleuro-pneumonia should, with reference to its preventive efficacy, be tried on a larger scale than had hitherto been possible in districts in which disease actually prevailed, and that with this view owners of stock should be requested to co-operate with the committee by allowing their uninfected animals to be inoculated, it being understood that compensation would be made by the Society for any losses arising directly from the inoculation.—This report was adopted.

**CHEMICAL.**—Mr DENT reported that Mr. Wells had been elected chairman for the current year. He presented the following report on the management of the experimental field and Crawley Farm, at Woburn:—

The Chemical Committee being responsible to the Council for the management of the Experimental Field and of Crawley Farm at Woburn, have drawn up the following scheme for their supervision. This scheme recognises that the Experimental Field is of the first importance, and that the Crawley Farm is to be looked upon as an adjunct thereto. The farm is to be managed with a view to supply such buildings, materials, and labour as may be from time to time required for the proper conduct of the investigations now being carried out on the Experimental Field.

The Committee therefore recommend—

(1). That the supervision of the Experimental Field be placed in the hands of Mr. Lawes and Dr. Voelcker, to act in concert, and to jointly report in writing to the Chemical Committee at their meetings in February, April, July, and November.

(2). That Mr. Lawes and Dr. Voelcker be requested to report to the Chemical Committee at each February Meeting their probable requirements for the ensuing year.

(3). That Mr. Lawes and Dr. Voelcker be further requested to purchase, analyse, &c., all artificial manures and feeding stuffs required for experimental purposes, and to instruct in writing the manager of the Crawley Farm as to their use on the Experimental Field or for the experimental animals.

(4). That the manager of the Crawley Farm be appointed on a monthly notice by the Council on the recommendation of the Chemical Committee, and that he be directly responsible to the Committee for the due discharge of the duties entrusted to him.

(5). That the management of the Crawley Farm be arranged by the Chemical Committee, having due regard (1) to the probable requirements of the Experimental Field, and (2) to the proper cultivation of the Farm and disposal of its produce.

(6). That the manager of the Crawley Farm report monthly to the Chemical Committee the agricultural operations carried out on and in connection with the farm itself, as well as the work done by order of Mr. Lawes and Dr. Voelcker on the Experimental Field.

(7). That the manager of the Crawley Farm be instructed to keep the accounts of the farm entirely separate from his account against the Experimental Field, and to make up the *farm balance-sheet*, in such form as the Chemical Committee may hereafter decide upon, up to March 31st in each year.

(8). That Mr. Lawes be requested by the Council to inform Mr. Cathcart that his services will not be required after 1st June.

The Committee recommend the re-appointment of the Woburn Farm sub-committee, with full power to carry out the recommendations of the committee, and all questions arising out of them. They also presented the report of the Woburn Farm experiments made during the past year, and recommended that it be published in the next number of the Society's *Journal*.

The following quarterly report from Dr. Voelcker was presented by the Committee, and recommended for publication, as usual, in the agricultural journals:—

1. A sample of linseed-cake of a lot of ten tons bought in October by Mr. William Holland, Market Deeping, at £10 11s. 3d., on analysis yielded the following results:—

Moisture .....	9.75
Oil .....	11.15
*Albuminous compounds (flesh-forming matters) .....	23.94
Mucilage, starch, and digestible fibre .....	33.22
Woody fibre (cellulose).....	13.90
†Mineral matter (ash) .....	8.04
	100.00
*Containing nitrogen .....	3.83
†Including sand .....	3.35

This analysis shows that the cake was rather deficient in albuminous compounds, and contained 3½ per cent. of sand. The microscopical examination proved that the cake was made from badly-screened linseed, and contained an undue proportion of sand, in addition to a number of small weed-seeds, which ought to have been removed by screening from the seed before it is pressed into pure linseed cake.

This cake was bought and invoiced as Pure Linseed Cake (with warranty).

The dealers when ordering it of its presumed makers (and who had advertised it as Pure Linseed Cake of their own brand and presumably therefore as of their own make, with warranty) expressly told the latter "not to send it unless they were quite sure it would bear the test of Dr. Voelcker's analysis;" and on being informed by their customer of the result of that analysis immediately sent him cake of other make in exchange which did stand that test.

The presumed makers on complaint from the dealers, bound as they were by their own warranty to the latter, could not do otherwise than take back the cake, though they said they knew it was pure and unadulterated, and should not have been likely to have sent it in face of the dealer's specific order had it been otherwise. At the same time, however, as they admitted that it was not made at their own mill, how they could possibly know it was pure is difficult to understand.

Dealers acting carefully and honestly by their customer, as these did, would not care to have their names mixed up in a case of this kind, and on this account the names of both dealers and makers are purposely omitted.

The case however shows the necessity of buying with warranty, and particularly testing by analysis (the warranty in this case protected the innocent dealer as well as his customer), and of getting supplies from the actual makers.

2. Another sample of cake bought as pure linseed-cake at £10 5s. (for a large lot in summer to be delivered in October), was sent by Mr. Fred. Lister, Babworth, Retford, Notts and, on analysis, was found to have the following composition:—

Moisture .....	11.22
Oil.....	11.70
*Albuminous compounds, (flesh-forming matters) .....	23.63
Mucilage, starch, and digestible fibre .....	31.70
Woody fibre (cellulose) .....	8.40
†Mineral matter (ash) .....	8.35
	100.00
*Containing nitrogen.....	4.55
†Including sand .....	3.55

Like the preceding cakes it was made from unscreened linseed, containing besides sand numerous small weed-seeds, and was not a pure linseed-cake.

No further information was obtained in answer to the usual enquiries.

3. A sample, bought as nitrate of soda by a member of the Royal Agricultural Society, was found on examination to contain only .003 of a per cent. of nitric acid. It thus contained merely faint traces of nitrate of soda, and on further analysis was found to be a mixture of chloride of sodium (common salt) and sulphate of soda (Glauber salt).

This so-called nitrate of soda having been bought at a low price without a guarantee, the purchaser did not feel justified in furnishing the vendor's name and address.

4. The following is an analysis of a sample of a manure<sup>1</sup> a cwt. of which had been sent for trial to Mr. George Neve, Sissinghurst, Staplehurst, Kent. The manure was sold at £12 a ton, but without any guaranteed analysis.

Moisture .....	11.12
Organic matter.....	12.74
Bone-phosphate of lime .....	37.17
Sulphate of lime .....	10.05
Crystallised sulphate of iron (green vitriol) .....	2.73
Basic sulphate of iron, containing 7.28 of sulphuric acid .....	25.49
Insoluble siliceous matter .....	6.5
	100.00

This manure, it will be seen, contained in round numbers 37 per cent. of phosphate of lime, some sulphate of lime, and a considerable proportion of sulphate of iron. It contained no appreciable quantity of ammonia, and appeared to be mainly a mixture of animal charcoal and sulphate of iron. Such a mixture can be produced at less than half the price at which the sample of manure sent by Mr. Neve was sold.

This report was adopted.

SHOW-YARD CONTRACTS.—Mr. JACOB WILSON reported that he had been elected Chairman for the year. The Committee had modified and approved of a plan of the Bristol show-yard, having the entrances parallel with an existing road as originally agreed between the Inspection and Local Committee, and they recommended that the Secretary be authorised to make the usual arrangements for letting the refreshment sheds, subject to the approval of the Committee.

This report was adopted.

METROPOLITAN SHOW SITES.—Professor SIMONDS reported that the Committee had inspected two sites available for the show-yard next year, in the neighborhood of Kilburn, and were in correspondence with the tenants. They had also communicated with the London and North Western Railway Company, who were willing to provide the necessary accommodation for the arrival and departure of stock, implements, and passengers. The Lord Mayor had consented to preside at a public meeting, to be held at the Mansion House on Wednesday, March 13th, at 3 o'clock, to promote the holding of the Society's meeting in London next year; and the Committee recommended that the Council, at its rising, adjourn until March 13th at noon, to enable members of Council to attend the Mansion House meeting, and in consequence of March 6th being Ash Wednesday.

This report was adopted.

IMPLEMENT.—Mr. HEMSLEY reported that he had been elected Chairman for the year. The Committee had considered the regulations and conditions necessary for carrying out the trials of Dairy Machinery and utensils at the Bristol meeting, and will submit them to the Council at their next meeting; and they recommended that the Steward of general arrangements and the Secretary should undertake to carry out as far as practicable the suggestions of the Agricultural Engineers' Association as

to the separation of articles not strictly agricultural from the agricultural exhibits at the Society's country meetings.

This report was adopted.

**STOCK PRIZES.**—Mr. BOOTH reported that Mr. Milward had been elected Chairman for the year 1878. The Committee and the Veterinary Inspectors had considered the question of the dentition of pigs, and they recommended that no alteration be made in the existing rules.

This report was adopted.

The PRESIDENT reported the deaths of two members of the Council, viz: Mr. Richard Hornsby, of Spittlegate, Grantham, and Mr. T. Horley, jun., of The Fosse, near Leamington.

**SELECTION.**—Earl CATHCART reported that he had been elected Chairman for the current year, and that the Committee recommended the election of Lieut.-Col. Picton Turbervill as steward of stock, Mr. Frankish as steward of implements, and Mr. Richard Stratton as steward of butter and cheese, for the Bristol meeting. They also nominated two members of Council to fill the existing vacancies, and gave notice that they would move their election at the next monthly Council.

This report was adopted, after notice of another nomination had been given by Mr. MARTIN.

The question of nominating representatives of the Society at the Agricultural Congress to be held in Paris next June was referred to the *Journal* Committee.

The following suggestion made by Mr. Bowick at the General Meeting in December was referred to the Seeds and Plant-Diseases Committee:—"That the Council be respectfully requested to take steps for securing the improvement of the varieties and produce of our cereal crops, and that they take into consideration the offering of substantial prizes to secure that object."

A letter was read in reference to the "Locomotive Steam Power Protection Society."

A letter was read from Mr. James Forrester respecting the calculation of the ages of animals entered for exhibition, and the Council decided not to alter their present practice as regards this subject.

The Council then adjourned until Wednesday, March 13.

#### SHORT HORN.

A meeting of the Council of this Society was held at the Society's rooms, 12, Hanover-square, on Tuesday, the 5th ult. Present: Lord Skelmersdale, President of the Society (in the chair), the Earl of Dunmore, the Earl of Feversham, Colonel Kingscote, C.B., M.P., Mr. B. St. John Ackers, Mr. Hugh Aylmer, Mr. T. C. Booth, Mr. H. Chandos-Pole-Gell, Mr. Charles Howard, Mr. D. McIntosh, Rev. T. Stainforth, Mr. R. Stratton, G. Murtou Tracy, and Mr. Jacob Wilson.

The following new members were elected:—Arymtage, Sir George, Bart., Kirklees Park, Brighouse, Yorkshire.

Britten, George, Overstone Farm, Northampton.

Bruce, David C., Broadland, Huntly, N.B.

Budds, William Frederick, Courtstown, Freshford, Co. Kilkenny.

Catchpole, Nathaniel, Bramford, Ipswich.

Cooper, John, East Hadden, Northampton.

Crisp, Arthur W., Orford, Wickham Market, Suffolk.

Dickinson, George Thompson, Wheelbirks, Newcastle-upon-Tyne.

Edwards, John, Jun., Holly Lodge, Buckworth, Huntingdon.

Freeman, Edwin, Chilton, Thame, Oxon.

Garbutt, Isaac, Manor House, Sinnington, Pickering.

Gordon, John, Culraven, Kirkcudbright.

Graham, Thomas, 20, Chiswick Street, Carlisle.

Heinemann, E., Ratton Park, Willingdon, Sussex.

Hunt, Henry, The Elms, Hunningham, Leamington.

Hutton, G. Moorland, Gate Burton, Gainsborough.

McKinnon Lauchlan, Jun., 239, Union Street, Aberdeen.

Ogle, Elwin, Heck Hall, Selby, Yorkshire.

Parnel, John, Rugby.

Reed, Matthew, Ludwell, East Gate, Co. Durham.

Sergison, Captain Warden, Cuckfield Park, Hayward's Heath, Sussex.

Waring, Henry, Beenham House, Reading.

Wilkes, Richard Hammond, Showhill Farm, Wolverhampton.

Wilson, John, Fleetham House Farm, St. Bees, Cumberland.

Woodroffe, W. S., Beaumont Grange, Halton, Lancaster.

**EDITING COMMITTEE.**—Colonel KINGSCOTE reported that the Committee had examined the account for printing Volume 23 of the Herd Book, and they recommended the payment of the same.

The Committee also recommended that the entry of a bull bred in this country and exported to America be accepted.

The committee also reported that they had examined the pedigrees of several bulls, but as the certificates were incomplete, they recommended that they be not accepted.

This report was adopted.

**GENERAL PURPOSES COMMITTEE.**—Lord SKELMERSDALE reported that the accounts for the months of December and January had been examined by Messrs. Quilter, Ball, and Co., and the Committee, and were found to be correct.

The Committee also reported that the secretary's petty cash account had been examined and passed, and showed an expenditure of £20 19s. 3d. during the past two months; that the receipts for the same period had been £346 5s. 10d.; the balance of the Society's current account at the bankers being £1,151 1s. 10d.

The Committee recommended that cheques be drawn for various accounts amounting to £605 8s. 6d.

The Committee also reported that the three members who were in arrears of subscriptions, not having replied to the communication addressed to them within the specified time, their names had been removed from the list of members of the Society accordingly.

This report was adopted.

The PRESIDENT announced, with feelings of the deepest regret, the death of Sir W. Stirling-Maxwell, Bart., M.P., a member of the Council; and gave notice that the vacancy caused thereby would be filled up at the next meeting of the Council.

Letters of thanks from the Royal Agricultural Society of England and the Farmers' Club for the gift of the 23rd Volume of Coates's "Herd Book" were read.

The next meeting of the Council was fixed for Tuesday, the 12th of March, at 3 p.m.



## CHAMBERS OF AGRICULTURE.

## CENTRAL.

A Council Meeting of the Central and Associated Chambers of Agriculture was held on February 5, in the Large Room of the Society of Arts, Adelphi, Strand, where, as announced in December, all meetings are in future to be held. The chair was taken at 11 o'clock by the President for the year, Sir George Jenkinson, M.P.

The CHAIRMAN said, in taking the chair at the commencement of a new year of business they would, he trusted, allow him to make a few remarks, and they should be very few, because he knew that there was a great deal on the Agenda paper. The chief thing he had to do was to congratulate the Central Chamber and its Council upon the vast amount of good which had accrued from its working in the agricultural districts of the country since it was established (cheers). It was, he believed, only about twelve years since it was formed, and that was not a very long time in the life of a man. He had known the Council from the beginning, and he must say he was perfectly astonished at the way it had made, the immense importance which was attached to its proceedings, and the good which it had done to the interests of agriculture (cheers). There could be no doubt that the farmers of England had great power if they chose to use it; but, unfortunately, they were not always as united as the commercial interests. He believed that if the farmers of England were always to unite in supporting the various Chambers of Agriculture throughout the country, the power which they wield would be enormous, and almost irresistible (hear, would hear). There were 40 Chambers associated with the Central Chamber. There were, it appeared, only three counties without a Chamber — viz., Derbyshire, Oxfordshire, and Sussex. No doubt the farmers in these counties had what appeared to their own minds good and sufficient reasons for withholding themselves from the movement; but he said, advisedly, that no county ought to be without a Chamber of Agriculture, and that all the local Chambers should be associated with the Central one (cheers). The counties which were chiefly working on the associated system were Lincolnshire, Shropshire, and Staffordshire, and he thought he might add his own county and two or three others. There could be no question that the system of Associated Chambers acting in concert with the Central Chamber in London had created a vast power, and that a vast amount of influence had thus been brought to bear on the number of Bills and measures introduced in Parliament since the Central Chamber was established. He thought that those who observed the rise and progress of those Chambers must feel that they had done an immense amount of good. He would not detain the meeting with any further remarks. He thanked the Council for the honour they had done him in selecting him first as vice-chairman for last year and then as chairman for the present year. He should do his utmost to promote the cause of the Chamber, and he felt quite sure that he would receive the same kind of assistance as was extended last year to his predecessor, Lord Fortescue, whom he was glad to see on his right hand; and he only hoped that his year of office would be as successful and as fraught with good as that of his predecessor (cheers).

The minutes having been read,

On the motion of Mr. T. WILSON, seconded by Mr. CALDECOTT, the Marquis of Huntley was elected Vice-Chairman, preparatory to his becoming the Chairman of the Council in the ensuing year.

On the motion of Earl FORTESCUE, seconded by Mr. D'LONG, Mr. J. Algernon Clarke was re-elected Secretary.

The election of a Standing Committee for general business was then proceeded with, the result being as follows: Capt. Craigie, 30 votes; Mr. C. S. Read, M.P., 26; Mr. Jabez Turner, 25; Mr. Treadwell, 23; Mr. Albert Pell, M.P., 21; Mr. W. Stratton, 21; Mr. B. Jones, 19.

Mr. STRATTON said he had to report that the Cattle Diseases Committee had received a letter from the Secretary the Farmers' Club, in which he said, "In view of the anticipated legislation on cattle diseases my committee have appointed a small sub-committee to-day to proceed to the consideration of the Bill when it is introduced, and generally to watch the course of events connected with the proposed legislation, and have authorised them, if they should think proper, to act in unison with the sub-committee of the Central Chamber formed for a similar purpose."

In accordance with this invitation a sub-committee was appointed for the purpose mentioned, consisting of the Chairman and the Vice-Chairman, Mr. James Odams, Mr. Finley Dan, and Mr. Storer, M.P.

The Cattle Diseases Committee were then re-elected.

On the question of the reception of the report of the Education Committee,

Mr. P. PHIPPS, M.P., stated, that in consequence of Professor Tanner having been out of town, the Committee had been unable to arrange for a meeting with him, adding that they hoped to be able to make a report to the next meeting.

The Education Committee was also re-appointed.

The next business on the Agenda being "to consider deductions from gross value in the assessment of agricultural land as compared with rateable property."

Captain CLARKE, who had undertaken to introduce the subject, said, as a small landowner, he had had personal experience in relation to that question, and he felt that there was a substantial grievance. In the 6 and 7 Will. IV. as it was provided, "That several hereditaments to be rated may be assessed upon the net annual value, that is to say, the rent at which the same might reasonably be expected to let, taking one year with another," and that there might be deducted therefrom the probable annual cost of repairs, insurance, and other expenses, necessary to enable the owner to keep the land in such a state that he would be enabled to maintain the rent. In connection with that there was the definition in the late Valuation Bill that the expression "gross annual value" meant the annual rent a tenant ought reasonably be expected, taking one year with another, to pay for the hereditament if he undertook to pay the usual rates and taxes, and the tithe commutation rent charge, if any, and if the landlord undertook to bear the cost of any repairs, &c., which might be necessary to enable him to command the same rent. It was very probable that the clause which he had quoted would be considered a governing clause in reference to any new Valuation Bill which might be passed &

Parliament, unless just cause could be shown against that, and in his opinion it involved a great hardship to the owners and occupiers of land as compared with those of other descriptions of property. The principle that the occupier had an interest in the land as well as the owner was recognised in the Agricultural Holdings Act, and the same view was taken by Mr. Lawes and by Mr. Caird, the former of whom spoke of the tenant's investment in the form of live stock, implements, manure, and wages. In Schedule 3 of the Valuation Act rateable property was divided into different classes, and a scale of deductions was given for each. In the case of houses and buildings, with land other than gardens, the gross value of which was under £20, the allowance was 25 per cent., or one-fourth, this class of property consisting chiefly of workmen's dwellings, small shops, and other minor buildings. For £1,000 of gross annual value £150 was deducted, or one year's rent for every four years. Such property was estimated to pay 6 per cent. on the amount invested. In the case of houses and buildings without land other than gardens, with a gross annual value of £40 and upwards, the deductions amounted to one year's rent for every six years, and this kind of property was, like the last, supposed to pay 6 per cent. In the case of mills and manufactories, including glass and smelting-furnaces—this class embracing many of the chief industries of the country—the deductions amounted to 33½ per cent. Against the large returns in the case of different kinds of property which he had mentioned was to be set the fact that land let for agricultural purposes yielded only about 2½ per cent., and he maintained that the present system operates most unfairly in reference to such land. As regarded what was to be understood as necessary repairs and expenses, he would remark that, as in other cases, there was the cost of bricks, timber, and iron; in that of agriculture there was a process of exhaustion continually going on which necessitated renewals. Land in the hands of farmers might be regarded as a kind of machinery whereby they raised crops, just as mills and furnaces were a kind of machinery whereby manufactories produced various articles. The farmer ploughed, cleared, and sowed the land, and in due season obtained crops, but, unlike the manufacturer, he was very dependent on the varying character of seasons; he raised crops under the most trying circumstances, and every three years the soil must lie fallow, so that he had for that period to pay a dead rent. Nothing was easier than to exhaust the soil and make it worthless, and to keep it fertile required an annual investment in some shape or other: it required renewing quite as much as factories and furnaces, and from a similar cause. Hence he contended that the present system of rating was most unfair to agriculturists. He concluded by moving, "That in the opinion of this Council the deductions from gross estimated rental to rateable value on agricultural land are not in proportion to the deductions allowed on buildings and manufactories, and the evil calls for immediate alteration."

Mr. ARKELL (Wilts), in seconding the motion, said he thought the facts mentioned by Captain Clarke had thrown a little light on that subject. In the Union of Highworth and Swindon, with which he was connected, the deductions varied from 2½ per cent. on land to 25 per cent. on mills, factories, and other kinds of property, though agricultural land required renewing quite as much as any other kind of property. In the early part of his life he was a miller and maltster, and on a rental of £120 a-year his expenses were under 7 per cent.

It might be thought that with an improvement he got an increase of rent; but not so, for what was the fact?—why, that last Michaelmas he was obliged to reduce the rent to secure a tenant. He happened to farm under a beneficial lease from a college. All his neighbours looked upon him as the owner, and kept stitching him up, until 1876. In the year 1833 or 1839 he left milling and took to farming, and at that time a shilling rate produced about £14; but in 1853, whether through the Surveyor of Taxes, the overseers, or his envious neighbours, 34 per cent. was tacked on to his rate at a blow. He thereupon appealed to Quarter Sessions, which quashed the rate and decided that an increase of 18 per cent. was sufficient. In 1876 came another "surge," and some of the valuations were raised above the rent. Other cases of the same kind were also mentioned by Mr. Arkell, who went on to say that, though the farmer had the greatest difficulty in getting a farm that would pay its expenses, no sooner did he begin to invest his capital in the soil than the Surveyor of Taxes or the overseer at once put up his assessment. Was not this a proof, he asked, that his personal property was rated, whilst other personal property went free? In his opinion, the present rating system was fraught with injustice, and one of the principal checks to agricultural progress. It was only a few spirited men who could farm profitably under such a system; and, as to the rest, they were really living hand-to-mouth. He hoped that Members of Parliament would carefully watch the new Valuation Bill, and do something at least to arrest the further decline of agriculture (Hear, hear).

Mr. Jabez TURNER, in supporting the resolution, said they were rather fortunate in having that day had some new light thrown upon the important subject of deductions from gross estimated rental to the rateable value. The question had been duly considered in the schedule of the different valuation Bills which had appeared during the last 10 or 12 years. One reason why he was particularly in favour of the resolution was that in the last of these Bills a difference was made in the deduction previously allowed for mills and manufactories, which was 25 per cent., or one quarter, and 33½ per cent., or one third. That showed, in his opinion, the very great necessity for carefully watching any valuation Bill that might be proposed (Hear, hear). Although tenant farmers and agriculturists were to be left with the miserable deduction of 5 per cent., which, he contended, was totally inadequate to the repairs upon landed occupations, the mill owner, who was the greatest proprietor of wealth in the kingdom, was allowed under a late Bill, a deduction of 33½ per cent. or one year's rent of his factory for every 3 years of his occupation. They were also fortunate in having such a man amongst them as Mr. Arkell to second the resolution, inasmuch as he was a living instance of an extraordinary contradiction, for he had begun life as a miller and trader, and of his own choice was concluding life as a farmer! (Hear, hear, and laughter). He presumed that Mr. Arkell had been so successful as a miller that he had turned to farming as a means of getting rid of his money.

Mr. TREADWELL wished to know why they should have these deductions at all? (Hear, hear). If the value of all property was put at its annual value there need not be these deductions; and it would be as fair for one as another.

The CHAIRMAN: Then you would recommend that the deductions upon machinery, for example, should no longer be allowed.

Mr. KNIGHT, M.P., remarked that in the well-known

Barstaple Union they had adopted Schedule A for the gross valuation, with certain deductions, which were deemed satisfactory by the agriculturists there, and everything appeared to be simplicity itself.

Mr. CALDECOTT: According to the Government Bill, Schedule A would practically be the basis of the gross value, because the Government Surveyor was to be brought in to see that there was nothing lower than the ordinary rental, and the ordinary rental would be put down as the gross value. Thus there would be a uniform system of taxation. But the question raised by Mr. Treadwell was very important: Why have any deductions at all? (Hear, hear). Why not have Schedule A as the rateable value, and have no deductions for one property more than for another? That would be the fairest (Hear, hear). The difficulty had hitherto been this. In 1843 in his Union each parish paid its own expenses, and supposing it to be rated equally *inter se*, it was found preferable for people to pay 1s. in the £1 on £500 to 6d. in the £1 on £1,000. The reason was obvious. In his own parish there had been no alteration in the rated value, except when the railway came, from 1804 to 1866. It was equal among themselves, and that did not signify, for nobody desired to have the county rate raised (Hear, hear). But now, if the new Bill were passed, and there was a uniform basis for Imperial and Local taxation, the Government officer would come in. Then there would be no object in concealment (Hear, hear, and a laugh). He should say, then, that the simple plan would be to do away with all deductions, and have Schedule A as the basis on which to make the rates.

Mr. D. LONG did not see how Schedule A could be adopted, for the simple reason that they would, in that case, be almost entirely at the mercy of the Surveyor of Taxes. Neither did he think that they could improve on the words of the old Act as to what the property might be expected to rent at from year to year, free of all outgoings for the landlord. Much had been said about manures, the renovation of the land, and machinery. He thought that there ought to be no deduction on account of the machinery of mills and factories—he meant on account of repairs—because, if motive power was to be a deduction in the case of mills and factories then there ought to be a deduction for the motive power on a farm, the wear and tear of horses (Hear, hear). In his Union they had adopted a scale of deduction of 15 per cent. for land and buildings, 7½ per cent. for land only, and 25 per cent. for all house property. It was felt, however, that there was a little unfairness as to the latter proportion sometimes, because of the difference between a new and an old house. In the case of a new house 3 per cent. might be enough to repair it, whereas in the case of an old one it might require 30 per cent. In his opinion they could not adopt a uniform system of deduction. How, for example, could they adopt Schedule A for the rateable value in the case of a railway? Let it be left to the Assessment Committee, then, to introduce the Surveyor of Taxes to a certain extent, but he should be sorry to see him clothed with too much control. As to the resolution, he did not object to it, for he felt that the deductions on account of land were inadequate, but they could neither adopt Schedule A nor any thing else specifically and always in fairness.

Lord FORTESCUE agreed that the Valuation Bill was a piece of legislation that ought to be very carefully watched, and Mr. Caldecott had "let the cat out of the bag" when he intimated that parishes had no interest in keeping the valuation low, and that it came to the same thing whether they paid a shilling rate on £500 or a sixpenny rate on £1,000. But

the fact was that parishes kept it down in order to contribute as little as possible to the county rates (Hear, hear). It was important that there should be a fair deduction, because the expenses attaching to different properties were exceedingly disproportioned; and as long as a very large proportion of the expense of making and repairing buildings was borne habitually, not by the occupier, but by the landlord, the more reasonable way was to estimate the rates on that principle. In this country there had been for many years a partnership in the business of agriculture—two different parties who found capital for two different purposes. Now, he did not think that in the time of William IV. the ignoring of anything except the repairs of buildings, gates, and fences was to be wondered at, because it was considered unfair. In those days, although there was a great difference between the results of good and bad agriculture, the absolute necessity of restoring to the soil those elements of fertility which were removed by the produce taken out of it, whether in the shape of vegetable, cereal, animal, or dairy produce, was not much recognised. For years people went on grazing on the pasture lands, and carrying off bone earth and phosphates in the form of live animals and cheese; yet nobody thought much about it. It was supposed that the innate fertility of the land would supply all that was requisite. In the course of time, however, some one discovered that in Cheshire the pastures were becoming gradually deteriorated and impoverished, and the value of bone manure then came to be acknowledged. He did not think that there was a great deal in the view which had been set forth, that the land was in one sense a part of the machinery with which the agriculturist made returns of the animal and vegetable produce, out of the profits on which he made his living. Viewed in that sense, even grass land, which was generally considered liable for the expense and maintenance of fences, the renovation of gates, and shedding, he thought that a further renovation and replacement in due proportion of the elements of fertility that were carried off by each successive crop, animal or vegetable, from the land ought in fairness to be taken into account. Some of these had to be replaced rapidly and in a visible form. On the other hand, some experiments had shown that there were latent in almost every soil some elements of fertility which required time and exposure to render them available, and that there was such a thing as land recovering to a certain extent by mere fallowing, that was otherwise dormant and unavailable as nourishment for plants, and becoming available by lapse of time and exposure to the weather. There were other outgoings on the land which were requisite for keeping it in a state of fertility and availability besides fences, gates, and buildings; and, on the whole, he thought the resolution was one which, being generally worded and not setting out any precise claim or overstating a claim, might well be adopted by the Chamber.

Professor BUND was convinced that they could not lay down any hard-and-fast line applicable to all cases. All they wanted was a maximum—in other words, a deduction should not be made above a certain point. If, therefore, a clause was inserted in the Bill giving full discretionary power to the Assessment Committee to deal with each case as it came before them, providing they did not exceed a certain rate of deduction, the difficulty would be met. Let there be no difference between houses, lands, and manufactories, but let the Committee treat every case upon its merits. If the Committee were to be trusted, trust them fully, and if they did wrong there was the Court of Appeal to correct them.

Mr. HICKS quite concurred in the opening remarks of Lord Fortescue that any Valuation Bill, should be most carefully watched, and if the resolution had been confined to that no one would have given it a more hearty support than he. But in considering its language it seemed to refer to both the present law and the future possible law in a manner that was very perplexing to this mind. The existing law was one thing; that which was to succeed it was altogether different. The former left the rating authorities to fix the gross annual value, and from that to make certain deductions in order to obtain the rateable value.

Mr. ARKELL said they were tied up to a particular point in the case of land.

Mr. HICKS was not aware of the existence of such a point. The words of the statute were full and clear. The Assessment Committee might have laid down for themselves, and had laid down in the case of money properties, certain lines for the guidance of their judgment; but, on reference to the list, it would be found that the words were clear and full, without any limitation whatever, and that it was open to the Committee to make any deductions they chose at this time. When, however, they came to the Bill to which reference was made, that system was altered, and they found tables of deductions which would require to be very carefully watched. It was desirable that the scale should be so constructed that every fair and reasonable deduction should be allowed to the agricultural interest, and that their net or rateable value should not be higher in proportion than the rateable value of houses and manufactories. Entertaining these views he begged to move as an amendment: "That any valuation Bill which may be brought in should be carefully watched, and that those clauses which relate to gross and net value for assessment should be most carefully examined, so that full justice may be secured for the agricultural interest. Such a proposition as that would, he thought, more fully meet the intention of the mover of the resolution."

Mr. DUNN pointed out that the object of introducing the principle of deductions into the new Bill was to establish an equality of assessment throughout the country. At present some Unions deducted 3 per cent. and some 5 per cent. for land, and it was this very inequality which had necessitated the introduction of a schedule for a regular, uniform, and general deduction. He did not see that they had any strong argument in favour of claiming deductions; but they had no other ground to go upon, and that was the enormous difference between mills, and factories, and land. If, then, they were to have deductions at all they must have equality of deduction, that was so far as different properties were concerned, and they would beget and perpetuate inequality.

Captain CRAIGIE hoped that they would not pass a resolution for prescribing limits in a Bill which was not yet before them, and recommended that the Chamber should defer the expression of any opinion until they had the measure in their hands.

There being no seconder for the amendment of Mr. Hicks, Mr. BELL moved "That the present system of deduction from the gross value being so anomalous and complicated, this Chamber is of opinion that what a hereditament may reasonably let at from year to year is a proper basis." He proposed that there should be no deduction from the gross value if that value were taken as the basis. If they went on the principle

of taking the actual annual value, they would do away with the system of deduction, and, that done, the poor-law would be worked much more satisfactorily than at present.

Mr. B. CONGREVE seconded this amendment. In every Union that he was acquainted with the deductions varied; the Assessment Committees took their own line, and the result was an unfair and grossly unequal rating. The fairest principle would be to have no deduction.

Mr. W. BROWNE, who supported the amendment of Mr. Bell, said that in his county (Essex) the county rate was in one column, and took the rateable value of different parishes and Schedules A, put them together, and then cut them in two. In that way they arrived at the value of different parishes in Essex. He thought it would simplify matters greatly to have one column. As to mills, he understood that the moveable machinery was not rated at all, and that it was only the fixed machinery that was chargeable to the rates. For this the deduction allowed was already 33 per cent., which he considered a gross inequality.

Mr. PAGET, M.P., held that if the system of deductions was to be maintained the deductions ought to be fixed, for different Assessment Committees would take different views, and unless the deductions were fixed by statute they would never get at an equality of deduction. There was a "sweet simplicity" in dispensing with deductions, and the adoption of gross value would go to get rid of that inequality of which they complained. They could only support that "sweet simplicity" by showing that they were dissatisfied with the principle on which property was now rated, and that they were in favour of taking the step which had the advantage of simplicity, and accepting a Bill that went in for levying the rate on the gross value. The thing that was rated, however, was undoubtedly the landlord's property, and not that of the tenant. True, the rate was collected through the machinery of the occupier, but the thing that was rated belonged to the landlord, and there was no intention at present to levy a rate on what belonged to the occupier. But those who went in for an entire change, and to bring in all classes of property to contribute for rating purposes, must expect a separate rating of the tenant's interest, which at present did not exist.

At the suggestion of the CHAIRMAN the resolution proposed by Captain Clarke was altered so as to read as follows:—"That in the opinion of this Council the deductions from the gross estimated rental and rateable value of agricultural land are not in many cases adequately apportioned, and require to be equitably adjusted in any new valuation Bill." In this shape, Sir G. Jenkinson said, the resolution simply recorded an injustice, and left it open to the Council to deal with any valuation Bill hereafter as they might think satisfactory; whereas the amendment did not record the injustice, and pointed out some assumed remedy before the Bill had an existence.

Mr. BELL then withdrew his amendment, and the original resolution, altered as above, was agreed to unanimously.

#### THE AGRICULTURAL HOLDINGS ACT.

The next subject put down on the paper for discussion was "The Operation of the Agricultural Holdings Act."

Mr. JAMES HOWARD observed that the Act was divided into two distinct portions. One of them comprised what was called the Compensation Clause, and about that they had abundant evidence before them; the other gave power to the limited owner to charge upon an estate the money he might borrow for an improvement of the estate. That was a very important part

of the Act, and a considerable boon to a large number of landowners; but at present he thought they had not had time to see what the operation of that portion of the Act was likely to be. When, therefore, he saw the question placed on the agenda, it struck him as being somewhat premature to raise a discussion respecting it. They had abundant evidence, collected by the Farmers' Club and by other means, as to the inoperativeness of that portion of the Act which consisted of the Compensation Clauses; but they had no information as to the operation of the Act on the other important matters to which he had called attention. Before the Council proceeded to consider the operation of the Agricultural Holdings Act, he wished to impress upon it the necessity of allowing the measure time to develop itself, and of collecting information as to the second and more important portion of the Act.

Mr. D. LONG concurred with Mr. Howard, and recommended that consideration of the subject should for the present be postponed. He urged, however, that it ought to be discussed soon, because it was totally useless as between landlord and tenant, for nineteen landlords out of twenty contracted themselves out of its provisions (Hear, hear). At the same time he admitted that they had not yet had sufficient experience of its action on certain tenures, though they had had enough to show that the great majority of landlords had contracted themselves out of it. That being so, the conclusion he came to was that the Act, instead of being permissive, should be made compulsory (Hear, hear).

Professor BUND was of opinion that it was even too soon to discuss the Compensation Clauses, not to say the general operation of the Act; for although had been in operation two years, there were very few instances in which the Compensation Clauses had come into effect. Indeed they could not usefully discuss the Act until they had seen what judicial interpretations were put upon those clauses by the courts of law.

Mr. MANSFIELD, on the contrary, felt that discussion would not be premature. The Act, he insisted, had fallen short of its intention and ought to be made compulsory. He was acquainted with an estate in West Suffolk which had been held by a gentleman who represented that division of the county in Parliament for many years. It was now in Chancery, and the Receiver and Manager was the Hon. Herbert Herbert. The mansion, with the right of sporting over the estate was let to a rich stockbroker in London, for £1,000 a year, and the result was that the tenants of the farm were completely eaten up by game. On one farm, indeed, in 1876, the damage done by game exceeded the amount of the rent, and a number of other farms were similar sufferers.

Mr. R. STRATON rose to order.

The CHAIRMAN ruled that Mr. Mansfield was not out of order, but said it was a question of policy whether the discussion should be proceeded with.

Mr. MANSFIELD was entirely in the hands of the meeting but he could not conceive a more important subject for consideration by the Council than the Agricultural Holdings Act. As it appeared to be the wish of the meeting, however, he would postpone his remarks to a future occasion.

Mr. LIPSCOMBE denied that all landlords had contracted themselves out of the Act, and contended that it would be premature to pass an opinion at that moment either on the first or the second portion of the measure. Further, he was prepared to dispute the assertion that the fact of a landlord contracting himself out necessarily showed that the Act had been inoperative.

It was then agreed to postpone discussion, and after the County Boards Bill, and the Cattle Diseases Bill of the Government had been chosen as the first and second subjects for consideration at the meeting in March, the Council resolved itself into a Special General Meeting of the Chamber, at which the two following new Rules were added to the existing Code.—

On the motion of Mr. JABEZ TURNER:—"32nd, Every Associated Chamber shall be entitled to vote until its subscription for the current year is in arrears, and no subscription from such Chamber shall be deemed to be in arrears until the 31st day of March in each year."

On the motion of Mr. JAMES HOWARD:—"That Law 24, relating to payment of railway fares of elected members of the Council be rescinded."

Subsequently Mr. THOMAS BRIGGS read a paper on the operation of the Malt Tax. He argued that this impost was extremely detrimental to agricultural produce and disastrous to the interests of the farmer, and he recommended the formation of a Committee empowered to co-operate with the Farmers' Club in drawing up a plan of united action for securing repeal and putting malt on the same footing as sugar, which he observed is now extensively used with malt in brewing.

#### SMITHFIELD CLUB.

A Council Meeting was held at the Agricultural Hall on Tuesday, Feb. 5th, at 12 o'clock.

Present: His Grace the Duke of Bedford, President, in the chair; Messrs. H. Aylmer, Edmund Beck, Jos. Druce, W. Farthing, Juno. Ford, Hugh Gorringe, R. Garne, Chas. Howard, Jas. Howard, F. M. Jonas, R. Leeds, R. J. Newton, Edwd. Paddison, J. E. Rawlence, C. Sewell Read, M.P., F. Street, R. Stratton, Wm. Sanday, J. Thompson, T. Garrett Taylor, H. Trethewy, H. Webb, and Hon. Sec.

The minutes of the last Council meeting were read and confirmed.

The Veterinary Professor's report on the health of animals at the late show was read.

Mr. Thomas Pope of Horningsham, Warminster, and Mr. John Hemsley of Shelton, Newark, were elected stewards of live stock for the next three years.

Mr. Joseph Druce and Mr. Robert Leeds were re-elected stewards of implements for the present year.

The death of Mr. Thomas Horley, jun., a member of the Council, was announced, and, in accordance with the Bye Laws, the vacancy will be filled up at the next Council meeting.

The Council revised the prize list for the next show, and having considered the special rules which prohibit animals coming to the show which have been exhibited elsewhere after the 1st November, it was resolved:

That the Council being desirous to throw the show open, and to abolish the special restrictions Nos. 1 and 2, provided the stock of the country have a clean bill of health,

Resolved:—That the same be rescinded, subject to the confirmation of a special Council, to be held on the first Tuesday in October next—viz., October 1st.

It was resolved that Special Regulations Nos. 3 and 4 be again in force, viz. :—

3. That the exhibitor shall send with each animal a certificate that it has not been, for 14 days previous to its leaving home for the Smithfield Club's show, in contact with any animal suffering from contagious or infectious disease. No animal will be admitted without this certificate.

4. 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.

It was resolved that three judges for the champion plate and the £50 cups be selected by the judges of selection-committee out of those who have acted for cattle; and also three judges for the champion plate for sheep out of those who have acted for sheep.

In Classes 2, 7, 12, and 17 the ages of steers of the Devon, Hereford, Shorthorn, and Sussex breeds are to be "not exceeding 3 years and 6 months" instead of 3 years and 3 months; and in Classes 3, 8, 13, and 18 of the same breeds the ages of steers are to be "above 3 years and 6 months" instead of 3 years and 3 months, and not exceeding 4 years and 6 months. The prizes for Sussex cattle are to be increased to the same amounts as offered in the classes for Devons, Herefords, and Shorthorns.

The prizes in all the lamb classes are to be increased to £10 for the first prize and £5 for second prize, instead of £8 and £4. It was decided to give a separate breed cup of £10 for Cheviot and other mountain sheep.

Memorials were read from breeders of Kentish and Mountain sheep.

In the rules, after the words "The ages of all animals to be calculated up to the 1st December in the year of the show," it was decided to add the word "inclusive" after the word December.

The Council having had its attention called to the bad state of the Club's dies, from which the medals are struck, the Hon. Secretary was authorised to look to the same, and order what is necessary.

The Implement Committee was re-appointed as before, with the addition of the name of Mr. Richard Garrett, in the place of Mr. Richard Hornsby, deceased.

It was decided that in consequence of the Council being compelled to alter some of the special rules made for the late show, that the fines for non-exhibition be not enforced on this occasion; but for the future the fine for non-exhibition will be £1 for each beast or pen of sheep or pigs, instead of 10s. as heretofore.

The following new members were elected :—

Algernon Hack, Buckminster, Grantham.  
Charles Clay, the Stennard Works, Wakefield.  
Edwin Neame, (Harefield, Selling, Faversham).  
Thos. A. Vickress, Hill, Sleaford, Horsham.  
Jno. Howard Howard, Britannia Works, Bedford.  
Henry Humphrey, Ashington, Fulborough.  
Herbert Senior, Tarrant Rushton, Blandford.

Letters were read, and replies ordered to be forwarded.

After a vote of thanks to his Grace the President, the meeting adjourned to the 1st October, unless summoned earlier by order of the President.

## F R E E T R A D E I N L A N D.

### No. III.

I shall now proceed to try to explain what the Land Laws are under which the condition of things described in my letter No. 1, published in *The Examiner and Times* of the 20th of December, 1877 (*F. M.*, p. 126) has been produced.

The laws of which we are going to treat emanated from and are the off-spring, so to speak, of the feudal system established in this country by the Conqueror and his successors in the eleventh and twelfth centuries. Since those days a continued struggle has gone on—the people, assisted by the lawyers, seeking to modify them or to find out means of evading them; the great nobles and sovereigns, who were interested in them, seeking to maintain or re-establish their stringency. Sometimes one party gained ground in the struggle and sometimes another; but as time went on the growing necessities of the nation and the increasing power of the middle classes effected many modifications. Then broke out the great French Revolution of 1789. It found the feudal system existing in much greater stringency abroad than in Great Britain and Ireland, and causing infinitely more misery among the middle and lower classes in foreign countries than our modified laws were doing in Great Britain and Ireland. It swept away the feudal laws, first in France, Belgium and Holland, and then in Germany and the Northern part of Italy, but it did not affect the modified feudal land laws

which still existed in Great Britain and Ireland. The great estates broke up on one side of the British Channel, but, thanks to the modifications which had been submitted to upon the other side, they not only continued to exist, but they also continued greatly to increase in size and greatly to diminish in numbers. It is no part of the object of these letters to trace out these gradual and very limited modifications. All I propose to show is what these laws are which at the present time oppose free trade in land and prevent many of the great estates coming into the market, when, if it were not for these laws, they would undoubtedly do so. To state this in the shortest possible manner, they are :—

1. The laws which allow a landowner, by his deed, or by his will, to prevent his land being sold, or seized, or lessened in size, either during his life, or for many years after his death.

2. The law which, if the landowner does not avail himself of his power to make such a deed or will, gives all his land, without diminution or charge, and in one undivided estate, to the landowner's next "heir." This is the law of "Primogeniture."

3. The laws which allow the landowner, without selling any portion of his estate, to let portions for long terms of years, from 99 to 999 years, and to subject them to all kinds of

covenants, which affect these portions for generations after the death of the landowner, and after a change of all the circumstances under which the leases were made.

I. I will attempt to explain the first allegation. Let me suppose that Lord D has an estate in the North of England of 50,000 acres. This is a moderate supposition, when we remember the sizes of some of the English and Scotch estates. And yet how difficult it is to realise the meaning of these figures. A public park of 100 acres is considered a large and noble pleasure ground for even such a city as Manchester. But it would require 500 such parks to make an estate of 50,000 acres, and it would require 27 estates of 50,000 acres each, or 12,500 such public parks of 100 acres each, to form an estate equal to that which is now, in these days, owned by the greatest Scotch landowner. Let us suppose Lord D to be 22 years of age and unmarried, and to be the legal owner of these 50,000 acres, without being fettered by deed, or will, or mortgage. In such case he would be able to give, or sell, or divide his estate just as he pleased. Let us suppose he marries at 22 years of age. In such case the law enables him upon his marriage to make a deed giving his land to trustees, with directions to pay a certain sum per annum to his wife during her life, and the rest of the rental of the estate to himself during his life, and after his death to pay the rental to persons specified, to whom I will refer further afterwards. If after this deed has been made Lord D turns out utterly reckless and extravagant, gambles, or goes out to the turf and falls hopelessly into debt, as Lord A did in the case mentioned in letter No. 2, his land cannot be sold, however expedient it may be that it should pass into the possession and management of better men. The income of the estate would go to pay the creditors. There would be no one during Lord D's life to perform the duties of a landlord; no one to give leases to the farmers, which would enable them to safely lay out money in improvements; there would be no landlord who could keep up the farm buildings or mansion, and the estate would fall into ruin, just in the same way as Lord A's actually did. Many an estate has been left for many years in such a position, owing to such a deed. In Lord A's case, the estate continued in that state for about fifty years. But, further, besides allowing Lord D upon his marriage to tie up his land by the deed for his own lifetime, the law allows him to do much more. Supposing that A, B, and C are his children, or nephews, or friends, and that C is an infant, one year old, when Lord D dies. The law enables Lord D, by deed or will, to direct that as soon as he (Lord D) is dead, A shall have the estate for A's lifetime; that after A's death, B shall have it for his lifetime; and that after B's death, C, the infant, shall have it for his lifetime; and that after C's death the first son of C who attains 21 years of age shall take the estate entailed upon him and his children. Under such a deed, A, B, and C have, if they live and succeed to the estate one after another, only limited interests in the property. Each would only take at the most a right to possess and enjoy the estate for the remainder of his own lifetime. Beyond that neither would have any interest in or power over the estate. Under such a deed, or will, it is impossible to sell the estate out and out until some son of C has attained 21 years of age. This may not happen for 50, 60, or 80 years after the death of Lord D, and even then the estate cannot be sold out and out unless C and his son agree to do so. Thus it often happens that such a deed or will has the effect of preventing anyone selling the estate, or any part of

it, for 50 or 100 years. During all this time Lord D's estate is kept together, and is prevented being sold, by a dead man's deed or will. But more than this, Lord D is allowed by law, by such a deed or will, to lay down all kinds of regulations for the management of the land, for paying annuities out of it to relations and dependents, for the management of the woods and mines, and for the investment in other land of the proceeds and rental of the estate. And however much circumstances may change during all this period of time after his death, Lord D's deed or will still ties up the estate, still regulates its management, still keeps it unsold and undivided. Well may it be said that "the dead man's hand" keeps its grip upon the estate for generations. Very often, too, an owner like Lord D directs by his deed or will that A, B, and C shall only have a right to receive rents, or part of the rents, of the estate, and that the land shall belong to trustees, who shall devote the other part of the rents to buying more land, or to planting more timber, or to carrying out specified improvements, or to rebuilding the mansion, or to some other purpose. Close to where I am writing, a large estate has been given to trustees in this way. They are ordered by the will to let the mansion for a certain number of years, not to allow the heir to come into possession until he has attained a certain age, and even after that time to exercise considerable powers over the property. In this case it is possible that no one may be able to sell the land for 50 or 100 years. But let us suppose that C, the infant, has attained the age of 65 years, and that he has a son who is twenty years of age; under such a state of things Lord D's estate would be still bound by his deed or will, and could not be sold even by C and his son together while his son was under age. What generally then happens is this: the father, C, says to his son, "Now, I will make you an immediate allowance of so many hundreds or thousands a year for your life if you will join me when you are 21 years of age in making another deed like Lord D's, and tying up the estate again as he did." C's son, fearing that if he does not assent he will only get a very small annual allowance from his father, C, and being tempted by the prospect of a handsome immediate income, and perhaps himself understanding how important it is to prevent the estate from dividing, generally assents, and then, as soon as C's son is of age, another deed is made by father and son, tying up the property again, making it impossible to sell any portion of it, and providing for its future management for another 60, 70, or 100 years. By such a process as is here shortly and popularly described the majority of the great estates of Great Britain and Ireland are kept out of the market and tied up by deed or will from one long period of time to another and for successive generations, the new fetter upon the power of sale being generally added just before the time when the land would become saleable or liable to be seized in satisfaction of debts. Mr. Cliffe Leslie says very truly of these arrangements between father and son: "It is commonly supposed that the son acts with his eyes open, and with a special contingency of the future and of family life. But what are the real facts of the case? Before the future owner of the land has come into possession; before he has any experience of his property, or what is best to do, or what he can do in regard to it; before the exigencies of the future or his own real position are known to him; before the character, number, and wants of his children are learned, or the claims of parental affection or duty can make themselves felt, and while still very much at the

mercy of a predecessor desirous of posthumous greatness and power, he enters into an irrevocable disposition, by which he parts with the rights of a proprietor over his future property for ever, and settles its devolution, burthened with charges upon an unborn heir." It is quite right to say "burthened with charges," because when the father and son make these deeds together, it is usual to provide in the deed for a settlement of money out of the rents on the son's future wife, and for other settlements upon any younger sons and upon any daughters the son may have. I hardly need say, what must be so well known, that estates are so often burthened with charges for wives and children, and relations and retainers, that many a landowner, the extent of whose land makes his acquaintance believe him to be very rich and able to keep up a great style and a great hospitality, is in reality a poor man, who cannot find money for the proper maintenance of his estate or performance of his duties. As these deeds and wills are purposely made to bind the estate for many many years after the death of the landowner who makes them, it becomes necessary to insert great numbers of directions to the trustees or to the successive life owners, as to what they may do under contingencies which may possibly occur in the long series of years. These directions are called "Powers." Thus "Powers" are inserted to enable the trustees or the successive life owners to grant building leases, or mining leases; to cut timber under certain circumstances; to carry out specified improvements; to increase the estate by the purchase of more land; to raise money for future wives; to charge the estate for possible future children; to raise marriage portions for daughters; to raise money to buy commissions, or for the education or advancement of children; to mortgage for many purposes; to raise money for charitable purposes, &c. &c. &c. The condition of the titles of many of these estates become in this way complicated in the most extraordinary way, until even the ablest lawyer finds it difficult, and often quite impossible, to ascertain the exact state of the legal ownership of such an estate. Vast numbers of these estates are, owing to these deeds and wills, burthened with charges for wives and widows, charges for sons and daughters, marriage portions, mortgages, covenants to other owners, building leases, mining leases, farming leases (each containing scores of provisions), rent charges to various persons, payments of insurance policies, payments of annuities, equitable mortgages, equitable claims, &c. &c. I need not say that in vast numbers of these cases the actual possessor of one of these estates has not the faintest idea of what his own legal position is. He is told by his family lawyer and by his agent that under the circumstances he has only so many thousands a year to receive. Beyond that the state of his title is an insoluble mystery. But I am far from having given any complete idea of the powers which our law confers upon the landowner. It not only permits him to leave the surface of his land to one set of persons, so tied up that it cannot be sold, but it allows him to leave the minerals under the surface to another set of persons, and the timber on the estate to a third. So, he may give the legal ownership and management of the land to one set of persons, without any right to use for themselves any portion of the rents, and he may give the rent to another set. So, he may give the legal ownership of the estate to one set of persons, and give them a right to pay the rents to any person or persons they may select. So, he may direct that the land shall go to one set of persons after his death, and that if some indi-

cated event happens it shall go away to another set of persons. So, if he finds his son has got into the hands of the money-lenders he may, if the land is not already settled by one of these deeds or wills, settle the land upon that son's child, so as to enable the child of the unworthy son to come into the ownership freed from every embarrassment. All these and hundreds of other strange powers are given to the owner of land by our law, although such privileges and powers would not be endured by the law of any other civilised country.

2. The evils which are caused by these deeds and wills are still further aggravated by the law of "primogeniture." By this law, if a landowner dies without having made one of these deeds or wills, and free from debt, the law, seeking under all circumstances to prevent the great estate from being lessened or divided, instead of giving each of the children a fair and reasonable portion of his dead father or relation's property, gives it undivided, uncharged, and undiminished, to the person whom the law defines under the circumstances of the family to be the "heir" of the deceased. If such "heir" happens, according to the law, to be several females, then the estate goes undivided to those females. In the case of the owner of money dying without making a will, the law acts equitably and without being influenced by the desire to promote the creation of great estates, and divides the money in the defined shares amongst the nearest relations, whether they be male or female. But in the case of land all such considerations are set aside and made subservient to the one paramount idea of supporting and keeping together the great estates.

3. As if to make confusion worse confounded, the law permits the landowner to bind his land in various cases by leases for terms of years extending over terms varying from 21 to 999 years. All this has come about in this way: when one of the deeds or wills which I have tried to describe has been made, no person who becomes owner of the estate has any interest in the land beyond the term of his own life. Therefore, unless he were specially empowered in some way or other, he could not let any portion of his land beyond the term of his own life, and as the term of his life might terminate any day or hour, he could not grant a lease upon or under which anyone could act or expend money with any security whatever. It became necessary, therefore, either to insert powers of leasing for long terms in these deeds or wills, or to give the courts powers to authorise such leases for special purposes, such as farming, building, mining, repairing, &c. An Act of Parliament was accordingly passed, giving the Court of Chancery authority to allow owners under these deeds or wills to make these leases for these long terms. This really increases the powers of the landowners to tie up their land, and to keep the ultimate ownership in their own families, while they get capitalists to develop their estates and work the mines, quarries, &c., upon them, to do which the landowner himself has generally neither the capital, nor the energy, nor the intelligence, nor the business qualities which are necessary. But all this is only a palliative for a great evil. The man of capital under one of these leases has not the full control over the land. His hands are more or less tied by the many provisions of the lease, while he is often interfered with in his enterprise in a hundred ways by the provisions of the lease and by the interests and caprices of the landowner. Besides all this, it is unnecessary for me to explain how these long leases, entered into, it may be, more than a 100 years ago, complicate the state of the title to the estate, and increase the



difficulties and cost of investigating its title and otherwise dealing with it.

I have now endeavoured as plainly as I could to explain how the law enables the landowner, by means of these deeds, wills, and leases, to tie up his estate for long periods of time, often extending by a succession of these deeds over many generations. Do not let it be supposed, however, that I would deprive the landowner of the power of making a will and of leaving his land to any child, or children, or person that he chose. I would leave him such a power. I believe, however, that it would be better for the land, for his family, and for the country, that the landowner should have no power whatever of rendering his land unsaleable, or of withdrawing it from the market, or of regulating its management in any way after his own death. The interests of an infant to whom he left any land might be satisfactorily guarded during his infancy by giving the necessary powers either to a guardian appointed by the will or to one of the courts. Until the powers of the landowner are thus limited, there is no hope of seeing anything approaching "free trade in land," or any reduction in the sizes of the great estates, or any creation of a class of yeomen proprietors.—JOSEPH KAY, in *Manchester Examiner*.

COVERED YARDS are taking a strong hold on the agricultural mind; and I do not wonder at it, while straw sells at £4 per ton, and while dung-heaps inflict such a heavy cost of horse and manual labour, and waste of manure elements. I am so frequently asked about covered yards, and the means of adapting them to the shedded yards, that I asked the following question of an eminent firm at Windsor Ironworks, Liverpool, Messrs, Isaac Dixon and Co. (Limited), and received the annexed reply, which will enable my brother-agriculturists to form some estimates according to circumstances. My question was, "How much would a covered yard cost, 60 feet by 60 feet, or to cover a space of 3,600 superficial feet," which, according to my experience, would comfortably accommodate 30 young beasts, and their feeding troughs, at 120 superficial feet to each animal, or 25 full-grown cattle at 144 feet each, which is admitted to be a most ample space. Of course the following estimate does not include side or end walls or woodwork; but in many farmyards these and the sheds already exist, and it is only the middle open space that requires covering. According to the annexed calculation, the annual cost of covering for each bullock would only be about 7s. for a young beast and 8s. for a full-grown one. Care must be had to have ample ventilation in the roof, which is much too generally neglected, even in new buildings. On this ventilation depends, in a great degree, the health of our animals. I have a strong conviction that, now that we have elevators to carry up high our hay and corn stacks, we shall use iron roofs for our stacks, because, in a space equal to 60 feet square an immense quantity of corn or hay can be stacked, especially the former, carried to a height of 25 to 30 feet. Many a stack of barley becomes injured by rain to a greater amount than the entire yearly interest on such a covering. If I were a younger man I should certainly adopt this plan as a source of profit. The difficulty of obtaining thatchers during the harvest at the proper time is the cause of much loss, even in our dry eastern counties. Dutch barns have been found very convenient. The time will come when our farmeries will have the appearance and form of miniature railway stations. I also annex the cost of such a covered yard as mine, as estimated by

my bricklayer in 1863, and as detailed at p. 487 of my first volume, *How to Farm Profitably*. That covered yard of mine has been approved by almost every farmer who has seen it. "Estimated cost of the largest of Mr. Mechi's cattle sheds. Length from out to out 57 feet 6 inches, by 35 feet. Height of brickwork from floor, 8 feet:—

BRICKLAYER.

3 rods of brickwork, at £11... ..	£33	0	0
Digging foundation, all materials ... ..	4	17	0
Slating, 24½ square, at £1 8s. ... ..	33	19	0
7,000 bricks for paving floor, at £1 5s. ... ..	8	15	0
116 yards paving, at 4d. ... ..	1	18	8
8 load sand, and carting do., at 3s. 6d. ... ..	1	8	0
100 feet patent roll ridge, at 2d. ... ..	3	15	0
Screws, putting and setting ... ..	0	12	10

CARPENTER.

Roof, 24½ square, at £1 8s. ... ..	33	19	0
Iron rods, plates, nuts, &c. ... ..	5	0	0
Sliding doors, iron, &c., complete ... ..	2	10	0
Pair folding doors end of shed ... ..	1	10	0
2 doors and frames to side of ditto ... ..	1	0	0
30 feet of plate glass at 1s. ... ..	1	10	0

£133 14 6

In my opinion it is of the first importance to have on every heavy-land farm such sheds, and most particularly the means of cooking and mixing the cut straw, cakes, bran, malt, combs, &c.; a few cast iron coppers of ample size could be cheaply and advantageously fixed.

The following is an extract from Messrs. Dixon & Co.'s letter:—"We do not know the exact cost of slated or tiled roofs, but from what we have been told from time to time, we believe that in most situations our iron roofs do not cost more than about two-thirds of either of these two forms. A though iron is a conductor of heat, still in practice it is very rare to have any complaint of iron roofs in that respect, and as they admit of ready and ample ventilation, they can be used for all such coverings with satisfaction. We have pleasure to send you by this post another of our catalogues. Our prices for covering an area of 60 feet by 60 in two spans with our galvanised corrugated curved iron roofing, including galvanised iron eaves, gutters, cast iron down spouts, galvanised iron valley gutter between the two roofs, would be £118. The timber work required could be readily and economically supplied by local contractors, or by proprietors' own carpenters. We feel sure that in most situations our galvanised corrugated curved iron roofs can be erected very much cheaper than any other roofing except perishable boarded and felt roof."—*J. J. Mechi*.

GOLDEN LEAVES.—She was searching over the golden leaves which the frosts of October had detached from the stiffened twigs. Her auburn hair took on the glint of gold as the bright sun streamed down over chimney and roof and tree-top, and the tender lines around her mouth deepened as she whispered, "O golden leaves, your life is typical of —" At that moment her mother came down to the gate, sleeves rolled up, and her big red hands hiding the view of the back-yard. "Pawing over them leaver again, ar' ye P?" she exclaimed, as she caught sight of the sentimental maiden. "Well, now, you trot in here, and wash out the rest of them coloured clothes, or I'll paw you, I will!" "Yes, mother dear; but these golden—" "Trot, I say! Good bar-soap is the goldenest thing in the market, and a washboard costs more money than all the yaller leaves on the street." And he gentle maiden trotted.—*American Paper*.

## CHEESE FACTORIES.

It is generally, and, I believe, correctly, understood that of the various cheese factories in England few, if any, are doing as well as they were two years ago. To the milk suppliers this is a very serious matter, and it is a source of deep regret to those who, though not milk suppliers, still take a warm interest in the welfare of the factory system, believing it to be, all things considered, the best method of cheese-making yet introduced or discovered. It is a matter of surprise to many, and of vexation to some, that the factory cheese-making should have fallen away from the high position it so quickly attained at first. That it is under a cloud at present none can deny, but that the cloud will pass away after a time I personally have very little doubt.

But the cloud will not of itself pass away—it will require helping away.

Various conjectures have been made as to the cause or causes of the decline in the reputation of English factory cheese. Probably some of these are correct, but as no one at present is sure which of them are right, they might as well all be wrong for any practical good they have done as yet. Yet inquiry into the cause is the first step to be taken toward the removal of an evil, and conjecture is the first step in inquiry. Hence we may venture to hope that the case will be investigated and a remedy applied.

During my vacation I have inquired of several of our more active-minded farmers who are interested in the matter what they consider to be the chief causes of the present unsatisfactory state of things. The two chief causes, so considered, are the following: first, the factory managers, having become familiar with their work, are also become less careful and particular, and far more hurried and irregular, in the performance of it than they formerly were; it is thought that, being no longer a *new thing*, the factory system has ceased to impress on the managers the important truth that to succeed in it unremitting care and the most particular and regular attention are constantly and imperatively necessary. Second, in the past year or two many farmers have begun to use considerable quantities of cotton-cake, in order to force as large a quantity as possible of milk throughout the summer; and it is also feared that many of them do not take the pains they ought to do in keeping the cans clean, and in cooling and otherwise taking due care of the milk, in hot weather more particularly, before sending it off to the factory.

With respect to the first of these causes I am inclined to think the suspicion is correct in some cases, though not in all; in fact, I know it to have been correct in or two cases. But none of the managers seem at present to take that amount of interest in their duties which would induce them to meet together at times to discuss and explain various points relating to those duties. Who ever heard yet of English dairymen holding meetings to discuss the *pros* and *cons* of, to inquire into the causes of disappointment and disaster in, and to freely explain what are considered the soundest systems of practical cheesemaking—as the American dairymen regularly hold them? I contend, and have for years contended, that much good would result if our factory-managers, and others who are interested in cheesemaking of whatever kind, would meet during the winter and talk these matters over amongst themselves—and there is plenty to talk about and think about—but they never do so. Each man seems content to follow his own plan, just as if he had nothing to learn himself and nothing

to communicate to others. This is not the way to improve; it is not the way the Americans have in the past ten or twenty years so wonderfully improved their method of cheesemaking.

With respect to the second cause, I am inclined to think there is a good deal of truth in it. But, of course, the farmers who have used large quantities of cotton-cake are perfectly innocent of any intention to do harm thereby to themselves and to others; still, as Hood says:—

Evil is wrought by want of thought,  
As well as by want of heart.

And it is quite possible, and more than possible, that one of the chief causes of the decline in quality of some factory cheese may be laid to the door of cotton-cake used injudiciously. I will give an instance to illustrate this:—

Last year friends of mine were milking two cows, and gathering butter from the milk. Later in the summer they began giving cotton-cake to the cows. Mark the result: there was an increase of milk and butter, but the butter was very queer, and sold in the market for one-half the market rates. This went on for several weeks, and my friends were at a loss to understand the cause of this, and they were naturally very much troubled about it. At length another friend inquired what the cows were eating beside grass? "Cotton-cake" was the answer. "Let me see your butter," said the friend. The butter was brought and examined. "Don't you perceive the odour of the cotton-cake?" said he who examined the butter; "leave off using it, and see what the result will be." The cows got no more cotton-cake, and though the milk decreased in quantity, the butter was right from that day forwards.

Now, as cotton-cake, if used to a considerable extent, will injure butter, will it not injure cheese also? At all events, whether it does injure it or not is worth proving, and I appeal to those of our farmers who have used a large quantity of it in order to force a maximum quantity of milk for the factories, to discontinue the use of it for one season. At the same time I would implore the factory managers to be as diligent, as watchful, as careful, and as regular and anxious, as if the coming one was their first season. No blame can then by any possibility rest on them. These things done, and the farmers taking every care they can to keep the milk sweet and the utensils clean, my opinion is that we shall see an instant and a great improvement.

A scientific friend of mine in Bavaria writes me to say that he has been recently carrying out a series of experiments connected with the irregular ripening of cheese; and he has so far determined that the cause of this irregularity *lies in the milk itself*. Further investigations are now being made with a view to finding a remedy.

Now, if factory managers must be expected to make good cheese, they must have sound and sweet and clean milk to make it from. The onus of failure does not rest wholly with them: on the farmers too must be placed some of the responsibility. But if each and all do what they ought in their own interests to do I am quite sure the result will be satisfactory to all parties. I fail to see any benefit in any one losing his temper about the matter—this will improve nothing. The better plan is to set about discovering the cause, and when it is discovered to apply the obvious remedy.

J. P. SHELDON.

## THE HIGHWAYS BILL.

The Bill is entitled "A Bill to Amend the Law relating to Highways in England and the Acts relating to Locomotives on Roads, and for other purposes," and the preamble sets out that it is expedient to amend the law relating to highways in England, and to amend the Locomotive Acts, 1861 and 1865. The principal clauses are as follows:—

1. This Act may be cited as "The Highways and Locomotives (Amendment) Act, 1875."

2. This Act shall not apply to Scotland or Ireland; and Part I. of this Act shall not apply to the Isle of Wight; nor to any part of the metropolis; nor to any part of a county to which the Act passed in the session of the twenty-third and twenty-fourth years of the reign of her present Majesty, chapter sixty-eight, intitled "An Act for the better management and control of the highways in South Wales," extends.

## PART I.

## AMENDMENT OF HIGHWAY LAW.—HIGHWAY DISTRICTS.

3. A requisition to the clerk of the peace under section five, of the Highway Act, 1862, may be made by any member of a county board; and a provisional order made under the Highways Act, 1862 and 1864, by a county board may be taken into consideration and confirmed or otherwise dealt with at a general meeting of the board held not less than six weeks and not more than three months after the making of such provisional order; and notice in the form (B.) in the schedule to the Highway Act, 1862, shall not be required to be given.

4. In forming any highway districts, or in altering the boundaries of any highway districts, the county board shall have regard to the boundaries of the rural sanitary districts in their county, and shall, so far as may be found practicable, form highway districts so as to be coincident in area with rural sanitary districts, or wholly contained within rural sanitary districts.

5. Where a highway district, whether formed before or after the passing of this Act, is or becomes coincident in area with a rural sanitary district, the rural sanitary authority of such district may apply to the county board, stating that they are desirous to exercise the powers of a highway board under the Highways Act within their district. On such application the county board may, if they see fit, by order declare that from and after a day to be named in the order (in this Act called the commencement of the order) such rural sanitary authority shall exercise all the powers of a highway board under the Highway Acts; and as from the commencement of the order the existing highway board (if any) for the district shall be dissolved, and waywardens or surveyors shall not hold office or be elected for any parish in the district. An order made under this section may be amended, altered, or rescinded by a subsequent order of the county board. Where a highway district, being coincident in area with a rural sanitary district, is situate in more than one county, an order under this section may be made by the county board of any county in which any part of such district is situate, but such order and any order amending, altering, or rescinding the same shall not be of any force or effect until it has been approved by the county board or boards of the other county or counties in which any part of such district is situate.

6. From and after the commencement of the order declaring a rural sanitary authority entitled to exercise the powers of a highway board within their district, the following consequences shall ensue:—All such property, real or personal, including all interests, easements, and rights into and out of property real and personal and including things in action, as belongs to or is vested in, or would but for this Act have belonged to or been vested in, the highway board, or any surveyor or surveyors of any parish forming part of the district, shall pass to and vest in the rural sanitary authority for all the estate and interest of the highway board, or of such surveyor or surveyors, but subject to all debts and liabilities affecting the same. All debts and liabilities incurred in respect of any property transferred to the rural sanitary authority may be enforced against that authority to the extent of the property transferred; all such powers, rights, duties, liabilities, capacities, and incapacities (except the power of obtaining payment of their expenses by the issue of precepts in manner provided by the Highway Acts, or the power of making, assessing, and levying highway rates) as are vested in or attached to or would but for this Act have become vested in or attached to the highway board, or any surveyor or surveyors of any parish forming part of the district, shall vest in and attach to the rural sanitary authority; all property by this Act transferred to the rural sanitary authority shall be held by them on trust for the several parishes (or the benefit of which it was held previously to such transfer).

7. If at any time after a rural sanitary authority has become invested with the powers of a highway board in pursuance of this Act the boundaries of the district of such authority are altered, the powers and jurisdiction of such authority in their capacity of highway board shall be exercised within such altered district; and on the application of any authority or person interested the Local Government Board may by order provide for the adjustment of any accounts or the settlement of any doubt or difference so far as relates to highways consequent on the alteration of the boundaries of such rural sanitary district.

8. All expenses incurred by a rural sanitary authority in the performance of their duties as a highway board shall be deemed to be general expenses of such authority within the meaning of the Public Health Act, 1875.

9. Any two or more highway boards may unite in appointing and paying the salary of a district surveyor, who shall in relation to the district of each of the boards by whom he is appointed have all the powers and duties of a district surveyor under the Highway Acts.

10. All expenses incurred by any highway board in maintaining and keeping in repair the highways of each parish within their district, and all other expenses legally incurred by such board, shall on and after the first day of April, one thousand eight hundred and seventy-nine, be deemed to have been incurred for the common use or benefit of the several parishes within their district, and shall be charged on the district fund: provided, that if a highway board think it just, by reason of natural differences of soil or locality, that any parish or parishes within their district should bear the expenses of maintaining its or their own highways, they may

(with the approval of the county board or boards of the counties within which their district, or any part thereof, is situate) divide their district into two or more parts, and charge exclusively on each of such parts the expenses payable by such highway board in respect of maintaining and keeping in repair the highways situate in each such part; so, nevertheless, that each such part shall consist of one or more highway parish or highway parishes.

11. The accounts of every highway board shall be made up and balanced to the twenty-fifth day of March in each year, and as soon as conveniently may be after such day the said accounts shall be audited and examined by the auditor of accounts relating to the relief of the poor for the audit district in which the highway district or the greater part thereof in rateable value is situate. Every such auditor shall (as nearly as may be) have in relation to the accounts of a highway board the same powers and duties as he has in the case of accounts relating to the relief of the poor; and any person aggrieved by the decision of the auditor shall have the same rights and remedies as in the case of such last-mentioned audit.

12. Notwithstanding anything in the Highway Acts way-wardens shall continue in office till the thirtieth day of April in the year following the year in which they were elected, and on that day their successors shall come into office.

13. So much of section seven of the Highway Act, 1862, as prohibits the inclusion in a highway district of any parish or place the highways of which were, at the time of the passing of that Act, or within six months afterwards, under the superintendance of a board established in pursuance of section eighteen of the principal Act, unless with the consent of such board, is hereby repealed.

#### EXTRAORDINARY TRAFFIC.

14. Where by a certificate of their surveyor it appears to the authority which is liable or has undertaken to repair any highway whether a main road or not that extraordinary expenses have been incurred by such authority in repairing such highway by reason of the damage caused by extraordinary traffic thereon arising from building operations, construction of works, or other exceptional cause, such authority may recover in a summary manner from any person by whose order such traffic has been conducted the amount of such extraordinary expenses as may be proved to the satisfaction of the court having cognizance of the case to have been incurred by such authority by reason of the damage arising from such traffic as aforesaid. Provided, that any person against whom expenses in respect of extraordinary traffic are or may be recoverable under this section may enter into an agreement with such authority as is mentioned in this section for the payment to them of a composition in respect of such traffic, and thereupon the persons so paying the same shall not be subject to any proceedings under this section.

#### DISCONTINUANCE OF UNNECESSARY HIGHWAYS.

15. If any authority liable to keep any highway in repair is of opinion that so much of such highway as lies within any parish situate in a petty sessional division is unnecessary for public use, and therefore ought not to be maintained at the public expense, such authority (in this section referred to as "the applicant authority") may apply to the court of summary jurisdiction of such petty sessional division to view, by two or more justices being members of the court, the highway to which such application relates, and on such view being had, if the court of summary jurisdiction is of opinion that the application ought to be proceeded with, it shall by public notice

appoint a time and place, not earlier than one month from the date of such notice, at which it will be prepared to hear all persons objecting to such highway being declared unnecessary for public use, and not repairable at the expense of the public. On the day and at the place appointed the court shall hear any persons objecting to an order being made by the court that such highway is unnecessary for public use and ought not to be repairable at the public expense, and shall make an order either dismissing the application or declaring such highway unnecessary for public use, and that it ought not to be repaired at the public expense. If the court make such last-mentioned order as aforesaid the expenses of repairing such highway shall cease to be defrayed out of any public rate. Public notice of the time and place appointed for hearing a case under this section shall be given by the applicant authority as follows; that is to say, (1.) By advertising a notice of the time and place appointed for the hearing and the object of the hearing, with a description of the highway to which it refers in some local newspaper circulating in the district in which such highway is situate once at least in each of the four weeks preceding the hearing; and (2.) By causing a copy of such notice to be affixed to the principal doors of every church and chapel in the parish in which such highway is situate to which doors notices are usually affixed. And the application shall not be entertained by the court until the fact of such public notice having been given is proved to its satisfaction. If at any time after an order has been made by a court of summary jurisdiction under this section, upon application of any person interested in the maintenance of the highway in respect of which such order has been made, after one month's previous notice in writing thereof to the applicant authority, it appears to any court of quarter sessions that from any change of circumstances since the time of the making of any such order as aforesaid such highway has become of public use, and ought to be maintained at the public expense, the court of quarter sessions may direct that the liability of such highway to be maintained at the public expense shall revive from and after such day as they may name in their order, and such highway shall thenceforth be maintained out of the rate applicable to payment of the expenses of repairing other highways repairable by the applicant authority; and the said court of quarter sessions may by their order direct the expenses of and incident to such application to be paid as they may see fit. Any order of a court of summary jurisdiction under this section shall be deemed to be an order from which an appeal lies to a court of quarter sessions.

#### BYELAWS BY COUNTY BOARD.

16. A county board may from time to time make, with respect to all or any main roads or other highways within their jurisdiction, and when made alter or repeal byelaws for all or any of the purposes following; that is to say, (1.) For prohibiting the use of any waggon, wain, cart, or carriage drawn by animal power and having wheels of which the felines or tires are not of such width in proportion to the weight carried by, or to the size of, or to the number of wheels of such waggon, wain, cart, or carriage as may be specified in such byelaws; and (2.) For prohibiting the use of any waggon, wain, cart, or other carriage drawn by animal power not having the nails on its wheels countersunk in such manner as may be specified in such byelaws, or having on its wheels bars or other projections forbidden by such byelaws; and (3.) For prohibiting the locking of the wheel of any waggon,

wain, cart, or carriage drawn by animal power when descending a hill, unless there is placed at the bottom of such wheel during the whole time of it being so locked a skidpan slipper or shoe in such manner as to prevent the road from being destroyed or injured by the locking of such wheel; and (4) For prohibiting the erection of gates across highways and prohibiting gates opening outwards on highways. Fines, to be recovered summarily, may be imposed by any such bye-laws on persons breaking any bye-law made under this section, provided that no fine exceeds for any one offence the sum of two pounds, and that the bye-laws are so framed as to allow of the recovery of any sum less than the full amount of the fine.

## PART II.

## AMENDMENT OF LOCOMOTIVE ACTS, 1861 AND 1865.

17. Section 3 of the Locomotive Act, 1861, and Section 5 of the Locomotive Act, 1865, are hereby repealed, so far as relates to England, and in lieu thereof be it enacted that it shall not be lawful to use on any turnpike road or highway a locomotive constructed otherwise than in accordance with the following provisions (that is to say):—(1) A locomotive not drawing any carriage, and not exceeding in weight three tons, shall have the tires of the wheels thereof not less than three inches in width, with an additional inch for every ton or fraction of a ton above the first three tons; and (2) A locomotive drawing any waggon or carriage shall have the tires of the driving wheels thereof not less than two inches in width for every ton in weight of the locomotive; and (3) A locomotive shall not exceed nine feet in width or fourteen tons in weight, except as hereinafter provided; and (4) The wheels of a locomotive shall be cylindrical and smooth-soled, or shod with cross-bars of not less than three inches in width nor more than three-quarters of an inch in thickness. The owner of any locomotive used contrary to the foregoing provisions shall for every such offence be liable to a fine not exceeding five pounds: Provided, that the Commissioners in the City of London and the Metropolitan Board of Works in the metropolis exclusive of the City of London, and the council of any borough which has a separate court of quarter sessions, and the county board of any county may, on the application of the owner of any locomotive exceeding nine feet in width or fourteen tons in weight, authorise such locomotive to be used on any turnpike road or highway within the areas respectively above mentioned, or part of any such road or highway, under such conditions (if any) as to them may appear desirable.

18. The paragraph numbered "secondly" of section three of the Locomotive Act, 1865, is hereby repealed, so far as relates to England, and in lieu thereof the following paragraph is hereby substituted; namely, "Secondly, one of such persons, while the locomotive is in motion, shall accompany the locomotive on foot, and shall in case of need assist horses, and carriages drawn by horses, passing the same."

19. Section eight of the Locomotive Act, 1861, is hereby repealed, so far as relates to England, and in lieu thereof, be it enacted that every locomotive used on any turnpike road or highway shall be constructed on the principle of consuming its own smoke; and any person using any locomotive not so constructed shall be liable to a fine not exceeding £5 for every day during which such locomotive is used on any such turnpike road or highway.

20. Section eight of the Locomotive Act, 1865, is hereby repealed, so far as relates to England, and in lieu thereof be it enacted, that the Commissioners of Sewers in the City of

London, and the Metropolitan Board of Works in the metropolis exclusive of the City of London, and the council of any borough which has a separate court of quarter sessions, and the county board of any county, may make bye-laws as to the hours during which locomotives are not to pass over the turnpike roads or highways situate within the areas respectively above-mentioned, the hours being in all cases consecutive hour and no more than eight out of the twenty-four; and any person in charge of a locomotive acting contrary to such bye-laws shall be liable to a fine not exceeding £5.

21. A county board may from time to time make, alter, and repeal bye-laws for granting annual licences to locomotives used within their county, and the fee (not exceeding £10) to be paid in respect of each license; and the owner of any locomotive for which a license is required under any byelaw so made who uses or permits the same to be used in contravention of any such byelaw, shall be liable to a fine not exceeding forty shillings for every day on which the same is so used. All fees received under this section shall be carried to and applied as part of the county rate.

22. This part of this Act shall remain in force so long only as the Locomotive Act, 1865, continues in force.

## PART III.

## PROCEDURE AND DEFINITIONS.

23. A byelaw made under this Act, and any alteration made therein and any repeal of a byelaw, shall not be of any validity until it has been submitted to and confirmed by the Local Government Board. A byelaw made under this Act shall not nor shall any alteration therein or addition thereto or repeal thereof be confirmed until the expiration of one month after notice of the intention to apply for confirmation of the same has been given by the authority making the same in one or more local newspapers circulating in their county or district.

24. All offences, fines, and expenses under this Act, or any byelaw made in pursuance of this Act, may be prosecuted, enforced, and recovered before a court of summary jurisdiction in manner provided by the Summary Jurisdiction Acts.

The rest of the Bill consists of definitions and the details of procedure.

## "WONDER WHO THEY'RE FOR?"

My ma's been working very hard,  
And also very sly,  
And keeps her sewing out of sight  
Whenever I am nigh.  
I asked her once what made her stop  
Her work when I came in;  
She said she only stopped to get  
A needle, thread, or pin.  
The bureau drawer next to mine  
Is locked both night and day,  
And when ma wants to open it  
She sends me off to play.  
I stole a peep one afternoon,  
Although it was not right;  
But oh! the little things I saw  
Were such a pretty sight.  
The cutest, nicest little clothes—  
Just biz enough for doll;  
But then I know they're not for *her*—  
*She* needs them not at all.  
I know they're not for ma nor pa,  
Nor me nor brother "Hor."  
For we can't wear such little clothes—  
I wonder who they're for?

—*Sydney Mail.*

## THE IRISH LAND LAW.

In connection with Mr. Butt's Land Tenure (Ireland) Bill, we give from *The Times* a summary of an address sent or to be sent to the tenants of Ireland:—

A Committee, with Mr. Butt, M.P., as its leading member, was appointed by a Conference of Representatives of Tenant Defence Associations and Farmers' Clubs, held in Dublin on the 17th ultimo, Mr. Butt being present; and he, having explained his views, was requested to draw up an address to the tenant-farmers of Ireland on the present condition and the future conduct of the question. The address has just been agreed on by the Committee, and is to be immediately circulated among the electors of Irish counties and the members of the Tenant Farmers' Organisations. Addressing the farmers as "Brother Tenants," the document alludes to "the uncertainty which exists as to the moment a general election may be held," and recommends the tenant-farmers to prepare at once for such a contingency. Whenever (it adds) such an election shall occur it will be of the greatest importance that the great question of Tenant-Right should be submitted to every constituency in Ireland. It proceeds:—"It is a question which, strictly speaking, is not a political one. Its nature is eminently social, and for this reason, one on which all creeds and classes can unite. It is a demand that the Irish people shall be permitted to cultivate their native soil in peace, to amass property thereon, and to have the sacredness of that property recognised by law." Having regard to this statement of principle, the tenants are informed that their "imperative duty at the next election will be to vote for that candidate only who will beyond doubt pledge himself to contend in Parliament and out for the Tenant-Right that will give the security in question. Agriculture is the only Irish industry; by it all classes hang; when it prospers, the community prospers; when it fails or is oppressed and dishonoured, every class and interest feel the effects. When, therefore, you demand fixity of tenure, immunity from rack-rent, and the right to hold, to bequeath, or to sell your interest or property in your farm improvements in the open market, you demand the concession of a Tenant-Right you are entitled to not merely in your own, but in the national interest and for the national benefit." Proceeding to analyse the present condition of the Irish farming classes, the address says:—"Every one conversant with the subject knows that under existing land laws the industry of the tenant is possible on the sufferance of landlords only; that the security necessary to make the industry of farming prosperous is denied to it; that the required capital to make it flourish can only be sunk at the risk of its seizure and confiscation; that when property is created on the land it has no recognition by law, and that, finally, when occupations are improved by the efforts of their holders to make two blades of grass and two ears of corn grow where only one of each grew before, they find themselves rented up or taxed upon their own improvements treated, in fact, as if they had been guilty of a crime. The consequence of this state of things Mr. Butt and the Committee allege to be "to check all farming enterprise beyond a hand-to-mouth system; to narrow the employment of that labour which constitutes a nation's wealth to a minimum; to half cultivate the land; to produce therefrom half the food

and riches it is capable of under a better and juster order of things; to bring decay upon the towns and villages of the community; to paralyse internal trade and commerce, and to produce general dissatisfaction and discontent." The Mitchelstown libel case, the details of which the document sets forth, "shows a state of things unparalleled in any other civilised country on the globe," and "every trial of landlord and tenant in a court of law" is adduced as containing evidence of this statement of the condition of the Irish tenant. The tenant-farmers are then reminded that by the possession of the franchise and the ballot-box they have the power to alter their condition, for they, in fact, "hold the Parliamentary representation of their race in the hollow of their hands," and "all creeds and all classes stand on one platform for fixity of tenure, valuation of rent, and the right of free sale." North and South should unite on the subject to utilize their power, and the address advises "a common understanding and a common resolution at the polling booth, to return no candidate there who does not in the most unmistakable manner pledge himself to neglect no opportunity of procuring them the Tenant-Right they are entitled to," and in this way obtain "the freedom of the people on their native soil, which is their inalienable right." The document admonishes the farmers by constitutional means to overthrow "absolute Landlordism," and asks, "Are 19,000 landlords for ever to stand in the way of peace and plenty o'er a smiling land? Are the millions to be for ever under their heel? You do not grudge them a fair rent. Why permit them to rack-rent you with one hand and to hold up the threat of eviction to the man who is over-rented with the other?" The "rack-rent," it is explained, is not merely on the landlords' land, "but also on the tenant's property and improvements," and the tenants are informed they have as much "property and capital invested" as the landlords. All the "buildings, fences, and surface improvements" are claimed as the tenants, and all the "highways, bridges, galls, county-courthouses, and other adjuncts which go to render the landlords' property secure and enhance its value" are also claimed as the tenants' property "if the expenditure of their money thereon constitutes a right of property." The lengthy address to the tenantry of Ireland thus concludes:—

"Are the emigrant ship and the workhouse to be for ever alternatives to you? Perish the thought! You are entitled to a very different prospect. More than that, you have it in your power by constitutional means to overthrow a system which has nothing but 'landlord-made law' to gild its existence. Once more we remind you that you have in your possession the weapon of the ballot whereby to cut and carve out your emancipation from that landlordism which enthralled you, which debased you, and which oppresses and plunders you. We adjure you to use that weapon unsparingly at the polling-booth. Enact the laws you want there, and they must before long be enacted elsewhere. Again, we impress you to unite as one man for security to your homes. A pull, a strong pull, and a pull together, and Tenant-Right is won, victory assured, liberty yours, and your freedom from serfdom and grinding tyranny accomplished."

## FARMERS' CLUBS.

CARMARTHEN.

At the last quarterly meeting of the Club Mr. Arthur Rees, president, in the chair, Mr. C. Bishop, junr., read a paper on "Tenant Farmers Economy," of which the following is the principal portion:—

I have selected for my subject that of "Tenant Farmers' economy," and in the few remarks I shall have to make under this head I wish it to be distinctly understood that when alluding to the waste—the lamentable waste—that often takes place in the everyday life of the tenant farmer; I do not refer to the well-to-do farmer, of easy circumstances, who comparatively may be said to live on the fat of our valleys, and who can well afford to do much as they like, but I especially allude to such as rank as smaller agriculturists or upland farmers, often employing little or no paid labour in their operations. I have said my subject is "Economy"—a text that of necessity implies in itself waste of some kind—a loss of means or power to the end each has in view; but then to accuse a proverbially tight-fisted farmer of want of economy sounds no doubt very much like a paradox, for we all know how closely he looks, thinks over, and looks again at both sides of a hard-earned shilling before spending it, and then, when he does spend it, how keenly he sees he gets his full change back! But it is not of money alone we can be prodigal, nor is it of that money itself that the farmer could be said to be wasteful—of this he is, has been, and always will be a "Cybydd," but it is of other things—of time more especially—that true measure of human existence and human exertion, and of everything that human exertion produces—that the farmer is a hereditary spendthrift of the most reckless kind. Now, it is a well acknowledged axiom in the civilised world, in all mundane pursuits, where man's industry is the staple article, that time is considered as a term synonymous with money, but to this general proposition of the one being equivalent to the other there appears one anomalous exception to the rule (perhaps just to prove it), and that exception is our well-known friend the old-fashioned farmer himself, who follows the footsteps of his great-grandfather, and whom we should regard as quite an antiquated anomaly of our modern money-making population. Having stated broadly that the tenant farmer is prodigal of his time, and consequently of that article vulgarly called "tin" too (time being accepted as synonymous with money), to prove my proposition I must have recourse to figures and facts, for propositions without figures or facts are like clocks without dials, plates, or hands—things that have no meaning, and are unintelligible to our understanding without something to measure by. Any common almanack tells us plainly that each year (except leap year, an exception I leave to ladies to account for) comprises 365 days, and that these 365 days include 52 called Sundays; that are set apart for rest and religion; so in fact the number of real working days in the year (after taking Christmas Day into account) are reduced to 312. Of these 312 days available for the business of life, let us see how many the farmer actually works upon his farm: First, he gives up at least one in every week for the purpose of attending his neighbouring market, but whether he does so necessarily or no seems more than questionable, whenever he is blessed with a "better half," who might well be trusted to transact all the bartering and market-

ing of the week, and then again occur periodically our district fairs, whether of necessity he goes, if not to buy or sell farm produce, at least to show himself, to meet his friends, and to make merry over the "raws." With all these claims upon his time, still there are further calls, for the landlord would look black indeed were his tenant to absent himself from the half-yearly rent audit, and probably so would the tithe-owner, yet my deductions have far from come to an end; for are there not such things as auctions and funerals, "erwdds" and preachings, weddings and biddings, county courts and tax-meetings, petty sessions and quarter sessions, assizes and elections, with school boards, and an occasional coroners' inquest or court leet, all laying claim to a share of the farmer's time, and which the farmer has been taught to think they have a perfect right to tax. Occasionally also comes eisteddfods, club meetings, ploughing matches, and agricultural shows, and on great gatherings of this kind the farmer (generally gregarious in his recreations) is certainly expected to attend, for he would be thought sadly wanting in social feeling were he to absent himself. So that putting all these numerous deductions down at the very lowest estimation, and subtracting the sum total from the figure I originally started with, we arrive at a balance of something like two hundred days in the year as the real working days the farmer devotes honestly to the cultivation of his land, subject of course to one further small subtraction, such as blacksmith shop, worn nails, and the like naturally suggests. If my deductions are correct (and if challenged I could give them in more arithmetical form) then I am not far wrong in saying the tenant farmer does not actually labour upon his farm more than something very like six or eight months out of every twelve. How far he is a willing offender, and personally responsible for this wasteful expenditure of time, I leave for others, who know him and his long-tongued race better than do, to say; but I will add this much, that no other calling in this country, be he merchant, manufacturer, or mechanic, where so much depends upon labour, upon industry and upon perseverance, could possibly prosper under similar circumstances. Secondly, to the waste of time comes that of natural heat; the waste in farmyard manure; and the waste of mechanical power; and in respect to these again the small extent to which farmers make themselves amenable to what I may term the most simple and elementary principles of nature, of chemistry, and of science is truly deplorable. The necessity of clipping the lively growth of our hedges, so as to admit freely the rays of the sun, the folly of allowing rain to wash manure heaps, and the unwillingness to purchase even the simplest machinery—these and other faults of management, it must be confessed (with our hill-farmers at least), is the rule and not the exception; and to remedy such defects, where capital is not so much required as a proper expenditure of time and labour, should be the effort of every well-wisher of the farming interest in the country. Now, as to natural heat, I will venture a few remarks. Those who are most conversant with the farming features of this neighbourhood must know full well that in many parts the average size of our enclosures does not exceed two or three acres in extent, so that the amount of land covered by hedge rows becomes very considerable when compared with the land itself; and then, again, when the growth of this network of hedges with their ditches are allowed often for years to run riot, no ray of

sun during winter and early spring can possibly touch the soil. Doubtless small holdings necessitate small fields, and equally necessary against our "South-western" is proper shelter for cattle, commonly called "craggods;" but that miles upon miles of wild hedges should thus be allowed to rob our pastures and our crops of that natural heat of which they are at such seasons in so much need is a practice that cannot be too strongly condemned. We all know our subsoils are mostly cold and clayey, and our climate wet; therefore nothing can be more suicidal than to exclude the invigorating influence of the great luminary's rays in the way we do. Besides the heat of the sun, to which I have alluded, we possess another almost equally powerful agent, acting as a exorcise, and which is to be found in our much abused rainfall—but here again the farmer generally omits to reap the full benefit of those gifts of nature, gratuitously brought to his very threshold. Many know, but some may not, that the raindrops which descend in such abundance on our western coast (and which in Wales the steepness of our hills requires) are produced by a process of sea evaporation, caused by the warm waters of the rapid Gulf Stream coming either into contact with the icebergs floating from the North or else with the cold waters of the great Atlantic. These tepid and cold waters, meeting on the western side of Ireland, produce large masses of vapour, which assume the form of clouds; and these (naturally partaking of the warmth of that gulf-stream from whence they rise) are, when westerly winds prevail, driven to our shores, and descend in those downpours (of which we have recently had such experience!), and if allowed to percolate freely through our soils and pass away, our land would be continually watered with a kind of tepid moisture. Instead of this, now, what do we find? Why, ditches choked up, weeds unchecked, rushes green, and water cold and stagnant, so that everything is chilled and soured, and that invaluable rainwater—one of nature's greatest gifts—ceasing to perform the proper functions to aid the agriculturist, for which by a wise Providence it was designed. A few words next as to the waste of manure. The waste of the farmyard manure heap (not so great as formerly) is still much more common than many would suppose. It is not an unusual thing to find the manure heap placed on the very edge of some steep declivity, with a rapid stream of water just below, into which its drainage falls; and still more common to find the manure itself spread about without form or shape. Seldom is any attempt at a cesspool made, where the manure might be submerged in its own fluid, and allowed to rot in as compact a mass as possible, avoiding evaporation. To expose manure to atmospheric influences is one of the most certain ways of destroying its fertilizing properties, for nothing is more volatile than the ammonia or nitrogen generated by decomposition, and nothing so feeding to vegetation (as chemists now tell us) as these very gases, which the farmer thoughtlessly allows to fly away into empty space. Would any man in his senses treat guano, superphosphate of lime, or any artificial manure in the same way he does his home-made article? If he did, rest assured he would soon find out they brought back but a poor return for his money. By all means, I say, let the common manure heap, if kept above ground, be as little exposed to wind and rain as possible so that no evaporation takes place until actually required for use; and when used, get it into the ground as quick as possible. Better than this, sink it in tanks of the rudest description, and it will rot well and take care of itself. The waste of power was the fourth and last head under which I divided my remarks, and by waste of power I mean that mechanical power which modern invention

has so bountifully given us; and here I may observe that, differing from the other waste to which I have referred, nothing can be done under this head towards improvement and enlisting the aid of this great agent to ameliorate the farmer without some small expenditure of capital on the part of the farmer himself. It may be that mowing and thrashing machines are extravagancies far beyond the means of the hill-side man, in this county at least; but then there are many other appliances of a more simple and inexpensive kind that surely come within his means! How many of these small farmers are there who possess such things as turnip cutters, gorse-pulpers, haymakers, chaffcutters, or water-wheels? If he has them not, it is, I expect, more from ignorance and indifference than from lack of capital that he neglects the assistance of such needful machinery as I refer to; and with his want of enterprise and courage, and with his disbelief in indirect gains, it is to be supposed that if he fails to get as much out of the land as he ought, and finds the times hard, he thinks the fault is everybody's but his own; and rails against his landlord and his rent, as if they had robbed him of his savings for his old age. Such a starving system as this is a penny wise and pound foolish one, and yet it ought to be manifest, and is manifest to all save him, that with paid labour so dear, and with the help of these modern contrivances so numerous, yet so neglected (economising labour and cheapening farm produce as they should), any farmer must be left behind in the great race for wealth who neglects to make use of this mechanical power to whatever extent his limited means will permit. Such, then, gentlemen, is but an imperfect outline of what was announced for discussion here this evening. Regretting as I do that the duty of doing so has not fallen into more able hands, I have endeavoured, in the limited time allotted to us, on which I fear I have trespassed, to give a rough though honest sketch of what seems to be some serious defects in the every day life of the tenant farmer. Probably by some my remarks may be thought too severe, but if overdrawn the will must be taken for the deed, and should I err in this respect, I try, at least, to err on the safe side, for rest assured that hard words rather than flattery is the cure where long-rooted evils have to be eradicated. I leave to others who follow me to enlarge on, or to detract from, my criticisms as they think proper; for to add now more to what I have already said would expose me to the charge of myself offending against one of those very principles of economy I so urge upon the tenant-farmer to take to heart. If my subject be not a brilliant one, it may perhaps still commend itself as being a simple, practical and useful one to study; and certainly one of its greatest merits would be established should its discussion but prove in any way to be the means of at least attracting the attention of our district agriculturist to the full appreciation of these great gifts of nature and science he seems so lightly to value, and, I grieve to say, so often heedlessly wastes, and by utilising which he might not only add to his own individual prosperity, but at the same time contribute in the aggregate to the general amelioration of his class and to the productive wealth of his own country.

Mr. PUGH said that for his own part he really thought the farmers were doing much what they ought to do, but of course there was room for a little improvement. With regard to the waste of manure the reader of the paper was undoubtedly right. Certainly, in some places the dung heap was placed in the wrong spot, and much of the liquid ran into the river. It was plain that that was wrong, and should be avoided. At meetings of these societies he had heard many complaints



regarding the quality of the artificial manures that were sold. Well, if it did not turn out to be what they wanted and expected, it was obviously their business to make the most of the manure of their own cattle. It might be difficult for many to get those buildings, sheds, or whatever was necessary for preserving it, but at any rate they could do a great deal to the purpose without incurring great extra expenses, which those who had not leases or other security could not be expected to incur. Some years ago it used to be said that the farmers were greatly to blame for not making most of their cattle all the year round, especially in winter. It was said that at the beginning of spring they were very different from what they were at the end of autumn. All this had been remedied of late years. They were now quite alive to the necessity of keeping their cattle up at all seasons, and not letting them lose flesh. A good deal would be done likewise in the saving of manure when they were brought to consider the subject seriously. He did not know how they wasted much time. They were immensely indebted to the tenant-farmer for rising so early, going to bed late, and eating the bread of cheerfulness. Their motto would be given as "Early in the morning before the bread of day." In harvest and other busy times if there was work to be done, they did not leave off at the same hour as toilers of other classes, but went on with their work singing, "We won't go home till morning, till daylight does appear."

Mr. THOMAS, of Moreb, being called upon, said he agreed with most of the remarks made by the reader of the paper. He showed that there was 312 working days in the year, but that the farmer spent very many of these days at fairs and similar places. But it usually happened that the farmer had a son, a servant or some other person besides himself who kept the work going on when he was at the fair, so that the time was not spent in idleness. As to putting the manure in a pit, he (Mr. Thomas) remembered hearing at one of their meetings a good remark—from Mr. Gwyn, he thought it was—to the effect that the manure might be put in a dry place, but well covered, so that the ammonia could not escape. That plan would keep it in a better state than the proposed method for keeping it underground.

Mr. DAVIS, Typicca, said he would only say just a word, and that was with regard to putting the manure in heaps. He supposed they were all against putting the manure in places where any of the ammonia might be lost, and so was he, but what was to be done with it. They could not carry it out to the fields which were too wet these damp seasons. They could not take it from their farmyards. He was afraid to put it in heaps, or else he would not have come from home that day. He should be most happy to receive any instructions that might be offered on the subject.

Mr. MORGAN, of Llwyn, thought Mr. Bishop had been too hard on the tenant farmers. He had given them an account of the number of days in the year, the number of Sundays in the year, and the number of days in the week the farmers were likely to attend at market, at the same time expressing his opinion that the market work could be as well done by the farmer's "better half." Now, he (Mr. Morgan) should be sorry to find, even if the "better half" could do the work, that the hard worked farmer was to be debarred from going out for recreation, even if it was not necessary for him to go out for information. Some of them saw their daily papers and read the market accounts and the prices quoted; but if they did not go frequently to their own market how were they to know which was the highest or lowest market? He did not object to their "better halves" doing certain kinds of work

but the "worse halves" should mind their own occupations. The former could attend to the domestic affairs, but if the farmers did not attend the fairs they would not know what to ask for a beast if they brought one out to sell. A man, to be a farmer, must be as well coached in that as a lawyer or any professional man must be in the routine of his particular business. He did not think such should be found with the farmer for attending fairs—and as to attending shows, unless he went round the best show of stock and saw the bloom of them, he was apt to become vain, and think his unimproved stock at home unsurpassed. Then, when he brought such stock to the market he was naturally disappointed to find how small was the price he could get for them. A farmer going to the showyard was in much the same position as a child examining a copy his master had set him.

Mr. EVANS, Cilsane, said there was nothing to be made by farming, especially during the last few years. When the seasons were more uniform and more favourable than at present a little profit was made; but now it was hazardous, so wet, and so irregular that you could not even clean your ditches because of the incessant rains. As to corn-growing, no man could now do it, and it was getting worse every year. How was a man to make profit where everything was against him? Rates, rents, and taxes, instead of lowering according to their other circumstances, were getting higher every day. There was no allowance for the farmer, and therefore his must be a very losing game indeed. He defied any man to make the two ends meet properly unless he had the lease of a cheap farm. As to saving the manure, there was certainly a great waste often; but who was to blame? Such was the position of the homefolds that they were frequently in the most convenient place to lose the whole of it—on the margin of rivers or rivulets. How was the tenant to remedy that? He had no lease, no other house convenient but that which stood in an improper position from time immemorial. How was the man to get a livelihood? With regard to the employment of more machinery he had not the means for that either in the majority of instances.

The paper was further criticised by Mr. Lewis, Mr. Lewis Bishop, Dr. Hopkins, Mr. Prosser, and the President, and

Mr. C. BISHOP in the course of his reply, said:—He did not cry down the use of time or deny the farmer's right to go to fairs. But take the hill-farmer for instance. Had he 50 beasts to bring to fairs in a year? All farmer needed to be well up in the prices of the day, and to attend markets and fairs when they had any actual occasion to do so. As to the landlords building sheds for the hill farmers, he feared that idea was not practical. He was sure that when such matters were brought under the notice of our large landlords, they were never backward in coming forward to do what was just under the circumstances of the case. He would like to find any farmer of those who complained that had asked his landlord to build these sheds. As for our upland farmers these sheds were entirely unnecessary to their system.

#### STANDROP.

The annual meeting of this Club was held on Friday, Feb. 5th, in the Club-room at the Scarth Memorial Hall. The business being of a formal character, it is needless to say more than that the funds increase. The dinner was held at the Queen's Head Inn, Standrop, and was attended by a goodly number of members and

friends to agriculture. Mr. W. F. (11) occupied the chair. After the usual loyal toast,

Mr. METCAL gave "The Duke of Cleveland," and remarked that as his Grace was so perfectly well known to those present, it was unnecessary for him to use any number of words on this occasion. They all knew he was a most generous landlord, and would do everything in his power for the benefit of his tenants.

Mr. SCARTH (Chairman), in responding, said, on behalf of the Duke of Cleveland, he begged to thank them for the compliments paid to his Grace. He felt certain his Grace was well known in this part of the country to almost every one, and if ever there was any question of real interest to be brought before his Grace he was only too glad to meet it in a fair and proper manner. The speaker said it now fell to his duty to open a discussion on "Subjects connected with Agricultural Interests," in doing which he would only allude to a few questions that were interesting at the present time. On the occasion of the last anniversary he said there was some fear entertained with reference to the importation of dead meat. They had another year's experience of the imported dead meat from the American continent, and it seemed to him they might dismiss the apprehensions entertained of that trade injuring the farmers of England. It was apparent from the various channels of information that first-class beef could be sent in excellent condition to England, but only at such a cost that it did not interfere with a fair profit being obtained by the English producers of beef for what they sent into market, and he did not think, from the information that had come to their knowledge, the inhabitants of the United Kingdom had the least cause to regret the importation from the American continent or elsewhere. With regard to the importation of live stock, that was quite a different question, and what they naturally dreaded, for it seemed to be the opinion of those well versed in the question, that with live stock came those terrible consequences, rinderpest, foot-and-mouth disease, &c. The Select Committee appointed to inquire into this subject, as they all knew, had very recently considered the question, and had recommended certain wise restrictions which he hoped would be carried out this year. They as farmers ought to give all the support they were able in carrying out those recommendations. It seemed to him a most outrageous thing that our flocks and herds should be subjected to attack by an imported disease—for such it was denominated by the most learned of the veterinary departments. Petitions were being prepared at several of the Chambers of Agriculture for presentation, and he hoped this Club would be no exception, but unite with others in signing and forwarding a petition to the Government to carry out the recommendations of that Select Committee. It was monstrous to think our herds had to run the risk of a foreign disease which had done more harm to the farmer than anything that had happened for years, entirely brought about by the importation of live stock. He was an advocate for free trade, but if free trade brings destruction to our herds and flocks we should unite to prevent it. He said there were many present who had suffered in this district to a serious extent. They had learnt by the supply of dead meat that distance was no object. Then why, as farmers, did they not imitate this system? It seemed to him they did not pursue a wise plan in sending fat live stock to market. They had evidence that dead meat was carried safely without loss, and the loss by the carriage of live animals must fall indirectly upon the farmer. He thought if the animals were slaughtered at home and sent to the great centres of consumption it

would be a considerable gain to all parties. He could not see any difficulty from the example they had of good fresh meat from the American continent, and he thought it would not be many years before they slaughtered at home, *i.e.*, upon their homesteads, for it was a great advantage where the farmer was in a position to do so; and they must not ignore the fact that live cattle lost weight in a long journey. With regard to straw he was astonished, and would like an explanation from some of the practical men, why it was such an enormous price at present, for it seemed to him to be nearly on a par with hay. Doubtless the farmer had lost by wheat, but he was a gainer in straw. Straw had been gradually creeping up in price, which he thought was a proof the demand was much greater than formerly. The badness of the root crop may have had some little influence. But that should be no reason, but rather the reverse, because if a man economises his roots, *i.e.*, does not waste them, he will require all the more straw and hay to make them really useful in feeding cattle; and this year, through the failure of that crop, they had no doubt been taught a lesson—economy in the use of roots. The supply of straw was a question of much importance in this district, and he believed they had paid too little attention to the top-dressing of corn and cereal crops. He believed they gained a considerable return for what was judiciously expended in top-dressing grain crops. It improves the yield and increases the bulk of straw. Nitrate of soda and superphosphate guano, applied as a top-dressing, would repay the outlay. They could see, by the experiments of Mr. LAWES, who had read an excellent paper at the London Farmers' Club about a month ago, what land would do, without being deteriorated, when properly manured; and if they followed the advice of Mr. LAWES they would have great increase of straw. This is the time of year they should take into consideration what manure was most desirable, as different soils require different manures, and he should very much like to hear his neighbours' experience of the particular manures they have found to answer best.

Mr. RALPH PEVERELL thought top-dressing an excellent thing, especially for corn, and they who tried it would be well repaid by bulk in straw, and he considered nitrate of soda the best for corn. As regarded the supply of imported dead meat, he thought they need not be afraid so long as they could realise 10s. a stone for their own beef.

Mr. THOMAS AWDE remarked if he began to recommend top-dressing they would all conclude he was speaking interestedly, but on the whole he considered it an excellent thing. He thought the present deficiency of straw was owing to farmers being somewhat restricted in the sale. He argued that farmers ought not to be tied down to a hard and fast line not to sell it, because if they applied the proceeds of such a sale in the purchase of a top-dressing the benefit would be apparent. He quite agreed with the Chairman that a great deal of the root crop was really wasted. With regard to artificial manures, he considered nitrate of soda a first-class top-dressing, but the high price prevented more being used. He thought it would not be sold for much less than £17 a ton this year, and there might probably be an increase of 10s. a ton in the price of guano, more particularly because of the stones being taken out of it. He mentioned a case which occurred in the neighbourhood of Auckland last year, where there was a quarter of a hundred weight of stones in each bag of manure.

Mr. FRANCIS HODGSON thought they had not much to

ear from the supply of foreign meat. At one time it was very much spoken about, and every one was beginning to tremble. As regards foreign diseases, he instanced the troubles of a farmer now-a-days to a woman who brings up a family to the best of her means, and perhaps prepares one for a parson, one for a chemist, another for a doctor, and perhaps one for a lawyer, and, just as her hopes are about being realised, a fearful pestilence sweeps them off and her hopes are dashed to the ground. Now, it was the same with a farmer: he had a good deal of trouble to raise up his stock and put everything into good order, and then the Americans and others send the diseases over and blight all their hopes. He considered it would be a great benefit if they killed all their own meat. They had very good markets at present, but they would be better if the stock was slaughtered at home. With regard to straw, he thought the tenantry ought to have more liberly.

Mr. GEORGE AMOS (Woodland) could say very little on growing either straw or oats. He thought he was something like the people in Holwick, who expected corn to be grown in pokes. However, he found in his experience that lime was the best top-dressing that could be applied. With reference to the meat question, it was thought by some last year that the importation would do a deal of harm, but as things had turned out a great deal of good had been done, for many poor families have thereby been fed who otherwise would not

have been. He was very much averse to live-stock importation.

Mr. ARMS (West Holue) thought they had little to fear from the importation of foreign cattle—they were such poor little insignificant things. And as to the American meat question that would all fall through. With regard to straw he thought the deficiency was owing to barley and oats being more extensively cultivated than wheat, and for manures he considered Peruvian the best if it could be obtained good. He also recommended a less supply of roots in feeding cattle.

Mr. SAMUEL POWELL agreed with the Chairman—they had nothing to fear from the dead-meat trade, but considered they had a great deal to fear from the importation of foreign cattle, and ought to support the recommendations of the Select Committee. With reference to straw, he was glad the Chairman had opened that subject, because he thought there was too much restriction at present. If the landlords would allow them to sell straw they could get more good by applying the proceeds to a top-dressing as recommended by Mr. Awde. He was at a loss to know what they could do with the offal in the event of slaughtering cattle at home. With reference to the root crop, he mentioned that the best turnips he had seen this year were grown with seven hundredweight of manure, which was very rich in ammonia.

Other topics were proposed, and the discussion of the above and kindred subjects continued.

## THE CONTAGIOUS DISEASES (ANIMALS) BILL.

The Contagious Diseases (Animals) Bill, "An Act for making better provision respecting Contagious and Infectious Diseases of Cattle and other Animals," is now in the hands of the public, and we trust it will receive their most careful attention. The Bill provides for the slaughter of all foreign animals intended for food at the ports of landing: for the quarantine, and subsequent supervision, of all foreign animals intended for dairy, breeding, or exhibition purposes: and for restriction on the movement of animals, diseased or suspected according to the meaning of the Bill, within the United Kingdom.

The distinctive features enumerated above are its broad principles, and on them we shall endeavour to base our examination of the Bill itself, and of its details. The slaughter of all imported fat stock at the ports of debarkation, as provided by the third regulation of the first division of the Fourth Schedule appended to Clause 30, is the kernel of the Bill—its most important enactment. As we have repeatedly pointed out, this must be a *sine qua non* in any measure introduced for the purpose of dealing with the cattle disease question of the day, and upon it will depend the fate of the present Bill. Whilst maintaining the position we have all along assumed, in respect to the slaughter of foreign fat stock at the ports of em-

barkation, as being the only one which can be strictly defended as providing the utmost possible security from foreign contagious diseases, we are perfectly ready and willing to accept this basis of the measure, as being the furthest practical step which can be taken at present in that direction. Nothing in the Bill itself is so reassuring as the frank admission on the part of the Duke of Richmond that nothing short of prohibition, and a consequent complete development of the dead meat trade, can give us absolute immunity from foreign contagious cattle diseases; this is the principle we have sought to establish, and the recognition in high places of its correctness augurs well for the future. His Grace also declares, very distinctly, that he is satisfied, from the evidence supplied, that port inspection is useless to prevent the spread of diseases inland, because of the impossibility of detecting the diseases in question when in their incubatory stages: and, above all, that the so-called minor diseases—Pleuro-pneumonia and Foot-and-Mouth Disease—occasion greater losses to the community than the more dreaded Rinderpest. In taking up such a position the Duke will, without doubt, secure the hearty and material support of the entire agricultural interest in the United Kingdom, and we trust of the community as well, in support of this one main feature and vital principle of the measure he has introduced.

The only objection we have to urge in respect of this enactment is, that it is not intended to become law until January 1st, 1879. We should have preferred it to have come into operation directly on the passing of the Bill. We do not see that days of grace are necessary in this case, as they would be if the proposal was to slaughter on the other side of the Channel. If any valid reason can be shown for the delay, well and good; if not, we think British stock-breeders have a greater claim to the consideration of the Legislature than the graziers of Schleswig-Holstein. Our readers will, perhaps, regard it as a significant fact that the Tönning trade commences on the 23rd of June and ends on the 7th of December, and that five-sixths of the imports of cattle from Germany come to us during that time, and from that particular port.

The second feature of the Bill—quarantine—is one we condemn *in toto*. We have from the first protested, and we shall continue to protest, against quarantine forming any part of cattle disease repression measures. We recognise the necessity of providing for the introduction of breeding stock, and of course we admit that quarantine will have to play an important part in such an arrangement; but the quarantine provided by the Bill is instituted on behalf of the foreign dairy cows which bring with them Pleuro-pneumonia, and which constitute the sheet anchor of the town dairy system. Therefore, both to the quarantine and to the importation of dairy cows we shall continue to offer the strongest opposition in our power. A quarantine of 14 days for a disease whose incubatory stage is admitted to extend over a period of three months is, to us, utterly inadequate and absurd. The fifty-six days' subsequent supervision does not in any way lessen the danger; if the disease breaks out it will have to be dealt with according to the provisions of the Act, but there is nothing to prevent it breaking out. The animals are not even to be isolated during these fifty-six days; in fact isolation would be practically impossible. We contend that these Dutch and other foreign cows are not in any way necessary to the public, nor in any way conducive to public benefit; and we contend further that the trade in the interest of which these cows are to be admitted is a source of danger to the country and to the health of the people who reside in large towns. The importation of foreign dairy cows amounts to about 10,000 yearly, and Professor Brown, in his evidence before the Cattle Plague Committee, gave his opinion that it would be beneficial to the country to do without them. The quarantine is useless

because it will not prevent pleuro-pneumonia entering; and the fifty-six days' supervision will serve no purpose, that we can see, beyond enabling the inspectors to find it readily. We want to prevent this disease coming here, but the Bill simply provides for it being watched when it gets here. Whilst, therefore, the first division of the Fourth Schedule, appended to Clause 30, by providing for the slaughter of all foreign fat stock at the ports of landing contains the greatest good afforded by the Bill, the second division of the same schedule, by providing quarantine for foreign dairy cows, contains the greatest evil, amounting to something more than a drop of bitter in the cup of plenty, or we would not take exception to it. We trust this will be remedied in Committee.

The next aspect in which we view the Bill is in respect of its provisions for dealing with the contagious diseases of animals which now exist in our midst. We are happy to find that the nature of the restrictions and regulations is not such as will be likely to meet with opposition from the parties concerned, nor to warrant the imputation of causing the maximum of obstruction whilst effecting the minimum of benefit. The proposed scheme is based on the recommendations given by Professor Brown to the Cattle Plague Committee, and may be described as simply an isolation of diseased centres by means of a cordon drawn around the place or district, inside which no movement of animals will be allowed during a specified time. This is really all; and it would be difficult, we think, to improve upon the plan, or under the circumstances, to propose another equally good. To attempt more would be unreasonable so long as foreign diseases are to be landed on our shores; and to do less would be leaving matters much as they now are, which we stand pledged not to do. If a market or fair be interfered with under the new *régime* it will be because it is dangerous to hold it; and if it is not interfered with it will be presumably safe. We do not, therefore, hesitate to advise the acceptance of the basis on which this part of the Bill is drawn. Thus far we have dealt with the broad principles only which are the distinguishing features of the proposed measure, and we have now to do with matters of detail, as far as our space will permit.

The Bill, by its second clause, provides for the repeal of all previous legislation on the question. The internal regulations apply uniformly to the whole of the United Kingdom, although England, Scotland, and Ireland, are separately specified on account of local technicalities. With regard to Cattle Plague, the Privy Council will take it in hand should it make its appearance; compensa-

tion for compulsory slaughter will be paid out of the Imperial Exchequer, at the rate of one-half the value of an affected animal, not to exceed twenty pounds, and in every other case the full value of the animal, not to exceed forty pounds. With regard to Pleuro-pneumonia and Foot-and-Mouth Disease the Privy Council rules and regulations are to be carried out by the local authorities, who are to report what they have done to the Privy Council. Compensation for compulsory slaughter will be paid out of the local rates, at the rate of three-fourths the value of an affected animal, not to exceed thirty pounds, and in every other case the full value of the animal, not to exceed forty pounds. Each local authority must "keep appointed at all times at least one veterinary inspector"—see paragraph 2 in Clause 37—and the term "veterinary inspector" is defined by the Bill to mean a member of the Royal College of Veterinary Surgeons. In Scotland the inspector must be appointed by the Privy Council—see Clause 69—and in Ireland, according to our reading of Clause 76, an inspector is not necessarily a M.R.C.V.S., and may be appointed by either the local or the central authority. See paragraphs 11 and 12 of Clause 5 for definition of the term "inspector," and to elucidate this point. The duties of the inspector are in all cases alike, so far as we can see: he has first to ascertain whether Pleuro-pneumonia or Foot-and-Mouth Disease exists, or has existed within twenty-eight days in case of the former or seven days in case of the latter, and then he has to call the attention of the local authorities to the matter. If they are satisfied with the representation of the inspector they have power to declare the place or the district an infected one, it being within the power of the local authority to prescribe the limits of such district, and within this infected district, or from this infected place, animals cannot be moved for a specified time after the cessation of the disease, the time being fifty-six days in the case of Pleuro-pneumonia and twenty-eight days in the case of Foot-and-Mouth Disease. An inspector may enter any premises whereon he has reason to suspect the existence of disease, but he may be called upon to state his reasons, in writing, for entering such premises—see Clause 45, paragraphs 2 and 4. The police will be empowered to arrest any one found to be impeding the operations of the Act; and Clause 48 provides that any one "owning or having charge of animals in a place or district declared to be infected" may forbid, by a notice affixed to the premises, any other person from entering such premises. This is a most excellent regulation. The local authorities have power to

appoint as many inspectors and other officers as they think necessary, and also to revoke appointments—see Clause 37. The constitution of local authorities is defined in the Fifth Schedule; and their various powers of purchase, borrowing, &c., will be found from Clauses 32 to 43 inclusive. The Privy Council reserves to itself power to exercise complete supervision over the action of the local authorities, to counteract or supplement as they may think proper: also to remove any incompetent inspector, or one who does not do his duty—see paragraph 3, Clause 37. Clause 22 provides for the Privy Council making "such further or other provision" as they may think expedient in case of animals being found diseased with Pleuro-pneumonia or Foot-and-Mouth Disease, during transit by land or water, while exposed for sale in a market, fair, sale-yard, place of exhibition, fair, slaughter-house, common or unenclosed land, and "generally, while being in a place other than a place in the possession of the owner of the animals, and any such order may, notwithstanding anything in this Act, make such provision as the Privy Council think fit for the consequences of animals being so found, as well with regard to the animals as with regard to the place where they are found." The Privy Council has power to cancel any order made in error by the local authorities; and, generally, to make from time to time such orders in Council as may be found necessary for the working of the Act, or to meet any contingency which may arise under it. These powers we believe to be in good hands, and have no mistrust as to the way in which they may be used. Independently of general powers the Privy Council are enabled, by Clause 24, to deal with other diseases than those specified, and by Clause 25 is permitted to "reserve for observation and treatment" any animal liable to be slaughtered by the provisions of the Act, by paying the value specified by its terms; and the second paragraph of the same clause enacts that "Where an animal is slaughtered by order in any disease, its carcase shall belong to the authority ordering the slaughter," a most useful regulation, which will prevent the jobbery which has been practised under the former Act. The authorities, whether local or central, may also use for the burial of a diseased carcase "any ground in the possession of the owner of the animals." Insurance companies are entitled to deduct from the sum payable by them to the owner of an animal which has been slaughtered by order the sum which is payable by the authorities to the owner of such animal. Clause 26 contains 31 paragraphs specifying the specific powers

of the Privy Council with regard to making orders for preventing or checking disease, and, generally, on the movements of animals. Clause 27 contains provision for the Privy Council compelling railway companies to supply water or food, or both, to animals "carried, or about to be, or having been carried," on their respective lines. As regards water, the consignor and the person in charge will be guilty of an offence against the Act if they do not apply to the railway company for water to be supplied to the stock once within thirty consecutive hours; but the Privy Council may "prescribe any other period not less than twelve hours," and the charges for the same are to be approved by the Privy Council. This is good news, as also is that contained in Clause 28, which enables the Privy Council to regulate the ventilation, drainage, cleanliness, and water supply, of town dairies, to compel the cleanliness of milk-shops, and to prescribe precautions to be taken for protecting milk against infection and contamination. The Privy Council have also discretionary powers to specify the ports, or parts of ports, at which foreign stock are to be landed, and for regulating the movements of persons and things into, or out of, such ports or defined parts of ports. Offences against the Act are to be attended with penalties, which in respect to single animals are not exceeding twenty pounds, or, if in respect of more than four animals, a penalty not exceeding five pounds for each animal. In respect of carcases, fodder, litter, dung, &c., "a penalty not exceeding ten pounds in respect of every half-ton in weight thereof after one half ton, in addition to the first penalty of twenty pounds." And in respect of tampering with diseases, digging up carcases, etc.—see Clause 57—the offender is liable "to be imprisoned for any term not exceeding three months, with or without hard labour, in lieu of the pecuniary penalty to which he is liable under this Act." This looks like business, and we think it none too strict. There is to be a General Cattle Disease Fund for Ireland.

Reviewing the details enumerated above, and the general scope and intent of the restrictions and regulations on home industry, we do not see that the proposed measures are likely to prove oppressive to farmers; practically the difference between the new system and the old one is—so far as the direct effect on traffic is concerned—that which is expressed by the term "district" instead of the term "place"; that is to say, the traffic will be effected only by that difference in the ordinary way. But in reality there is a vast difference between the new Bill and the old one, inasmuch as it confers on the Privy Council the power—

which it did not before possess—to do whatever may be deemed necessary.

To sum up the impressions we have received from a careful consideration of the Bill, both as a whole and in detail, we are disposed to think that it will afford the maximum of safety with the minimum of restriction attainable under the conditions on which the Bill itself is drawn, namely, the slaughter of foreign fat stock at the ports of landing conditionally on preventive measures being instituted in connection with home diseases. Taking these two bases together we are quite prepared to accept the Bill as a tentative one, and provisional to something more complete in time to come. To quarantine, as provided for in the Bill we are unconditionally opposed: and we must confess to some misgivings as to the two most important diseases, Pleuro-pneumonia and Foot-and-mouth Disease, being relegated to the control of the local authorities. In closing our review we take the opportunity of remarking that the thanks of the entire community are due to his Grace the Duke of Richmond and Gordon for the careful and comprehensive measure which he has prepared in the interests of the producers and consumers of meat.

The Bill is entitled "An Act for making better provision respecting Contagious and Infectious Diseases of Cattle and other Animals," and we here give it, with the exception of definitions, references as to legal proceedings, and other details that our readers will not care to trouble themselves with at present:—

#### PART I.—GENERAL.

1. This Act may be cited as the Contagious Diseases (Animals) Act, 1878.

2. The enactments described in the First Schedule are hereby repealed, with and subject to the qualifications and exceptions in this Act mentioned.

3. This Act shall commence and have effect from and immediately after the thirty-first day of December, one thousand eight hundred and seventy-eight.

4. This Act is divided into Parts, as follows:—Part I., General; Part II., England; Part III., Scotland; Part IV., Ireland.

5.—(1.) In this Act—(i.) "Cattle" means bulls, cows, oxen, heifers, and calves; (ii.) "Animals" means, except where it is otherwise expressed, cattle, sheep, and goats, and all other ruminating animals, and swine; (iii.) "Disease" means cattle plague (that is to say, rinderpest or the disease commonly called cattle plague), contagious pleuro-pneumonia of cattle (in this Act called pleuro-pneumonia), foot-and-mouth disease, sheep-pox, sheep-scab, glanders, or farcy.

[Further definitions follow.]

#### PART II.—ENGLAND.

[Clauses 6, 7, 8, and 9 consist of definitions.]

#### CATTLE PLAGUE

10. (1.) Where it appears to an inspector that cattle plague exists, or has within seven days existed, in a cow-shed or other place, he shall forthwith make and sign a declaration thereof in writing. (2.) He shall deliver a notice, signed by him, of the declaration to the occupier of that cow-shed or other place. (3.) He shall deliver a like notice, signed by him, unless, in the circumstances, this appears to him not to be expedient, to the occupiers of lands and buildings any part whereof lies within one mile in any direction from that cow-shed or other place. (4.) Thereupon, that cow-shed or other place, and all the lands and buildings aforesaid, to the occupiers whereof the inspector delivers such a notice, shall become and be a place infected with cattle plague, subject to the determination and declaration of the Privy Council. (5.) The inspector shall, with all practicable speed, inform the Privy Council and the local authority of his declaration and notices, and shall send to the Privy Council and the declaration a copy of the secondly-mentioned notice (if any). (6.) The Privy Council shall forthwith on receipt of the information inquire into the correctness of the declaration. (7.) If the Privy Council are satisfied of the correctness of the declaration as regards the existence or past existence of cattle plague, they shall determine and by order declare accordingly, and shall by order prescribe the limits of the place infected with cattle plague. (8.) If the Privy Council are not satisfied of the correctness of the declaration as regards the existence or past existence of cattle plague, they shall determine and by order declare accordingly; and thereupon the place comprised in the declaration and notice shall cease to be a place infected with cattle plague.

11. The Privy Council may at any time, if they think fit, on any evidence satisfactory to them, by order declare any cow-shed or other place, with or without any lands or buildings adjoining or near thereto, to be a place infected with cattle plague.

12. The Privy Council may from time to time, if they think fit, by order declare any district, wherein a place infected with cattle plague is situate, to be a district infected with cattle plague.

13. The Privy Council may from time to time, if they think fit, by order extend, contract, or otherwise alter the limits of a place or district infected with cattle plague.

14. The Privy Council may at any time, if they think fit, by order declare a place or district infected with cattle plague, or part thereof, to be free from cattle plague.

15.—(1.) The Privy Council shall cause to be slaughtered—(i.) All animals affected with cattle plague. (ii.) All animals being or having been in contact with an animal affected with cattle plague. (3.) The Privy Council may, if they think fit, in any case cause to be slaughtered—(iii.) All animals suspected of cattle plague. (iv.) All animals being in a place or district infected with cattle plague (but in this case subject to such regulations as the Treasury from time to time think fit to make). (3.) The Privy Council shall pay compensation as follows, out of money provided by Parliament. (4.) Where the animal slaughtered was affected with cattle plague the compensation shall be one-half of its value immediately before it became so affected, but so that the compensation do not in any such case exceed twenty pounds: (5.) In every other case the compensation shall be the value of the animal immediately before it was slaughtered, but so that the compensation do not in any case exceed forty pounds.

#### PLEURO-PNEUMONIA AND FOOT-AND-MOUTH DISEASE.

16.—(1.) Where it appears to an inspector of a local

authority that pleuro-pneumonia or foot-and-mouth disease exist, or has within twenty-eight days in case of pleuro-pneumonia, or seven days in case of foot-and-mouth disease, existed, in a cow-shed or other place, he shall forthwith make and sign a declaration thereof in writing. (2.) He shall deliver a notice, signed by him, of the declaration to the occupier of that cow-shed or other place. (3.) Thereupon that cow-shed or other place shall become and be a place infected with pleuro-pneumonia or foot-and-mouth disease (as the case may be), subject to the determination and declaration of the local authority. (4.) The inspector shall, with all practicable speed, inform the local authority of his declaration and notice, and shall send the declaration and a copy of the notice to the local authority. (5.) The local authority shall forthwith on receipt of the information inquire into the correctness of the declaration, with the assistance and advice of a veterinary inspector, or of a person qualified to be such. (6.) If the local authority are satisfied of the correctness of the declaration as regards the existence or past existence of disease, they shall determine and declare accordingly, and shall prescribe the limits of the place infected with pleuro-pneumonia or foot-and-mouth disease. (7.) They may include a place infected with pleuro-pneumonia or foot-and-mouth disease any adjoining part of the district of another local authority, with the previous consent in writing of that authority, but not otherwise. (8.) If the local authority are not satisfied of the correctness of the declaration as regards the existence or past existence of disease, they shall determine and declare accordingly; and thereupon the place comprised in the declaration or affected thereby shall cease to be a place infected with pleuro-pneumonia or foot-and-mouth disease. (9.) The local authority shall forthwith report to the Privy Council the declaration of the inspector, and the proceedings of the local authority thereon.

17. The Privy Council may at any time, if they think fit, on any evidence satisfactory to them, by order declare any cow-shed or other place, with or without any lands or buildings adjoining or near thereto, to be a place infected with pleuro-pneumonia or foot-and-mouth disease, and may from time to time, if they think fit, by order extend the limits of a place so infected.

18. The Privy Council may at any time, if they think fit, on any evidence satisfactory to them, by order declare any district wherein a place infected with pleuro-pneumonia or foot-and-mouth disease is situate to be a district infected with pleuro-pneumonia or foot-and-mouth disease, and may from time to time, if they think fit, by order extend the limits of such a district.

19. The rules set forth in the Third Schedule shall have effect in relation to a place or district infected with pleuro-pneumonia or foot-and-mouth disease.

20.—(1.) Where a local authority have declared a place to be infected with pleuro-pneumonia or foot-and-mouth disease, they may, if they think fit, at any time after the expiration, in the case of pleuro-pneumonia of fifty-six days, and in the case of foot-and-mouth disease of twenty-eight days, from the date of the cessation therein of the disease, but not sooner, declare the place to be free from pleuro-pneumonia or foot-and-mouth disease. (2.) Where the Privy Council or a local authority have declared a place to be infected with pleuro-pneumonia or foot-and-mouth disease the Privy Council may, if they think fit, at any time after the expiration, in the case of pleuro-pneumonia of fifty-six days, and in the case of foot-

and-mouth disease of twenty-eight days, from the date of the cessation therein of the disease, but not sooner, declare the place to be free from pleuro-pneumonia or foot-and-mouth disease. (3.) Where the Privy Council have declared a district to be infected with pleuro-pneumonia or foot-and-mouth disease they may, if they think fit, at any time when there is not within the district any place infected with pleuro-pneumonia or foot-and-mouth disease, declare the district to be free from pleuro-pneumonia or foot-and-mouth disease.

21.—(1.) A local authority shall cause all cattle affected with pleuro-pneumonia to be slaughtered. (2.) A local authority may, if they think fit, cause any cattle being or having been in contact with cattle affected with pleuro-pneumonia to be slaughtered. (3.) The local authority shall out of the local rate pay compensation as follows:—(i.) Where the animal slaughtered was affected with pleuro-pneumonia the compensation shall be three-fourths of its value immediately before it became so affected, but so that the compensation do not in any such case exceed thirty pound. (ii.) In every other case the compensation shall be the value of the animal immediately before it was slaughtered, but so that the compensation do not in any case exceed forty pounds.

22. Notwithstanding anything in this Act, the Privy Council may from time to time by order make such further or other provision as they think expedient respecting the case of animals found to be affected with pleuro-pneumonia or foot-and-mouth disease—(1.) While in transit or in course of being moved by land or by water; or (ii.) While in a foreign animals' wharf or foreign animals' quarantine station; or (iii.) While exposed for sale or exhibited in a market, fair, sale-yard, place of exhibition, or other place; or (iv.) While placed in a lair or other place before exposure for sale; or (v.) While being in a slaughter-house or place where animals are slaughtered or kept with a view to slaughter; or (vi.) While being on common or unenclosed land; or (vii.) Generally, while being in a place other than a place in the possession of the owner of the animals; and any such order may, notwithstanding anything in this Act, make such provision as the Privy Council think fit for the consequences of animals being so found, as well with regard to the animals as with regard to the place where they are so found.

#### INFECTED PLACES AND DISTRICTS GENERALLY.

23.—(1.) The Privy Council may, from time to time, make such orders as they think fit, subject and according to the provisions of this Act, for prescribing the cases in which places and districts are to be declared to be infected with disease other than cattle plague, pleuro-pneumonia, or foot-and-mouth disease, and the authority, mode, and conditions by, in, and on which declarations in that behalf are to be made, and the effect and consequences thereof, and the duration and discontinuance thereof, and other matters connected therewith. (2.) Every place or district so declared infected, as well as a place or district declared infected with cattle plague, pleuro-pneumonia, or foot-and-mouth disease, shall be an infected place or district within this Act. (3.) Notwithstanding anything in this Act, where the Privy Council, on inquiry, and after communication with the local authority, but without prejudice to the powers of the Privy Council as regards cattle plague, are satisfied that a declaration of a place being an infected place has been made in error respecting the existence or past existence of disease, or respecting the limits of a place, or respecting any other matter of fact whereon the declaration proceeded, the Privy Council may, by order, cancel the declaration as regards the infected place, or as regards any

part thereof, as they think fit. (4.) Where, in accordance with the provisions of this Act, a place or district is declared free from disease, or a declaration of a place being an infected place is cancelled, as regards the place or as regards any part thereof, then the place or district, or that part thereof, shall cease to be, or to be part of, an infected place or district. (5.) An order of the Privy Council or of a local authority declaring a place or district to be an infected place or district, or to be free from disease, or cancelling a declaration, shall be conclusive evidence to all intents of the existence or past existence or cessation of the disease, or of the error; and of any other matter whereon the order proceeds.

#### SLAUGHTER IN DISEASE, AND COMPENSATION GENERALLY.

24. The Privy Council may from time to time make such orders as they think fit, subject and according to the provisions of this Act, for directing or authorising in any disease other than cattle plague or pleuro-pneumonia slaughter of animals by local authorities, either generally or in particular instances, and payment of compensation for the same by local authorities out of the local rate.

25.—(1.) The Privy Council may, notwithstanding anything in this Act, but subject to compensation as in case of actual slaughter, reserve for observation and treatment an animal liable to be slaughtered. (2.) Where an animal is slaughtered by order in any disease its carcase shall belong to the authority ordering the slaughter. (3.) Where an animal is slaughtered by order in any disease, the Privy Council or local authority, as the case may be, may use for the burial of the carcase any ground in the possession of the owner of the animal. (4.) If the owner of an animal slaughtered by order in any disease has an insurance on the animal the amount of the compensation awarded to him under this Act may be deducted by the insurers from the amount of the money payable under the insurance before payment thereof. (5.) A local authority shall keep, as the Privy Council direct, a record relative to slaughter, which record shall be admitted in evidence. (6.) Notwithstanding anything in this Act, the Privy Council or a local authority (as the case may be) may, if they think fit, withhold compensation in respect of an animal slaughtered by order, where the owner or the person having charge thereof has, in their judgment, been guilty, in relation to the animal, of an offence against this Act. (7.) But in case of a local authority so withholding compensation the Privy Council may, on the application of the owner, and after communication with the local authority, if they think it just, declare the owner to be entitled to compensation, and fix the amount thereof, subject to the provisions of this Act; and thereupon the local authority shall pay to him that amount out of the local rate, and the same shall be recoverable by him from them summarily.

#### DISEASE AND MOVEMENT GENERALLY.

26. The Privy Council may from time to time make such orders as they think fit, subject and according to the provisions of this Act, for the following purposes, or any of them:—(i.) For prescribing and regulating the notice of disease, or of the illness of an animal, to be given to or by any person or authority. (ii.) For prohibiting or regulating the movement of animals and persons into, in, or out of an infected place or district. (iii.) For prohibiting or regulating the removal of carcasses, fodder, litter, utensils, dung, or other things into, in, or out of an infected place or district. (iv.) For prescribing and regulating the destruction, burial, disposal, or treatment of carcasses, fodder, litter, utensils, dung, or other things, being in an infected place or district, or removed thereout. (v.) For



prescribing and regulating the cleansing and disinfecting of infected places and districts, or parts thereof. (vi.) For prescribing and regulating the disinfecting of the clothes of persons coming in contact with diseased or suspected animals, and the use of precautions against the spreading of disease by such persons. (vii.) For prohibiting or regulating the digging up of carcasses buried. (viii.) For prohibiting or regulating the exposure of diseased or suspected animals in markets or fairs or sale yards, or other public or private places, where animals are commonly exposed for sale, and the placing thereof in lairs or other places adjacent to or connected with markets or fairs, or where animals are commonly placed before exposure for sale. (ix.) For prohibiting or regulating the sending or carrying of diseased or suspected animals, or the causing them to be sent or carried on railways, canals, rivers, or inland navigations, or in coasting vessels or otherwise. (x.) For prohibiting or regulating the carrying, leading, or driving of diseased or suspected animals, or the causing them to be carried, led, or driven on highways or thoroughfares or elsewhere. (xi.) For prohibiting or regulating the placing or keeping of diseased or suspected animals on commons or uninclosed lands, or in fields or other places insufficiently fenced. (xii.) For prescribing and regulating the seizure, detention, and disposal of a diseased or suspected animal exposed, carried, kept, or otherwise dealt with in contravention of an Order of Council; and for prescribing and regulating the liability of the owner or consignee of the animal to the expenses connected with the seizure, detention, and disposal thereof. (xiii.) For prescribing the mode of ascertainment of the value of an animal slaughtered in disease by order of the Privy Council or of a local authority. (xiv.) For regulating applications for, and the mode of payment of, compensation to be paid out of money provided by Parliament. (xv.) For prescribing and regulating the destruction, burial, disposal, or treatment of carcasses of animals slaughtered by order of the Privy Council or of a local authority, or dying while diseased or suspected. (xvi.) For prohibiting or regulating movement of animals, and the removal of carcasses, fodder, litter, dung, and other things. (xvii.) For prescribing and regulating the issuing and production of licences respecting movement and removal of animals and things. (xviii.) For prohibiting or regulating the holding of markets, fairs, exhibitions, and sales of animals. (xix.) For prescribing and regulating the cleansing and disinfecting of places used for the holding of markets, fairs, exhibitions, and sales of animals, or for lairage of animals, and yards, sheds, stables and other places used for animals. (xx.) For prescribing and regulating the cleansing and disinfecting of vessels, vehicles, pens, and other places used for the carrying of animals for hire or purposes connected therewith. (xxi.) For prescribing modes of cleansing and disinfecting. (xxii.) For insuring for animals carried by sea a proper supply of food and water during the passage and on landing. (xxiii.) For protecting them from unnecessary suffering during the passage and on landing. (xxiv.) For protecting animals from unnecessary suffering during inland transit. (xxv.) For securing a proper supply of water and food to animals during any detention thereof. (xxvi.) For prohibiting, absolutely or conditionally, the use, for the carrying of animals or for any purpose connected therewith, of a vessel, vehicle, or place in respect whereof, or of the use whereof, a penalty has been recovered from any person for an offence against this Act. (xxvii.) For prescribing and regulating the payment and summary recovery of expenses in respect of animals. (xxviii.) For authorising a local authority to make regulations for purposes

of this Act or of an Order of Council subject to such condition if any, as the Privy Council prescribe. (xxix.) For extending for all or any of the purposes of this Act, the definition of animals in this Act, so that the same shall for those purposes comprise any animals, in addition to those mentioned in this Act. (xxx.) For extending, for all or any of the purposes of this Act, the definition of disease in this Act, so that the same shall for those purposes comprise any disease of animals, as defined either by this Act or by Order of Council, in addition to the diseases mentioned in this Act. (xxxi.) Generally, for the better execution of this Act, or for the purpose of in any manner preventing the introduction or spreading of disease (whether any such order is of the same kind as any kind specified or enumerated in this Act or not).

27.—1. Every railway company shall make a provision, to the satisfaction of the Privy Council, of water and food, or either of them, at such stations as the Privy Council from time to time, by general specific description direct, for animals carried, or about to be or having been carried, on the railway of the company. (2.) The water and food so provided, or either of them, shall be supplied to any such animal by the company carrying it, on the request of the consignor or any other person in charge thereof. (3.) As regards water, if, in the case of any animal, such a request is not made, so that the animal remains without a supply of water for thirty consecutive hours, the consignor and the person in charge of the animal shall each be guilty of an offence against this Act; and it shall lie on the person charged to prove the time within which the animal had a supply of water. (4.) But the Privy Council may from time to time, if they think fit, by order prescribe any other period, not less than twelve hours, instead of the thirty hours aforesaid. (5.) The company supplying water or food under this section may make in respect thereof such reasonable charges (if any) as the Privy Council by order approve, in addition to such charges as they are for the time being authorised to make in respect of the carriage of animals. The amount of those additional charges accrued due in respect of any animal shall be a debt from the consignor and from the consignee thereof to the company, and shall be recoverable by the company from either of them by proceedings in any court of competent jurisdiction. The company shall have a lien for the amount thereof on the animal in respect whereof the same accrued due, and on any other animal at any time consigned by the same person to be carried by the company.

#### DAIRIES AND COW-SHEDS.

28. The Privy Council may from time to time make such orders as they think fit, subject and according to the provisions of this Act, for the following purposes, or any of them:— (i.) For prescribing and regulating the ventilation, drainage, and water supply of dairies and cow-sheds in the occupation of cowkeepers or dairymen. (ii.) For securing the cleanness of milk-shops and of milk-vessels used for containing milk for sale. (iii.) For prescribing precautions to be taken for protecting milk against infection or contamination. (iv.) For authorising a local authority to make regulations for the purposes aforesaid, or any of them, subject to such conditions, if any, as the Privy Council prescribe.

#### FOREIGN ANIMALS.

29. Where it appears to the Privy Council that cattle plague exists in a foreign country, or that the existence of cattle plague in a foreign country is to be apprehended, they may from time to time make such orders as they think fit for prohibiting the landing of animals, carcasses, fodder, litter, dung, or other thing brought from that country.

30. The provisions set forth in the Fourth Schedule shall apply to foreign animals the landing whereof is not prohibited.

31.—(1.) The Privy Council may from time to time make such orders as they think fit, subject and according to the provisions of this Act, for the following purposes, or any of them:—(i.) For prescribing the ports at which alone foreign animals may be landed. (ii.) For defining the limits of ports for purposes of this Act. (iii.) For defining parts of ports. (iv.) For prohibiting or regulating the movement of animals into, in, or out of a defined part of a port. (v.) For prescribing and regulating the inspection and examination, and the mode, time, and conditions of slaughter, of animals in a defined part of a port. (vi.) For prescribing and regulating the disposal of animals, not being foreign animals, and being in a defined part of a port. (vii.) For prohibiting or regulating the removal of carcases, fodder, litter, utensils, dung, or other things into, in, or out of a defined part of a port. (viii.) For prescribing and regulating the cleansing and disinfecting of a defined part of a port or of parts thereof. (ix.) For prescribing and regulating the disinfecting or destruction of things being in a defined part of a port or removed thereout. (x.) For prohibiting or regulating the movement of persons into, in, or out of a defined part of a port. (xi.) For prescribing and regulating the disinfecting of the clothes of persons employed or being in a defined part of a port, and the use of precautions against the introduction or spreading by them of disease. (2.) Notwithstanding anything in this Act, a defined part of a port, or any part thereof, shall not be declared to be an infected place or be made part of an infected place, otherwise than by the Privy Council.

#### POWERS AND DUTIES OF LOCAL AUTHORITIES.

32. A local authority, not being a body corporate, may sue and be sued, and take and hold land, and otherwise act and be dealt with for all purposes of this Act, by the name or title of the local authority under this Act for their district, as if they were incorporated.

33. The provisions in the Fifth Schedule shall have effect with respect to committees of local authorities.

34.—(1.) A local authority may provide, erect, and fit up wharves, stations, lairs, sheds, and other places for the landing, reception, keeping, sale, and slaughter or disposal of foreign animals. (2.) There shall be incorporated with this Act the Markets and Fairs Clauses Act, 1817. (3.) A wharf or other place provided by a local authority under this section shall be a market within that Act; and this Act shall be the special Act; and the prescribed limits shall be the limits of lands acquired or appropriated for purposes of this section; and byelaws shall be approved by the Privy Council, which approval shall be sufficient without any other approval or allowance, notice of application for approval being given, and proposed byelaws being published before application, as required by the Markets and Fairs Clauses Act, 1817. (4.) A local authority may charge for the use of a wharf or other place provided by them under this section such sums as byelaws from time to time appoint. (5.) All sums so received by the local authority shall be carried to a separate account, and shall be applied in payment of interest on money borrowed by them for purposes of this section, and in repayment of the principal thereof, and, subject thereto, towards discharge of their expenses under this Act.

35.—(1.) A local authority may purchase, or may by agreement take on lease or at a rent, land for burial of carcases, or for wharves or other places, or for any other purpose of this Act. (2.) They may (subject to any agreement) dispose of

lands so acquired, but not required for this Act, carrying the money produced thereby to the credit of the local rate. (3.) The regulations contained in section one hundred and seventy-six of the Public Health Act, 1875, shall be observed with respect to the purchase of land by a local authority for purposes of this Act, as if the local authority were a local board, and purposes of this Act were purposes of that Act; save that the requisite advertisements and notices may be published and served in any two consecutive months, and that the local rate be substituted for the rates therein mentioned. (4.) The powers conferred by this section may be exercised by a local authority with respect to land within or without their district.

36.—(1.) Every local authority shall execute and enforce this Act and every Order of Council. (2.) Where a local authority, in the opinion of the Privy Council, fail to execute or enforce any of the provisions of this Act, or of an Order of Council, the Privy Council may by order empower an inspector of the Privy Council to execute and enforce the same, or to procure the execution and enforcement thereof. (3.) The expenses incurred thereby shall be expenses of the local authority. (4.) If the local authority fail for fourteen days after demand to pay those expenses, with the costs of any proceedings caused by their failure, which costs shall also be expenses of the local authority, the Privy Council may by order direct a person therein named to levy by means of the local rate a sum therein specified as in their opinion sufficient to pay those expenses and costs. (5.) That person shall have the like powers of levying the local rate, and of requiring officers of the local authority and others to pay over money in their hands, as the local authority would have as regards their other expenses. (6.) After paying the expenses and costs comprised in the Order of Council, he shall pay the residue, as ascertained by the Privy Council, to the local authority.

37.—(1.) Every local authority shall from time to time appoint so many inspectors and other officers as they think necessary for the execution and enforcement of this Act, and shall assign to those inspectors and officers such duties, and salaries, or allowances, and may delegate to any of them such authorities and discretion, as to the local authority seem fit, and may at any time revoke any appointment so made. (2.) But every local authority shall keep appointed at all times at least one veterinary inspector. (3.) The Privy Council, on being satisfied on inquiry that an inspector of a local authority is incompetent, or has been guilty of misconduct or neglect may, if they think fit, direct his removal, and thereupon he shall cease to be an inspector.

38. Every local authority and their inspectors and officers shall send and give to the Privy Council such notices, reports, returns, and information as the Privy Council from time to time require.

39.—(1.) A regulation of a local authority may be proved—(i.) By the production of a newspaper purporting to contain the regulation as an advertisement; or, (ii.) By the production of a printed copy of the regulation purporting to be certified by the clerk of the local authority as a true copy. (2.) A regulation so proved shall be presumed to have been duly made.

40. The provisions of this Act conferring powers on, or otherwise relating to, a local authority, or their inspectors or officers, shall, unless otherwise expressed, be read as having reference to the district of the local authority; and powers

thereby conferred shall be exercisable and shall operate within and in relation to that district only.

#### EXPENSES OF LOCAL AUTHORITIES.

41. The expenses of a local authority shall be defrayed out of the local rate.

42. The local authority of a borough assessed to the county rate of a county shall be paid back by the local authority of the county the proportionate amount paid by the borough towards the expenses under this Act of the local authority of the county.

[Clause 43 is a long one, giving borrowing powers to local authorities.]

#### POLICE.

44.—(1.) The police of each county, borough, town, and place shall execute and enforce this Act.

[Here follow some particulars as to dealing with offenders.]

#### GENERAL.

45.—(1.) An inspector shall have all powers which a constable has under this Act or otherwise in the place where the inspector is acting. (2.) An inspector may at any time enter any land, building, or place wherein he has reasonable grounds for supposing—(a.) That disease exists or has within seven days existed; or (b.) That the carcase of a diseased or suspected animal is or has been kept, or has been buried, destroyed, or otherwise disposed of; or (c.) That this Act or an Order of Council or a regulation of a local authority has not been or is not being complied with; or (d.) That a pen, vehicle, milk-vessel, or thing in respect whereof there has been or is such non-compliance is to be found. (3.) An inspector may at any time enter any vessel or boat in respect whereof he has reasonable grounds for supposing that this Act or an Order of Council or a regulation of a local authority has not been or is not being complied with. (4.) An inspector entering, as in this section authorised, shall, if required, state in writing his reasons for entering. (5.) A certificate of a veterinary inspector to the effect that an animal is or was affected with a disease therein specified shall be conclusive to all intents. (6.) An inspector of the Privy Council shall have all the powers of an inspector throughout England or that part thereof for which he is appointed.

46.—(1.) Where an inspector of the Privy Council is satisfied that this Act or an Order of Council or a regulation of a local authority has not been or is not being complied with on board a vessel in a port, the chief officer of customs there may, on the representation in writing to that effect of the inspector stating particulars of non-compliance, detain the vessel until the Privy Council otherwise direct. (2.) The chief officer of customs shall forthwith deliver to the master of the vessel a copy of the representation.

47. Where a carcase washed ashore is buried or destroyed under the direction of a receiver of wreck, with authority from the Board of Trade, the expenses thereof shall be the expenses of the local authority, and shall be paid by them to the receiver on demand, and in default of payment shall be recoverable summarily from them by the receiver.

48. A person owning or having charge of animals in a place or district declared infected with any disease may affix, at or near the entrance to a building or inclosure in which the animals are, a notice forbidding persons to enter therein without the permission mentioned in the notice, and thereupon it shall not be lawful for any person, not having a right of entry therein, to enter therein without that permission.

49. The provisions set forth in the Sixth Schedule shall have effect with respect to any action prosecution or pro-

ceeding against any person acting or intending to act under this Act or under an Order of Council or under a regulation of a local authority made thereunder, or acting or intending to act under the direction or authority of the Privy Council or of a local authority, for any alleged irregularity or trespass or other act or thing done or omitted.

50. No stamp duty shall be payable on, and no fee or other charge shall be demanded or made for, any appointment, certificate, declaration, licence, or thing under this Act or an Order of Council or a regulation of a local authority, or for any inspection or other act precedent to the granting, making, or doing of a certificate, declaration, licence, or other thing.

51.—(1.) In any proceeding under this Act no proof shall be required of the appointment or handwriting of an inspector or other officer of the Privy Council or of a local authority, or of the clerk of a local authority. (2.) Every instrument under this Act or under an Order of Council or regulation of a local authority may be in writing or print, or partly in writing and partly in print.

52.—(1.) The Privy Council may from time to time alter or revoke any Order of Council. (2.) Every Order of Council shall have effect as if it had been enacted by this Act.

[Here follow some regulations as to the publication of Orders.]

53. A return shall be made and laid before both Houses of Parliament not later than the thirty-first day of March in each year, setting forth every Order of Council required to be published in *The London Gazette* and in force; and stating the proceedings and expenditure under this Act of the Privy Council, and, as far as reasonably may be, of local authorities, in the year ending the thirty-first day of December then last; and showing the number of foreign animals landed and found diseased in that year, specifying the disease and the ports of exportation and landing, and the mode of disposal of the animals; and containing such other information respecting the execution of this Act as the Privy Council think fit.

[Clauses 54-59 define offences and regulate proceedings.]

60.—(1.) If any person lands or attempts to land an animal or thing in contravention of this Act or of an Order of Council, he shall be liable, under and according to the Customs Acts, to the penalties imposed on persons importing or attempting to import goods the importation whereof is prohibited by the Customs Acts, without prejudice to any proceeding against him under this Act for an offence against this Act or the order, but so that he be not punished twice for the same offence. (2.) The animal or thing in respect whereof the offence is committed shall be forfeited, as goods the importation whereof is prohibited by the Customs Acts are liable to be forfeited.

[Clauses 61 and 62 relate to repealed enactments, and are of a formal character.]

#### PART III.—SCOTLAND.

63.—(1.) Part III applies to Scotland only. (2.) Part II. shall, by virtue of this section, also extend to Scotland, subject to Part III, which shall have effect in substitution for Part II., when so expressed or implied, and otherwise shall have effect in addition to Part II.

#### LOCAL AUTHORITIES.

64. For the purposes of this part the respective districts, authorities, rates, and officers described in the Seventh Schedule shall be the district, the local authority, the local rate, and the clerk of the local authority.

65.—(1.) The commissioners of supply in every county shall meet and nominate not fewer than four nor more than fifteen of their number to act on the county board for the purposes of this Act, and shall intimate to the lord lieutenant of the county and the convener of the county the number and names of the persons so appointed.

[Here follow some directions as to the nomination of local authorities.]

66.—(1.) The local authority in a county shall from time to time give notice to the commissioners of supply of the sums necessary to be provided under the provisions of this Act by means of the local rate; and the amount so intimated shall be assessed and collected by the commissioners of supply according to the real rent of lands and heritages as appearing on the valuation roll in force for the year, who shall pay over the same to the local authority. (2.) The local authority in a burgh shall in like manner assess and collect the amount required to be raised by local rate within such burgh. (3.) All such assessments shall be payable one-half by the proprietor and one-half by the tenant, but may be collected wholly from the tenant, who shall in that case be entitled to deduct one-half thereof from the rent payable by him to the proprietor, or wholly from the proprietor, who shall in that case be entitled to relief against the tenant for one-half of the assessment. (4.) All the provisions in regard to the recovery of assessments in the Act of the session of the twentieth and twenty-first years of Her Majesty (chapter seventy-two), "to render more effectual the police in counties and burghs in Scotland," are hereby incorporated in this Part so far as the same are not inconsistent with the provisions of this Part.

67. The Provisions in Part II. relating to proceedings consequent on failure by a local authority to pay the expenses incurred on the appointment of an inspector to act as therein provided on the default of a local authority, with costs as therein mentioned, shall not apply to Scotland; and payment of those expenses, with expenses of process, may be recovered summarily in the sheriff court at the instance of the procurator-fiscal; and all such expenses and costs shall be expenses of the local authority.

#### LAND.

68. The provisions of Part II. relating to the purchase of land shall have effect as if section ninety of the Public Health (Scotland) Act, 1867, were thereby applied, instead of section one hundred and seventy-sixth of the Public Health Act, 1875; and in the said section ninety the local authority and local rate under this Part shall be substituted for the local authority and the assessment therein mentioned.

#### INSPECTORS.

69. An inspector of the Privy Council shall have all the powers of an inspector throughout Scotland or that part thereof for which he is appointed.

[Clause 70 relates to legal proceedings.]

#### PART IV.—IRELAND.

[Clauses 71 and 72 consist of definitions.]

#### LORD LIEUTENANT AND PRIVY COUNCIL.

73.—(1.) The powers by Part II. conferred on the Privy Council shall be vested in the Lord Lieutenant acting by the advice of Her Majesty's Privy Council in Ireland, in this Act referred to as the Lord Lieutenant and Privy Council, except the power of removal of an inspector, which shall be vested in the Lord Lieutenant. (2.) An order of the Lord Lieutenant and Privy Council under this Part is referred to therein as an Order in Council.

74. With a view to uniformity of action respecting prohibition in case of cattle plague—(i.) If at any time by reason of it appearing to the Lord Lieutenant and Council that cattle plague exists in a foreign country, or that the existence of cattle plague in a foreign country is to be apprehended, an Order in Council is made under this Part for prohibiting the landing in Ireland of animals and other things brought from that foreign country; and (ii.) If at any time by reason of it appearing to the Privy Council that cattle plague exists in a foreign country, or that the existence of cattle plague in a foreign country is to be apprehended, an Order of Council is made under Part II. for prohibiting the landing in England and Scotland of animals and other things brought from that foreign country: Then and in every such case the Order in Council or the Order of Council, as the case may be, shall, with all practicable speed, be communicated to the Privy Council, or to the Lord Lieutenant and Privy Council, as the case may be.

#### LOCAL AUTHORITIES.

75.—(1.) The local authorities shall be the boards of guardians of the several Poor-law unions. (2.) The provisions of Part II. requiring a local authority to keep appointed a veterinary inspector shall not extend to Ireland. (3.) The Lord Lieutenant and Privy Council may from time to time make such Orders in Council as to them seem fit—(i.) For requiring each local authority, or an order of the Lord Lieutenant in that behalf, to appoint from time to time inspectors and valuers for the purposes of this Act; (ii.) For defining their qualifications and powers and regulating their duties; (iii.) For fixing the periods for which they shall be appointed and their remuneration and allowances.

#### INSPECTORS.

76. The powers and duties by Part II. conferred and imposed on a veterinary inspector shall in Ireland be vested in and discharged by an inspector.

#### EXPENSES OF LOCAL AUTHORITIES.

77. The remuneration and allowances of an inspector or valuer of a local authority, and all money payable as compensation for animals slaughtered by direction of a local authority, or of their inspector, shall when due be paid by the treasurer of the union out of union funds.

#### GENERAL CATTLE DISEASES FUND.

78.—(1.) There shall be a General Cattle Diseases Fund for purposes of this Part.

[Here follow particulars as to its collection.]

79.—(1.) The treasurer of a union, on proof to the Chief Secretary of the payment of any money for remuneration, allowances, or compensation, in accordance with this Part, shall be entitled to a certificate to that effect, and to an order by the Chief Secretary for payment from the general cattle disease fund of one half of the money so proved to have been paid; and the amount so ordered shall be paid to the treasurer accordingly for the union. (2.) If in any case it is proved to the Chief Secretary that an animal in respect whereof compensation was paid by the treasurer of a union was, within seven days immediately before its slaughter, brought into the union solely for the purpose of being shipped out of Ireland, or sold at a fair, and that neither the owner, nor the person in charge thereof, had been guilty, in relation to it, of any offence against this Act, then the Chief Secretary shall order payment to the treasurer in manner aforesaid of the whole of the money paid in compensation in respect of that animal.

GENERAL.

80. The provisions of Part II. relating to the police and to constables should apply to the members of the Royal Irish Constabulary Force or of the Dublin Metropolitan Police Force.

81.—(1.) Proceedings for recovery of penalties for offences against this Act (other than penalties recoverable under the Customs Acts), and proceedings for recovery of expense by this Act or an Order of Council directed to be recoverable summarily, and proceedings for obtaining summary orders under this Act or an Order in Council, may be taken in a summary manner. (2.) Penalties so recovered shall be applied as follows, that is to say, a part thereof not exceeding one-third may be awarded to the informer, and the rest shall be awarded to the Crown, to be applied in aid of the general cattle diseases fund.

82.—(1.) Every Order in Council shall be published in *The Dublin Gazette*. (2.) A copy of *The Dublin Gazette* purporting to be printed by the Queen's authority shall be conclusive evidence in all courts and legal proceedings of the due making and publication of any order appearing therein, and purporting to be an Order in Council.

83. The Lord Lieutenant, with the approval of the Treasury, may fix the salaries and allowances of the officers and persons acting in execution of this Act in the Veterinary Department of Her Majesty's Privy Council Office; and the same, and all charges and expenses incurred in the maintenance and management of that department, shall be paid out of the money provided by Parliament.

[As the Bill cannot be properly understood without the Schedules we give these, with the exception of one consisting of technical legal details.]

THE FIRST SCHEDULE.—ENACTMENTS REPEALED.

(Clause 9).

I.—ENGLAND AND SCOTLAND.

The Contagious Diseases (Animals) Act, 1869:—Except—(i.) Paragraphs 2, 3, and 4 of section 28 (local), relating to the markets of the mayor, aldermen, and commons of the City of London, with the Fifth Schedule, referred to in that section (ii.) Section 100 and 101 (transitory), relating to money borrowed by local authorities before the passing of that Act.

II.—SCOTLAND.

An Act to amend the Contagious Diseases (Animals) Act 1869.

III.—IRELAND.

An Act to prohibit the importation of sheep, cattle, or other animals, for the purpose of preventing the introduction of contagious or infectious disorders (11 & 12 Vict. c. 195). An Act to prevent, until the first day of September, one thousand eight hundred and fifty, and to the end of the then session of Parliament, the spreading of contagious or infectious disorders among sheep, cattle, and other animals (11 & 12 Vict. c. 167). An Act to extend and continue an Act of the twelfth year of her present Majesty, to prevent the spreading of contagious or infectious disorder among sheep, cattle, and other animals (16 & 17 Vict. c. 62). The Cattle Disease Act (Ireland), 1866; the Cattle Disease (Ireland) Amendment Act, 1870; the Cattle Disease (Ireland) Amendment Act, 1872; the Cattle Disease (Ireland) Acts Amendment Act, 1874; the Cattle Disease (Ireland) Act, 1876.

THE SECOND SCHEDULE.—LOCAL AUTHORITIES IN ENGLAND. (Clause 9).

District.	Local Authority.	Local Rate.	Clerk of Local Authority.
I.—Counties, except within the Metropolis.	The justices in general or quarter sessions assembled.	The County Rate, or rate in the nature of a County Rate.	The Clerk of the Peace.
II.—The City of London and the liberties thereof.	The mayor, aldermen, and commons of the City of London.	The Consolidated Rate.	The Town Clerk.
III.—The Metropolis, except the City of London and the liberties thereof.	The Metropolitan Board of Works.	The Metropolitan Consolidated Rate.	The Clerk of the Metropolitan Board of Works.
IV.—Boroughs subject to the Municipal Corporations Act, 1855.	The mayor, aldermen, and burgesses acting by the Council.	The Borough Rate, with the Borough Fund.	The Town Clerk.
V.—Other boroughs.	The Commissioners or other body maintaining the police therein.	The Rate applicable by the Commissioners or other body to the maintenance of the police.	The Clerk of the Commissioners or other body.
VI.—The district of the Local Board of Oxford.	The Local Board.	The Rate leviable by the Local Board.	The Clerk of the Local Board.

1. The City of London and the liberties thereof (as part of the Metropolis) are rated and contribute for purposes of this Act to the local rate of the Metropolis. 2. The mayor, aldermen, and commons of the City of London are alone (notwithstanding anything in this Act) the local authority in and for the Metropolis, for purposes of the provisions of this Act relating to foreign animals.

THE THIRD SCHEDULE.—PLEURO-PNEUMONIA AND FOOT-AND-MOUTH DISEASE.

(Clause 19.)

I.—PLEURO-PNEUMONIA.

1. Cattle are not to be moved into or out of a place infected with pleuro-pneumonia, except in such cases as the Privy Council think fit from time to time by order to except, and in the cases so excepted are to be moved into or out of the infected place on conditions prescribed by Order of Council, and not otherwise. 2. Cattle may be moved into, in, or out of such parts of a district infected with pleuro-pneumonia as are not comprised in a place infected with pleuro-pneumonia, by licence of the local authority, granted on conditions prescribed by Order of Council, and not otherwise. 3. No market, fair, exhibition, or sale of cattle is to be held in a district infected with pleuro-pneumonia, except by licence of the Privy Council.

## II.—FOOT-AND-MOUTH DISEASE.

1. Animals are not to be moved into or out of a place infected with foot-and-mouth disease, except in such cases as the Privy Council think fit from time to time by order to except, and in the cases so excepted are to be moved into or out of the infected place on conditions prescribed by Order of Council and not otherwise. 2. Animals may be moved into, in, or out of such parts of a district infected with foot-and-mouth disease as are not comprised in a place infected with foot-and-mouth disease, by licence of the local authority, to be granted on conditions prescribed by Order of Council, and not otherwise. 3. No market, fair, or exhibition, or sale of animals is to be held in a district infected with foot-and-mouth disease, except by licence of the Privy Council.

## THE FOURTH SCHEDULE.—FOREIGN ANIMALS.

(Clause 30.)

## I.—SLAUGHTER AT PORT OF LANDING.

1. Foreign animals are to be landed only at a part of a port defined for that purpose by Order of Council, to be called a foreign animals' wharf. 2. They are to be landed in such manner, at such times, and subject to such supervision and control as the Commissioners of Customs from time to time direct. 3. They are not to be moved alive out of the wharf.

## II.—QUARANTINE.

1. The foregoing provisions of this Schedule (under the head of Slaughter at Port of Landing) do not apply to animals intended for dairy or breeding purposes, or for exhibition; and in lieu thereof the subsequent provisions (under the head of Quarantine) are applied to those animals. 2. Those animals are to be landed only at a part of a port defined for that purpose by Order of Council, to be called a foreign animals' quarantine station. 3. They are to be landed in such manner, at such times, and subject to such supervision and control as the Commissioners of Customs from time to time direct, and subject to such conditions in respect of the animals, or of the vessel from which they are landed, as the Privy Council from time to time prescribe. 4. When landed they are to be placed in sheds or other receptacles in the quarantine station, prepared by the consignees or others, and approved by the Privy Council. 5. Any such animal is not to be moved out of the quarantine station before the expiration of such period not being less than fourteen days after its landing, as the Privy Council from time to time by order prescribe. 6. When moved out of the quarantine station it is to be accompanied by—(a.) A certificate of a veterinary inspector of the Privy Council certifying that it is free from disease. (b.) A licence of that inspector specifying the place to which and the person to whom it is to be taken. 7. It is not to be taken to or received at any other place or person. 8. The veterinary inspector is to send a copy of his licence to the local authority for the place specified in the licence. 9. The animal is not to be moved out of the district of that local authority for fifty-six days from the date of the licence of the veterinary inspector. 10. The animal is not to be moved in that district for those fifty-six days, except with a licence of the local authority, granted on conditions prescribed by Order of Council. 11. In case of an animal intended for breeding purposes or exhibition only, the Privy Council may, if they think fit, by licence, modify the foregoing provisions relative to movement out of the quarantine station and consequent removal.

## III.—CHANNEL ISLANDS AND THE ISLE OF MAN.

In relation to animals brought from the Channel Islands or the Isle of Man, the Privy Council may from time to time, if they think fit, by order or by licence, modify the provisions of

this Schedule relating to slaughter or to quarantine, as the case may require.

## THE FIFTH SCHEDULE.—COMMITTEES OF LOCAL AUTHORITIES.

(Clause 33.)

1. Each local authority shall form and keep up a committee or committees, and may appoint the number of members by whom the powers of a committee may be exercised, and may at any time add to or diminish the number of the members of a committee, or otherwise alter the constitution thereof, and fill up or provide for the filling up of vacancies therein, or revoke the appointment thereof and appoint another committee or committees, and lay down rules for the guidance of a committee, who shall act accordingly. 2. Each committee may consist wholly of members of the local authority, or partly thereof, and partly of other persons, being rated occupiers in the district of the local authority, and otherwise qualified as the local authority think fit. 3. A local authority may delegate all or any of their powers, except the power to make a rate, to a committee, with or without conditions or restrictions. 4. A local authority may revoke or alter any power given by them to a committee. 5. A local authority may, if they think fit, appoint and designate one committee as their executive committee. 6. An executive committee shall have all the powers of the local authority, except the power to make a rate and may, if they think fit, appoint a sub-committee or sub-committees, and delegate to them all or any of the powers of the executive committee, with or without conditions or restrictions, and from time to time revoke or alter any such delegation, and appoint the number of members by whom the powers of a sub-committee may be exercised, and add to or diminish the number of the members of a sub-committee, or otherwise alter the constitution thereof and fill up or provide for the filling up of vacancies therein, or revoke the appointment thereof and appoint another sub-committee or other sub-committees, and lay down rules for the guidance of a sub-committee, who shall act accordingly. 7. Proceedings of a committee or sub-committee shall not be invalidated by any vacancy in the committee or sub-committee, or, in the case of a committee appointed by the local authority for a county, by the termination of the session at which they were appointed. 8. In case of the formation of two or more committees they shall act according to rules laid down for their guidance by the local authority. 9. A committee, and a sub-committee of an executive committee, may elect a chairman of their meetings. 10. If no chairman is elected, or if the chairman so elected is not present at the time appointed for meeting, the members then present shall choose a chairman for that meeting. 11. A committee or sub-committee may meet and adjourn as they think proper. 12. Every question at a meeting of a committee or sub-committee shall be determined by a majority of the votes of the members, including the chairman, present and voting on the question; and in case of equal division, the chairman shall have a second vote.

## THE SIXTH SCHEDULE.—PROTECTION OF PERSONS

ACTING UNDER ACT.

(Clause 19.)

[This relates to the protection of persons acting under the proposed Act.]

THE SEVENTH SCHEDULE.

LOCAL AUTHORITIES ACT, 1902.

(Class 61.)

District.	Local Authority.	Local Rate.	Clerk of Local Authority.
I.—Counties, including any town or place which does not return, or contribute to return, a member to Parliament.	The person appointed as provided in Part III.	Rate appointed to be levied in Part III.	The Clerk of Supply.
II.—Boroughs which return, or contribute to return, a member to Parliament.	The magistrates and Town Council.		The Town Clerk.

1. In and for purposes of this Schedule and Part III. "county" does not include county of a city. 2. For purposes of Part III, the burgh of Maxwelltown is part, not of the Parliamentary burgh of Dumfries, but of the county of Kirkcubright.

REVIEW OF THE CORN TRADE,

FROM THE MARK LANE EXPRESS FOR THE WEEK ENDING FEBRUARY 25.

A mild and equable temperature has prevailed during the past week, and the weather has been seasonable for the time of year. There was at the beginning of the week, however, some increase in the amount of rainfall, which retarded farming operations on the heavy lands and prevented barley-sowing, while some portions of the low-lying districts in the Fens have been under water. Farmers have been pretty busy planting beans and peas, of both of which crops a fair acreage has been sown. It seems probable that a good breadth of land will be devoted to the cultivation of barley this year, especially if we have a dry and favourable spring, as this cereal has, during the past few seasons, proved more remunerative to the farmer than wheat. It is gratifying to note that the weather has been very favourable for agricultural operations in Scotland, so that farm work is in an advanced state, and the planting of potatoes has commenced. The autumn-sown crops continue to present a sufficiently healthy appearance, and vegetation generally is forward, but this can hardly be regarded with unalloyed satisfaction at so early a stage of the season, as it not unfrequently happens that in our capricious climate spring and winter seem, as it were, to change places; and when frosts occur during that period of the year when the functions of vitality are strongest, the injury to vegetable growth is far more severe than when the germ of life is less developed. It is by no means unlikely that a cold and unseasonable spring may be experienced this year, as we have had little if any real winter weather. The failure of last year's wheat crop was largely attributable to the action of the late frosts after continued rain, which starved the plant, although it must be confessed that, as far as the rain is concerned, we are far better off now than at the corresponding time in 1877.

When large tracts of low-lying land had been submerged for weeks. The offerings of English wheat, both at Mark Lane and the provincial markets, continue scanty, neither has there been much inducement to farmers to thrash, as prices have suffered a decided relapse during the past week, by reason of the less agitated state of political affairs, to whose influence alone the late advance was attributable. Foreign wheat has also reached our shores in greater quantity, owing to the action of America and Germany, whose united contribution to last Monday's arrivals amounted to nearly 35,000 qrs., while the imports into Liverpool have also been on a decidedly larger scale. Appearances at the moment would indicate that by judicious diplomacy the Eastern difficulty may be overcome without further appeal to the sword, but all remains conjectural until the Conference shall have ventilated the proposed terms of peace. The quieter state of the political atmosphere has, however, robbed our market of all animation, and last week's trade has shown a decided relapse. The temporary enhancement of values has been lost, and with it apparently nearly all the demand, as business has moved within the narrowest limits, and sales have only been practicable in the merest retail. A decline of 1s. per qr. on the week must be noted on wheat, and feeding stuffs have also been about 6d. per qr. lower; but it cannot be denied that there has been very little pressure to sell, and holders appear to be perfectly content to abide the issue of political affairs, which can scarcely reduce values much below their present moderate level for some time to come, even if the difficult Eastern question, which has troubled Europe so long, finds its ultimate solution in a pacific manner. With large arrivals at ports of call during the past week, the floating cargo trade for wheat has been

very dull, and prices have given way fully 1s. per qr. Maize also, with large arrivals, has declined 6d. per qr.; whilst barley has ruled dull and cheaper to sell. The sales of English wheat noted last week were 10,096 qrs., at 50s. 11d. against 41,140 qrs., at 51s. in the previous year. The London averages were 56s. 6d. on 1,375 qrs. The imports into the kingdom for the week ending February 16th were 812,918 cwt. wheat, and 232,756 cwt. flour. There was an average attendance of millers and country buyers at market on Monday last, and the grain trade generally relapsed into a state of comparative inactivity, as the arrivals of foreign corn were more liberal, and the aspect of political affairs was of a less threatening character. The trade was consequently free from excitement, and the advance of the previous Friday was lost, there being, however, very little pressure to sell, as holders were content to accept the reduction for the time being, and await the ultimate issue of the political influence. The week's supply of home-grown wheat amounted to 2,953 qrs., and for the small offering fresh up to market factors asked the full prices of the previous week, but sales were difficult to effect thereat, and rather lower rates were necessary to move all but the choicest parcels. Of foreign the arrivals were more liberal, the week's imports amounting to 55,419 qrs., of which quantity 22,609 qrs. were from American Atlantic ports, 11,797 qrs. from Germany, and 9,673 from the East Indies. Russia supplied 4,720 qrs., and the remainder of the imports consisted of Australian and New Zealand descriptions. The quieter state of the trade rendered buyers cautious, and factors found it impossible to sustain the advance of the preceding Friday; but altogether a fair consumptive demand was experienced at the quotations of the previous Monday, with a dull tone at the close of the market. The exports were 4,902 qrs., against 3,922 in the previous week. The supply of barley consisted of 3,623 qrs. of home-grown and 11,464 qrs. of foreign. Malting sorts were occasionally 1s. per qr. cheaper, and grinding qualities ruled slow at about former prices. There were 25,121 qrs. of American maize reported, and sales progressed slowly at the currencies of the preceding Monday, the advance of Friday having been lost. The imports of oats were 36,287 qrs., and no material alteration was quoted in the value of fine qualities, but the more common sorts, which have recently been unusually depressed, showed a recovery of 3d. to 6d. per qr. on the week. On Wednesday the return gave 110 qrs. of English wheat and 15,390 qrs. of foreign. The market was most meagrely attended, and great dullness prevailed. Lower prices would have been necessary to effect sales of wheat in any quantity, but in the extremely limited business passing Monday's prices were obtainable for retail quantities. Feeding stuffs were equally dull, and quotations were nominally unaltered. On Friday the supply had increased to 140 qrs. of English wheat and 32,580 qrs. of foreign. The trade ruled dull throughout the day at nominally Monday's prices, and there was very little business done in feeding

corn. The imports of flour into the United Kingdom for the week ending February 16th were 232,756 cwt., against 221,064 cwt. in the previous week. The receipts were 20,191 sacks of English, and 9,031 sacks and 18,437 barrels of foreign. A very quiet trade has been experienced during the past week, and prices have favoured buyers for both sacks and barrels. The week's imports of beans were 58,281 cwt., and of peas 5,347 cwt., showing a decrease of 39,162 cwt. on the former, and 13,356 cwt. on the latter. There has been but little demand for either of these articles, but in the few sales made prices have shown no quotable change. The deliveries of malt were 17,621 qrs., and the exports 596 qrs. No improvement can be noted in this article, for which the trade has been extremely dull, and rather lower prices have been necessary to induce buyers to operate. A fair business has been passing in agricultural seeds during the week, and for all the principal varieties former prices have been well sustained. Fine red clover is scarce, and it is most probable that an upward movement will take place in prices as soon as the spring demand begins to be felt. Alsike and white clover remain steady, and there has been some little inquiry for sowing rape, but no quotable change has occurred in hemp, canary, or mustard. The supplies of grain at the provincial markets have again been very moderate, but the trade has followed the course of prices at Mark Lane, and the advance quoted at the end of last week has been lost. At Liverpool, on Tuesday, an extremely dull tone prevailed in the market, which was thinly attended, and the wheat trade closed weak at the lowest quotations of the previous week. There was very little done in flour, but beans were more inquired for, and commanded full prices. Maize shared in the general depression, and quotations were about 6d. per qr. lower, new mixed American closing at 27s. 3d. and old at 28s. 6d. per qr. The week's imports consisted of 87,000 qrs. of wheat, and 37,500 qrs. of maize. At Newcastle wheat has declined 6d. per qr. on the week, and flour has also favoured buyers. Maize has ruled firm, and feeding corn generally has not declined in value. At Peterborough the offerings of wheat have been very light, and farmers have succeeded in obtaining 1s. per qr. more money, while barley, oats, and beans have commanded fully late rates. At Edinburgh the market has been well supplied with grain from the farmers, and a slow sale has been experienced for wheat at a decline of 1s. per qr., while barley and oats have been in fair request at previous currencies. At Leith the weather has been changeable, but agricultural operations have not been delayed thereby. The arrivals from abroad have been limited of all articles, and prices have relapsed to their old level, under the influence of more peaceful news. At Wednesday's market Scotch wheat was quoted 1s. per qr. lower, and the few sales of foreign were at about former rates. Barley also receded 1s. per qr., but other spring corn was unaltered in value. At Glasgow the imports have been small of wheat and maize, and the trade has ruled dull for all articles at barely last week's prices. At Cork there has been a general depression in the trade, and wheat and maize have declined 6d. per qr. At Dublin the weather has been dull and cold, and the grain trade has been inactive. Tuesday's market was poorly attended, and both wheat and maize were the turn lower to sell.



# THE FARMER'S MAGAZINE.

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MARCH, 1878.

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THE  
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MONTHLY JOURNAL

OF

THE AGRICULTURAL INTEREST.

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30 lb.	.....	0	15	0
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 To Mr. Thomas Bigg, Professor of Chemistry,  
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#### IMPORTANT TESTIMONIAL.

“Scotton, near Hingham, Norfolk, April 16th, 1865.

“Dear Sir,—In answer to yours of the 4th inst., which would have been replied to before this had I been at home, I have much pleasure in bearing testimony to the efficacy of your invaluable ‘Specific for the cure of Scab in Sheep.’ The 600 sheep were all diseased in August last with scabbers of the ‘Non-possessors’ specific, that was so highly recommended at the London Show, and by their own owners, the best attention being paid to the flock by my shepherd after dressing according to instructions left, but notwithstanding the Scab continued getting worse. Being determined to have the Scab cured if possible, I wrote to you for a supply of your Specific, which I received the following day; and although the weather was most severe in February during the dressing, your SPECIFIC proved itself an invaluable remedy, for in 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 sweetest and best remedy now in use.”

“I remain, dear Sir,  
 “For JOHN TINGEY, Esq.,  
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Henry Lubet



# THE FARMER'S MAGAZINE.

APRIL, 1878.

PLATE.

## MR HENRY CORBET.

Our plate for the present number is a portrait of Mr. Henry Corbet, engraved from a photograph by Wicks, of Sevenoaks. About two years ago a portrait of Mr. Corbet was given in *The Agricultural Gazette*, followed by one of a series of biographical notices entitled "Noteworthy Agriculturists," that at the time were appearing weekly in that journal. The notice of Mr. Corbet's life then published was so faithfully done, so correct, and so complete, that we cannot do better than quote it here instead of repeating the facts detailed in it in words of our own—and we could do no more. Mr. Corbet's long connection with this Magazine, as Editor of the journal from which the articles and reports of permanent value are taken to be preserved in convenient form in these pages, renders us all the more glad to be able to quote from a contemporary, whose testimony has a better claim to be regarded as impartial than our own could be. The following notice, then, is taken from *The Agricultural Gazette* of May 15th. 1876:—

"If those are noteworthy who stand in the front rank, whether of the practical or the scientific, the enthusiastic or the critical—whatever the profession be to which they belong—then assuredly Mr. Henry Corbet is a noteworthy agriculturist. He belongs to more than one of the several classes of our leaders who are included in this list.

"We do not, indeed, know so much of him as a practical farmer, but one rarely meets an agriculturist who has anything like his practical and thorough knowledge of many a subject with which the business of the farmer has to do. We do not know that he has himself contributed additions to the field of scientific agriculture, or made original explorations in it, but during his life-long literary work he has been among the first to recognise—his pen among the first to promulgate—the agricultural bearing and importance of every fresh discovery for

the benefit of farm practice. It is, however, as the literary champion of a public cause, the fearless and straightforward critic, the energetic secretary of the Farmers' Club, the trustworthy judge of the live stock of the field and farm, that his name has achieved and will maintain its reputation. No writer known to us, addressing so large a body of agricultural readers, has on all occasions more vigorously, independently, even ruthlessly maintained the view he may have thought right, whatever the subject under discussion, and whatever the public or the private and personal interests that might be involved. For many years *The Mark Lane Express* has been under Mr. Henry Corbet's editorship, and under his direction it has achieved an individuality and a reputation for thoroughness and independence which none of its competitors for public favour has excelled. Almost from the beginning of its useful career the London Farmers' Club has been served by him as secretary, and during the long period of nearly 30 years he has been unquestionably one of its strongest men—one of its most useful speakers—one of its soundest advisers. Whether there or in the columns of his own weekly periodical, he has been a true leader on such subjects as security for the capital of the tenant-farmer, protection against the landlord's game and gamekeeper, the operation of the Malt-tax, county expenditure and county rates, &c. As a judge and reporter of horse and cattle classes at our great national and provincial exhibitions Mr. Corbet's unusual combination of powers—insight, judgment, literary skill—has been of great public service. And in many a public discussion to which the course of events in the agricultural world during all these years has given rise, we have often had occasion to admire the sound and independent judgment which has suggested, criticised, condemned, defended, as the case appeared to him

to need, in perfect disregard, in utter recklessness, indeed, of opinion outside, whether of the many or the few.

"We add some dates and notes, which will serve as the skeleton record of an honourable agricultural career.—Born on the last day of 1820, educated at the Grammar School, Bedford, and prepared for the University, Mr. Corbet became eventually resident in London, where, in 1846, he was unanimously elected secretary of the Farmers Club against a large number of competitors. The Club, then in the fourth year of its existence, was in anything but a flourishing condition; but there were better times in store. The Tenant-Right question was taken up by it, and its young secretary wrote the prize essay on the subject, during the first year of his office—the judges being Lord Portman, the late Mr. Phillip Pusey, and the late Mr. William Shaw. The essay was published in the spring of 1848, and in the following year, at the request of Mr. Pusey, Mr. Corbet undertook, in conjunction with Mr. Shaw, the digest of the evidence on the Agricultural Customs of England and Wales—a work of immense labour which, however, has still its uses, being, indeed, as good an authority now as when it was first published 28 years ago. Mr. Corbet's other publications directly associated with the proceedings of the Club are papers on 'The Over-preservation of Game,' read in 1860—on 'County Expenditure and County Rates,' read in 1862—on the Operation of the Malt-tax,' read in 1863—on 'The Cattle Plague and the Government Measures,' in 1866—on 'Foxes *versus* Rabbits,' in 1869; and a history and exposition of 'English Tenant-Right' in 1870. He was also on the card last year for a paper on 'The use and Abuse of Fashion in Breeding Stock,' but gave way for one on the 'Government Agricultural Holdings' Bill."

"After 29 years' service, Mr. Corbet resigned the office of secretary to the Farmers' Club, we regret to say from ill-health, at Christmas last and the Committee have since made him an honorary life member of the Club.—In 1853, he had been invited by the proprietors of *The Mark Lane Express* to write leaders and reports of agricultural meetings for that paper, and this gradually led to his undertaking the editorship, which he has now held for nearly 20 years. In addition to this, Mr. Corbet has occasionally read papers at some of the local clubs, and contributed to the journals of agricultural societies; the more prominent of these papers being one on the 'Breeding of Hunters and Hacks,' and another on 'Heads,' in the *Bath and West of England Journal*, and the

'Live Stock Report of the Cardiff Show,' in the *Royal Agricultural Society's Journal*. He has also been a frequent contributor to the columns of *The Field*, *Bell's Life*, the sporting magazines, *All the Year Round*, and other periodicals. His subjects here have been chiefly on the horse, or of a more directly sporting character. For many years he has acted as a judge of riding horses at shows held in different parts of the country, at some societies for three or four years in succession, and occasionally single-handed. Mr. Corbet was for some years an auditor to the Royal Agricultural Society, a member of the Council of the Royal Agricultural Benevolent Institution, and one of the committee of the French Farmers' Relief Fund, so ably presided over by Lord Vernon. He was for some time secretary to, and afterwards on the committee of, the Total Repeal Malt-tax Association. As a member of the Smithfield Club, he proposed, at a general meeting of that Society, shortly before its removal to the Agricultural Hall, two resolutions, to the effect that the general members should have more voice, and the opportunity of taking more interest in the proceedings. Previously the business had been almost altogether in the hands of the stewards and judges, who rang the changes on each other's appointments. To the surprise of many his resolutions were both carried, and they led to the appointment of a council, a numerous body elected by the members, in whose hands the whole business now is. At the request of the directors he drew the prize list of the first horse show held at Islington; and, in conjunction with his brother Edward he established the horse show at the Alexandra Park, which has been generally allowed to be one of the most perfectly planned and conducted exhibitions of the kind."

To this we need only add that Mr. Corbet was compelled to retire from active work at the end of 1875 on account of ill health, from which he still suffers. On his retirement from the secretaryship of the Farmers' Club, a present of a hundred guineas was sent as an acknowledgment of services rendered, accompanied with an expression of regret at the necessity for his resignation. Since then it has been thought desirable to present Mr. Corbet with a testimonial of a more public kind, and subscriptions have been collected for that purpose by Mr. Druce, the present Secretary of the Farmers' Club. The presentation will probably be made during the present month.

PRINTERS AND WOMEN.—"Good morning, Mr. Hen' peck," said a Yankee printer in search of female compositors. "Have you got any daughters that would make good type-setters?" "No, but I have got a wife that would make a very fine devil."

## PLEURO-PNEUMONIA IN AMERICA.

On several recent occasions we have pointed out the error of a statement that is continually being repeated, to the effect that there are no contagious diseases in America that we need fear may be brought here with live cattle. The danger of importing Texas Fever is one of those vague probabilities which can hardly be expected to alarm the British authorities, who, as a rule, do not guard against any mischief until the country has suffered by it. Every one must admit that if we should once get Texas Fever amongst our herds—and we know of no peculiar obstacle to its coming here with live American cattle—it will probably cost us thousands of pounds to get rid of it, besides the loss which it will directly cause; but, as we know nothing from experience about the terrible disease, people here have no fear of it. With Pleuro-pneumonia the case is quite different. The Government are now fully alive to the desirability of stamping it out of the country, and of taking precautions against its re-introduction, although, unfortunately, they lack the courage requisite for carrying out an effectual system of prevention, as the proposal to admit breeding and dairy stock to the interior of the country after an insufficient quarantine shows. Still, there is a general desire to keep out this disease, and a plea for admitting animals freely from any country in which that disease is prevalent would be felt to be an unreasonable one.

The Duke of Richmond is being pressed to amend his Cattle Diseases Bill so as to allow live cattle from the United States and Canada to come to this country without being slaughtered at the ports of debarkation, and he has shown some disposition to yield on this point. It is, therefore of importance that the danger of yielding should be more fully understood than it appears to be. Those who ask that American and Canadian cattle may come freely into the country declare that neither in America nor Canada does any contagious cattle disease exist. Now, the Duke of course knows that this statement, at least as far as America is concerned, is untrue; but, as far as we have seen, he has never made that knowledge public in any reply which he has given to those who are endeavouring to induce him to spoil his Bill. Consequently, the public, the writers in some of the daily papers, Radical members of Parliament, and other people who are not well informed on the subject, may be imposed on by

the constantly repeated error. As before remarked, the mistake has been several times pointed out in these columns, but, as an English agricultural journal may be suspected of exaggerating the danger to which we allude, we will call an American witness to our aid. We will leave Texas Fever entirely out of the question, and content ourselves with letting an American agricultural paper tell an English reader how extensively Pleuro-pneumonia prevails in the United States.

The American *National Live-Stock Journal* for the present month contains an article entitled "The Greatest Danger to our Live Stock," which is explained by the sub-heading, "The Lung Fever—Contagious Pleuro-pneumonia." The article, which is a very able one, urges the necessity for repressive measures in the United States. It states:—"The Lung Fever of cattle, imported into Brooklyn, L. I. for the first time in 1843, in a Dutch cow, has never since been at any time entirely absent from our soil. From this centre it has slowly and irregularly extended over a portion of New York, New Jersey, Pennsylvania, Maryland, Delaware, and Virginia, besides having repeatedly invaded Connecticut. The slowness of its extension has begotten a false sense of security, and no real apprehensions of serious consequences remain from an animal poison which has been for over a third of a century hidden away in the near vicinity of the Atlantic coast." The article goes on to show how it is that, having had Pleuro-pneumonia only one year less than England, America has suffered much less than this country. In America "the disease was for a long time confined to the dairies of Brooklyn and New York, where the cows were kept until they died, or were fattened for the butcher. A few doubtless found their way to this country, and by these the disease was carried to different farms, which were thus constituted centres of contagion from which the adjacent country became infected. But any such movement from the city dairies was necessarily of the most restricted kind, and it never took place to any great distance. It would have been folly to move a common-milch cow, worth 40 dols. to 70 dols. to the West, where she could be bought for one-half or one-third of that sum." In short, as the current of the cattle traffic in the United States has been constantly from the cheap breeding and rearing grounds of the West to the profitable markets of the East,

the disease has had hardly any chance of spreading to those districts where it would have caused the greatest devastation. Still, the writer urges, the fact that the disease has maintained a foothold in the United States for thirty-four years, and "in spite of all obstacles has made a slow but constant extension," is "sufficient ground for the gravest apprehension." A recent outbreak in Clinton, N. J., is then referred to as an example of what may be expected if the disease is not stamped out before its slow progress westward renders it a source of even more imminent danger than it is at present to the great cattle-producing States.

For Great Britain the danger referred to is already very great, although it would undoubtedly become greater still if the Western States, from which our supply of American cattle comes, were generally infected with the disease. It should surely be enough to show that pleuro-pneumonia has a permanent home in six of the Eastern States, seeing that it is through Eastern ports that the cattle of the West are sent to us.

In the face of this testimony from an American witness we hope we shall hear no more of the alleged immunity of America from the contagious diseases of cattle. If, in spite of warning, we continue to import live cattle from the United States, the larger the traffic becomes the greater will be our danger. New York is the great shipping port for American cattle, and in New York State Pleuro-pneumonia is admitted to exist. Should we continue to import live cattle from America, then it will be strange indeed if some of the stock sent here does not come into contact with infected cattle, or be put into rail trucks in which such cattle have been, in the course of its transit to the Atlantic seaboard. In Great Britain, our American critic says, "the Lung Fever is accepted as a necessary evil between which and her large importations of Continental cattle she must make a deliberate choice." Quite true; only to "Continental cattle" we must add, on our critic's own showing, "and American cattle also."

The writer adds some particulars which it would be well for those to read who ignorantly declare that it is useless for us to endeavour to get rid of Pleuro-pneumonia. He tells his readers how several European countries have stamped out the disease by rigid restrictive measures, some of them, unhappily, to import it again from foreign countries. In Massachusetts and Connecticut, too, Lung Fever—a better because a more distinctive name than Pleuro-pneumonia—has been eradicated. What these States and countries have done Great

Britain and Ireland, with the advantage of being islands, can assuredly accomplish.

The subject is one of such great importance at the present juncture that we appeal to the press generally to circulate the testimony of an American witness, which we have above quoted. He, at least, cannot be suspected of any bias against the continuance of our traffic in live cattle from his own country without the partial safeguard of slaughter at the port of debarkation.

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THE ROYAL INSTITUTION.—Professor Dewar, in one of his courses of lectures on the chemistry of the organic world, commenced by giving an account of the latest important observations on the transpiration and movements of water in plants. Marie Davy, two years ago, worked out the calculations of experiment which show that for the production of 16 grains of corn as much as three and a half pounds of water are transpired. M. Risler has found that a field of growing wheat transpires between April and July as much water as would cover the surface of the ground to a depth of 9in. These experiments have obviously direct practical bearings on agriculture. The influence of sunlight on transpiration has been investigated by Professor M'Nab. Experimenting with the leaves of the bay laurel, he found that in sunlight there was but little difference between the amount of water transpired in an atmosphere saturated with moisture and in a dry atmosphere. The amount per hour in the first case was 25.96 per cent., and 20.52 in the second. In the shade, however, the transpiration in a saturated atmosphere was *nil*, and in a dry atmosphere only 1.69 per cent. showing in a marked degree the great influence of sunlight, and the small influence of dryness or moisture of air. The rate of the ascent of fluids in plants, ascertained by the employment of spectroscopic examination of the diffusion of lithium citrate, as adopted by Bence Jones in studying the fluids of animals, gave a *maximum* result of 24in per hour. Mr. J. B. Lawes has published the result of lengthy experiments, which show that 200 times the weight of organic matter elaborated by a plant passes through it in the form of water during its growth. With regard to the comparative amounts of carbon assimilated by plants and evolved by animals Professor Dewar has elaborated tables which present the subject in a clear form. An acre of the best cultivated land fixes annually about 22cwt of carbon, and a healthy man evolves about 2 cwt of carbon annually in the form of carbonic acid, so that 11 such persons supply as much as can be economized by an acre of land. Referring to the past vegetation of the carboniferous period Professor Dewar said he has calculated that if the coal vegetation grew as it was generally admitted it did, on the areas approximately the same as our coal fields, it would require at least 20,000 years for the accumulation of the carbon. This is a calculation of time quite independent of the calculations of geologists, and has therefore a peculiar value. Throughout the lecture the methods employed by the different investigators were experimentally shown.

IRISH CATTLE TRADE ASSOCIATION.

Recently, a special meeting of the Council of the Association was held, to take into consideration the course that should be pursued with reference to evidence to be submitted to the Duke of Richmond's Committee on the Cattle Diseases Bill. After maturely considering the Bill, the following resolutions were submitted:—

That this Council is unanimously of opinion that stoppage of movement of animals affected with foot-and-mouth disease for 28 days and pleuro-pneumonia for 56 days would prove most injurious, if not destructive, to the interests of stock-owners in Ireland.

That in the opinion of this Council great doubts exist amongst a very large section of the most practical and experienced men engaged in the cattle trade of the possibility of extirpating foot-and-mouth disease by restrictions such as from time to time have been proposed; but having regard to the very general expression of opinion to the contrary, and the desire of the Government to legislate in favour of restrictions, the Council is of opinion that 14 days should be the extreme limit for which such restrictions ought to be tried.

Passed.

That looking to the fact that power is taken in the Bill to slaughter all animals affected with pleuro-pneumonia so soon as the existence of the disease shall have been discovered, it appears to this Council that 28 days after the last case would be, in justice to the stockowners of Ireland, the outside limit of time during which the restrictions on a place declared to be infected with this disease should be maintained.

Passed unanimously.

That in the opinion of this Council the power of slaughtering cattle "being or having been in contact with cattle affected with pleuro-pneumonia" ought not to be conferred on the local or any other authority by the Bill.

Rejected on a division.

That for the convenience of those engaged in the cattle trade it is desirable that the Privy Council should make public the granting of a licence to hold a fair or market within each infected district a reasonable time before that at which it is proposed to hold such fair or market.

Passed.

The meeting then adjourned.

FATTENING CATTLE IN WINTER.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Some few weeks ago you asked for a statement of particulars on fattening beasts in stalls in winter. Having 20 tied up in a shed, and having sold the last on Tuesday, I enclose items:

		£	s.	d.
1877				
Nov. 17	15 heifers at £17 ...	255	0	0
	5 do. 13 10s. ...	67	10	0
Jan. 15	4 heifers, 8½ weeks at 10s. per week each ...	17	0	0
Feb. 19	6 heifers, 13½ weeks at 10s. per week each ...	37	10	0
March 5	5 heifers, 15½ weeks ...	38	15	0
March 19	5 heifers, 18 weeks ...	45	0	0
	Attendance ...	9	0	0
	Balance in favour of fattening ...	11	15	0
		£181	10	0

1878.		£	s.	d.	£	s.	d.
Jan. 15	4 sold at ...	24	5	0	97	0	0
Feb. 19	6 do. ...	26	0	0	156	0	0
March 5	2 do. ...	21	0	0	42	0	0
	3 do. ...	23	0	0	69	0	0
March 19	2 do. ...	25	0	0	50	0	0
	3 do. ...	22	10	0	67	10	0

£181 10 0

The cost per week at 10s. for food is made out in this way:—

	s.	d.
1 cwt. cut hay and straw, at £1 10s. per ton ...	4	6
1½ bus. per week of pulped mangels ...	0	9
28 lb. Marseilles cotton-cake, at £6 per ton ...	1	6
28 lb. do. linseed cake, at £10 per ton ...	2	6
Charge for cutting chaff, &c. ...	0	9
	10	0

Quantity of straw used for litter:—5lb. per head per day. Steers would require much more than heifers.

I do not publish my name, but at the same time I should be willing to answer any inquiries privately. I generally fatten from 80 to 100 bullocks or heifers on three farms, and, having a man on one I can depend on, I have selected his heifers for my example-account and feel satisfied I am correct. The man in question is a working foreman, at 20s. per week, house rent and firing free. He has a strong lad at 12s. per week, and besides the 20 in the shed has about 15 other beasts in open yards, and about 70 sheep (which have turnips and cake, on grass land) to attend to. I purchased the beasts myself, and sold them to the butchers myself.

I am, Sir, &c.,

A KENT FARMER.

IMPORTATION OF LIVE STOCK IN AUSTRALIA

—The Melbourne *Argus* recently received, contains the following:—Correspondence is now taking place between the Governments of the various Australian Colonies on the subject of the prohibition of the import of live stock. In the eastern colonies there is a desire that the rule should be repealed. South Australia, however, has forwarded a despatch to this Government protesting against any such course, and stating the good results which have followed the prohibitive policy. It is mentioned that the foot-and-mouth disease has cost England seventy millions of money since 1869, and the belief is expressed that the ravages of the disease in Australia would be proportionately severe. Mr. Berry has replied to the despatch, and has expressed a strong opinion that no one colony ought to take action on its own account, and that the prohibition rule should be maintained by all until a general agreement is effected in favour of a modification. For any one colony to take upon itself to virtually render nugatory the precautions of the other is, in Mr. Berry's opinion, unfair. This is the attitude the Government of Victoria takes on the question, and its views are to be made known to the other Governments interested.

## THE PROPOSED AGRICULTURAL EXHIBITION IN LONDON.

On March 20th a meeting of the Committee recently appointed to promote the holding of a great Agricultural Exhibition in London next year, under the auspices of the Royal Agricultural Society of England, was held at the Mansion House for the despatch of business. Alderman Sir Charles Whetham presided, and there were present the Duke of Bedford, Lord Moreton, Colonel Kingscote, M.P., President of the Royal Agricultural Society, Sir John Heron Mowell, Alderman Sir Thomas Dakin, Mr. William Wells, Mr. T. C. Scott, Mr. Charles Gussist, Mr. James Howard, High Sheriff of Bedfordshire, and others. Letters were read from the Dukes of Westminster and Buccleuch, consenting to join the committee, and one from Mr. John Holmes, M.P., who stated that he had made some inquiry as to extending the Exhibition of 1879 so as to include food generally, and had found that the committee might expect very considerable support from those interested, and he believed also that some of the great City Companies would be inclined to give them a grant of money. The names of Lord Chesham, Lord Reay, Sir C. Russell, M.P., and others were added to the committee. It will be remembered that at the recent public meeting it was said to be desirable that the Exhibition should, if possible, be held in Hyde-park.

Colonel KINGS-COTE, M.P., now reported that in his capacity as President of the Royal Agricultural Society he had waited upon his Royal Highness the Duke of Cambridge, the Ranger of Hyde-park, and the Duke had quite convinced him of the utter impracticability of holding the show in Hyde-park, even if the park could afford the necessary accommodation, which was very doubtful. The idea, which was never very seriously entertained, would therefore have to be given up.

Mr. H. M. JENKINS, the Secretary of the Royal Agricultural Society, reported that he had visited various suggested sites, some of which were appropriate and others not, and that he had more still to visit. About eighty acres of land would be necessary for the exhibition, and it must be easily accessible from all parts of London.

On the motion of Mr. JAMES HOWARD (High Sheriff of Bedfordshire), seconded by Mr. W. GILBEY, it was resolved that the question of the site be left to the decision of the Council of the Royal Agricultural Society.

It was then arranged that the various Livery Companies of the City, the members of the Corn, Hop, Stock, and other Exchanges, and others interested in British agriculture, should be invited to co-operate with the Mansion House Committee in raising the funds needed to meet the incidental expenses of the exhibition. For that purpose no definite sum could yet be fixed, but about £10,000 was casually mentioned. The Lord Mayor was appointed treasurer of the fund, and it was intimated that he would gladly receive subscriptions at the Mansion House in aid of that object. The Duke of Bedford expressed his willingness to subscribe £100, and Colonel Kingscote said the Duke of Westminster would contribute a similar sum.

Sir CHARLES WETHAM undertook to bring the matter before the Corporation of London at the proper time.

The Lord Mayor has published the following letter in the daily papers, under date "Mansion House, March 21" :

At a public meeting held here on March 13 it was resolved to promote the holding of a great Agricultural Exhibition in London next year, under the auspices of the Royal Agricultural Society of England, and a highly influential committee was appointed to carry out that object, to collect subscriptions, and generally to co-operate with the Council of the Royal Agricultural Society.

The food supply of the people is continually acquiring an increasing importance in the large centres of population, and the holding of an exhibition having for its object the improvement of all the means which can be adopted for stimulating the home supply cannot fail to be of great interest and use to the consumer as well as the producer. The committee, however, trust that the support which they will receive may be sufficient to enable them to induce the Council of the Royal Agricultural Society to enlarge the scope of the exhibition, and to give it an international character.

The Prince of Wales has intimated that, under such favourable and distinctive circumstances his Royal Highness will accept the Presidency of the Society for the year of the exhibition.

It was the opinion of the meeting held on the 13th inst. that it was desirable, if possible, to hold the exhibition in Hyde Park; but the committee have already ascertained that it is impracticable to carry out this suggestion, however convenient such a site would be to the many thousands who would visit an exhibition in so central a situation. It will, therefore, be necessary to obtain the use of a suitable site at doubtless, a considerable cost.

The committee are also desirous of assisting the Royal Agricultural Society in defraying a portion of the cost of some other expensive items in the organisation of so large and important an exhibition, and more particularly by offering special prizes for stock and agricultural produce adapted to the wants of large centres of population.

It may be added that the total cost of the exhibition has been estimated at not less than £30,000, of which the Royal Agricultural Society will bear a considerable proportion.

I beg therefore, on behalf of the committee, to solicit the co-operation and support of all those interested in agriculture and of the public at large; and I shall be glad to receive at the Mansion House any sums which may be entrusted to me for the objects to which, by your courtesy, I have drawn attention.

**SHEEP SHEARING.**—The Surrey and Sussex flockmasters have resolved not to shear their sheep until the end of May this year, and the local wool fairs will be held later than usual in consequence.

THE IRISH LAND ACT.

The Select Committee of the House of Commons appointed to inquire into the operation of the Bright clause of the Irish Land Act of 1870 resumed its sitting on Monday last, Mr. Shaw Lefevre in the chair.

Mr. W. D. HENDERSON, the acting President of the Autrim Tenant-Right Association, continued his evidence, he being under examination when the Committee adjourned on Thursday week. He said it had been supposed that the tenant-right was higher in large towns than in counties. He rather thought that was not so. The tenant-right was probably no so high in large towns as in counties. There was a desire on behalf of the Ulster tenant-right to give a fair price for the land.

The CHAIRMAN: Do you think in those parts of Ulster, where the tenant-right is exercised as you describe, there is still an anxiety on the part of the tenants to become owners?—Witness: I think so. There is a strong desire to deal with the land as if it were practically their own.

Mr. PLUNKET: Is it not a fact that people who have made their fortunes in towns come out in the country to invest their capital?—Witness: Yes, and that tendency has helped to raise the price of tenantry. In the south and west of Ireland the tenant-right, if it were established, would sell high, and for the reason that a large number of persons returning from America and Anstraha are anxious to acquire property near their own home.

What is the exceptional sort of wealth that enables the tenants to give so much for property and to give such a considerable sum towards buying the fee?—The farmers have had for many years—for a century and a half—the opportunity of purchasing the tenant-right, and that has been an inducement to saving. They have accumulated large sums of money in the bank, and the existence of tenant-right has been the main occasion of the savings of the farmers in Ulster.

You say the tenants think they have a right to pre-emption when the property on which their holdings are situated becomes to be sold?—I say there is an impression that the right to pre-emption should be reciprocal. They think that if the landowner has the right to buy the tenant-right they ought to have the power to buy the fee. They are willing to give a fair price for it, and every safeguard being taken that the landowners should get a fair price, they consider they ought to have the first offer.

Would you carry that so far as to say that if the landowner would suffer a loss by breaking up his property he should nevertheless be compelled to break up his property?—I would carry it to the length that he should break up his property, but suffer no loss in doing so. I should say that the landowner should obtain a fair price, and he should have a right to ascertain that price by an auction or *bona fide* sale. I would not make any restrictions as to the money the State should be allowed to advance, which might be advanced from two-thirds to three-fourths of the value in the case even of the smallest holdings.

Is it true or not that the smallest tenants would very likely be unable to meet their obligations to the State?—I should certainly say not in two years.

Major NOLAN: Do you think this right to pre-emption could be given to the tenant without in any way interfering with the pecuniary interest of the landowner?—I think so. The tenants have every wish to see that the landowners' interests are well protected. I do not think there would be any unpopularity attaching to the State advances.

Mr. O'HAGAN, Q.C., of the Irish Bar, and formerly Chairman of Quarter Session of the County Clare, said that, looking at the state of the law in regard to the transference of land and the existing settlements, he could not think that there could be a creation of small holdings without the assistance of the State. He anticipated that Clause 2 of the Act, which contemplates agreements between landlord and tenant for the transference of land, and for which facilities are given, was likely to be a dead letter, and he did not expect that Clause 46, which dealt with the case of property sold by the Landed Estate Court, would be attended by any good result.

The CHAIRMAN: Do you agree with Mr. Vernon that that clause throws on the Landed Estate Court a duty which is somewhat abnormal to its proper functions?—I entirely agree with him, because the Landed Estate Court has been and it is primarily and essentially a court of justice, and we look to it for the discharge of its primary functions, and if secondary functions were cast upon it those functions would become necessarily disregarded.

The Committee again adjourned.

WEATHER STATISTICS OF THE UNITED

KINGDOM, for AGRICULTURAL and SANITARY purposes; for the Week ending 18th March, 1878.

(ISSUED BY THE METEOROLOGICAL OFFICE.)

DISTRICTS.	TEMPERATURE.					RAINFALL.		
	Highest Observed.	Lowest Observed.	Average for the week.	Above or below the Mean for the week.	Number of Rainy Days.	Amount for the week.	More or Less than the Mean for the Week.	
Principal Wheat-producing Districts.	Degrees Fahr.	Degrees Fahr.	Degrees Fahr.	Degrees Fahr.	In inches.	In inches.	In inches.	
1. Scotland, E....	56	29	41	1 above	0	—	3 less	
2. England, N.E.	61	20	41	0 aver.	2	1	3 less	
3. England, E....	56	24	39	3 below	2	1	3 less	
4. Mid. Counties.	59	24	41	1 below	0	—	4 less	
5. England, S....	57	24	40	3 below	1	less than ½	3 less	
Principal Grazing, &c., Districts.								
6. Scotland, W.	61	27	42	1 above	1	0	5 less	
7. England, N.W.	52	23	42	1 below	0	—	5 less	
8. England, S.W.	57	23	43	1 below	0	—	6 less	
9. Ireland, N. ...	54	31	42	0 aver.	2	less than ½	5 less	
10. Ireland, S. ...	63	23	45	2 above	1	1	6 less	

\* The data for the mean temperatures in the corresponding week of previous years are derived from the thirteen years' observations 1857-69; (as determined by Mr. Buchan). Those for mean rainfall have been obtained from the ten years' observations 1866-75.

GENERAL REMARKS.

Weather.—Much colder than in either of the two preceding weeks except in the East of Scotland, where the average values

for the previous and present weeks were identical. Frosts occurred, even in the shade, on five nights over the extreme southern and south-eastern counties, on four nights over the inland counties of England and in some parts of Scotland, and less frequently elsewhere. The inland parts of Ireland had frosts on three nights, but the coast stations escaped.

Rainfall was very much below the mean for previous years, especially in the western and inland parts of England. The rainfall along our eastern and south-eastern coasts was very remarkable, stations so situated reporting rain on from three to five days, the amounts collected varying from 3-tenths to 5-tenths. In the meantime the stations situated a few miles inland had hardly any falls large enough to measure. The prevailing winds have been north-westerly and light, and the air very dry.

NOTE.—The observations upon which this summary is based are made at the following stations:—Scotland, E.—Nairn, Aberdeen, Glenalmond, Leith. England, N.E.—Shields, Durham, Scarborough, York, Kelstern (Lincolnshire). England, E.—Yarmouth, Cambridge, Audley End (Saffron Walden), Rothamstead. Midland Counties.—Nottingham, Leicester, Shrewsbury, Hereford, Cirencester, Oxford. England, S.—London, Marlborough, Strathfield Turgis, Dover, Hastings, Hurst Castle. Scotland, W.—Llandale (Loch Sunart), Glasgow, Ardrossan, Sillith, Douglas (Isle of Man). England, N.W.—Stonyhurst, Manchester, Liverpool, Obys (Bidston), Holyhead. England, S.W.—Pembroke, Portishead, Falmouth. Plymouth. Ireland, N.—Greencastle, Armagh, Donaghadee. Ireland, S.—Parsonstown, Kingstown, Roches Point, Valentia.

### MR. ARCH ON TENANT-RIGHT.

In the course of a speech on the proposed extension of the County Franchise, delivered at Northampton recently, Mr. JOSEPH ARCH said he was pleased that a farmer had risen to second the resolution, because he believed that the extension of the franchise was not merely a rural labourers' or a rural artisans' question, but one which had more to do with the farmers than with any other class in the country. Now, he thought that no one would deny that the land of England today was capable of very great improvement, or that the population of this country required that the land should be improved. Farmers were continually saying theirs was a very bad trade, and they were ascribing it to the seasons and he knew not what; but, unfortunately, they had never gone to the root of the evil, and so when the labourers had political power they meant to do it for them. Just look for a moment at the food produced in this country. He did not suppose that there was one shoe manufacturer in this town who would say that trade was bad if he had fifty more orders on his book than he could execute. Now let them look upon the farmer, not as under the tutelage of the landlord, but as a business man and what was the fact? Why, that there were 60 out of every 100 people in this country for whom the farmer did not grow food, and therefore the consumer had to go to another country for it. No man should make him believe that the farmer's trade could be very bad while that was the case, and when, as he maintained, the food could be supplied at their own doors. It was not the demand which made the trade bad; there must be something radically wrong somewhere, and they were determined to find it out and to alter it. In looking over the Board of Trade returns, he thought they would find that the average investment upon the

soil throughout England was £5 10s. per acre. Now Mr. Stops, as a practical farmer, knew very well that no farmer taking arable and pasture land together could cultivate it so as to make it productive for less than £10 per acre. That £5 10s. per acre amounted in the aggregate to about 258½ millions of pound sterling; and if £10 per acre were invested it would come to 211 millions more. Why was it not invested in the soil instead of in Turkish Bonds? They had a right to put that question. Was it not a serious matter for the farm labourers of England that year by year 211 millions of money was being invested elsewhere instead of in the soil to make it more productive? It was a question which the agricultural labourer had more to do with than anybody. The clergyman would tell them that these were questions they ought not to meddle with. Well, if they found out that the State was going to draw 211 millions annually from the fund for the payment of their salaries there would be a terrible row. And let it be understood that the non-investment of that 211 millions in the soil was abstracting a large sum from the salaries of the agricultural labourers. If it were not so they would scarcely know of pauperism at all in the rural districts. The larger the amount of money invested by the farmer the larger would be the amount of labour required, and instead of pulling cottages down and driving working men into the large towns it would be necessary to bring 50,000 more men out of the densely-packed towns on to the soil of England, which would well repay it in a rich and bountiful harvest. That was a question they ought to consider when they got their political rights. They meant to say to the Government of the country, whether Liberal or Conservative, "You shall give the tenant farmer a compulsory Tenant Right Bill. You shall give him security if he invests it at 211 millions in the soil, upon which it was hardly and honestly earned, instead of in Turkish ironclads." Would any gentleman tell him that they did not want the food? He knew they did. What did that £5 10s. per acre produce? Why, a miserable £188,000,000; or the £5 10s. per acre invested produced £4 per acre, taking the average. Any reasonable farmer knew that agriculture was widely different from the shoe trade. If they spent a few shillings in buying better tools it brought a quick return; but the farmer was compelled, through want of proper security, to invest only £1 where he ought to invest £5, and that was an evil which would have to be removed when they got their vote. Supposing that the additional 211 millions he had spoken of were invested in the soil, the value of the produce would be increased by £282,000,000. Were not these questions for shoemakers and artisans to consider?

THE COLORADO BEETLE.—This minute stranger, after creating so much alarm for fear of what would become of our potatoes, having been driven off by the Destructive Insects Bill, is now arousing the apprehensions of the Germans. A committee has been sitting at the Ministry of Agriculture at Berlin to discuss the measures to be taken to prevent the insect from devastating the potato fields. The cost of closely watching all the potato grounds in the empire during the summer would amount to several million marks; therefore it has been determined to confine official supervision to the districts in which the beetle appeared last year. If the area affected proves not to be very large all plants and foliage on it are to be burned, the ground to be covered with benzine, and this latter set on fire.—*Western Times*.



## THE HARVEST IN AUSTRALIA.

*The Adelaide Observer* of Jan. 26th, which came by the last mail, says:—The weather for the past week has been dry and seasonable, but the heat has been far less oppressive than during the previous ten days. Reaping is now rapidly approaching completion, and the glut on the railways has begun. Hundreds of thousands of bushels have already found their way to Port Adelaide, Port Pirie, and other shipping-places along the coast. Complaints as to the yield have not been general, but there is too much reason to fear that the average will be lighter than any formal estimate that has yet been given. Until the returns from our farming correspondents, which are rapidly coming in, are all to hand, we shall not venture on naming a figure to represent the yield for the whole of the colony. From Victoria, New South Wales, and Queensland the reports still speak of the prevalence of drought. In Victoria the harvest has been hastened forward through the hot weather, and the prospects of the wheat yield are not bright.

Speaking of the harvest in South Australia the *Northern Argus* says:—In the old agricultural districts the blight and rust appear to have done more damage than in the areas. There is a very large quantity of wheat in the North, but the general average will not be very high. Many of the hundreds have been but slightly affected by rust. Towards Munarrie, Blackrock, and Yongala the yield may reach 15 bushels to the acre. There are other hundreds where the crops are good especially the early-sown. Some farmers in the neighbourhood of Redhill have reaped over 20 bushels to the acre in some fields, while other paddocks have been a partial failure. The Blyth District will not exceed 4 bushels per acre, and Clare district will be exceptionally low compared with previous years; the average will be from  $4\frac{1}{2}$  to 5 bushels. The Wakefield will not exceed that, and from reports that reach us from the South and South-east we think we can venture to estimate the average of the colony at 6 bushels to the acre, which is nearly as low as it has ever been. The worst harvest was in 1867-8, when the average was only 4 bushels 40lb. In 1871-2, the next lightest, it was 5 bushels 44lb. and in 1869-70 it was only 11b. above the last-mentioned.

In Victoria the harvest in the early districts has closed. A special reporter of *The Leader* has visited the chief wheat-growing districts; and, according to his report, it is estimated that, although the average in nearly all districts will be below that of last year, the additional area under crops will produce an increase on last year's total return. The harvest is late in South Australia. The Northern areas will yield well, but some districts will fall short of last year.

*The Sydney Mail* of January 5th says:—The crops in the western part of the county of Cumberland, which are now nearly all harvested, have on the whole been good. From appearances at present it does not seem likely that the stone-fruit crops will yield more than a moderate average; the vineyards, however, still hold out the prospect of an abundant supply of grapes.

In the neighbourhood of Bombala occasional showers fell at the beginning of last week, sufficient for the wheat crop, but not enough to benefit the grass. In the neighbourhood of Albury a like change in temperature took place during the week and little or no rain fell, but the feed is growing and the supplies of water are sufficient. Everywhere in the vicinity the crops are fine. It is now found that the late hailstorms in the district did considerable damage in one or two localities. In the

county of Argyle harvesting operations are being pushed forward; the wheat crops will be good. The light showers which fell at Mudgee have not resulted in much benefit to pastures. Farmers have been busy thrashing wheat, the yield of which has proved to be pretty good. Dry, hot weather has been experienced at Molong and Orange. About Carcoar, too, the heat and drought have been very parching, so that there is little natural feed. Harvesting and haymaking are going on there, and the produce is satisfactory. Some change in temperature took place in the Hunter district; but no rain fell and the heat is again as great as before. The harvest work engages the attention of farmers about Glen Innes, where the heat is very oppressive. The crops on the Manning River and throughout the district look very well, but want a steady rainfall.

The same journal for Jan. 12th says:—The harvesting around Armidale has been finished with fine weather, and so far the district has been fortunate, but in other respects moisture is much needed. In the district of Inverell the wheat crops are under shelter; they did not in average reach the anticipations formed a few months ago. In some localities it will not be more than eight or twelve bushels per acre, though the general average might reach sixteen or seventeen bushels. The wheat crops in the extreme south-west parts of the colony have been prostrated; a good deal of the produce finds its way into Victoria.

## FOREIGN CATTLE AND THE MEAT SUPPLY.

"A Staunch Free-Trader" writes to *The Echo*: In a leading article which appeared in your columns on Friday last you express the opinion that the Contagious Diseases (Animals) Bill, now before Parliament, will, if passed, make meat dearer than it is. Now, I have given a great deal of study to the subject—I am a consumer and not a producer of meat—and I have come to precisely the opposite conclusion. In proportion as the Bill is stringent enough to check disease, it is clear to me that it will cheapen meat. Let me state on what grounds I base my conclusion:

1. Pleuro-pneumonia and foot-and-mouth disease, the chief agents in destroying and preventing the increased production of meat in this country, have been distinctly proved to be of foreign extraction, and, as one has been stamped out in America and the other in Australia, there is every reason to believe that both may be got rid of here.

2. Our live meat supply is only about 5 per cent. of our annual consumption of meat; and considerably more than that proportion is lost to us every year by disease that might be stamped out if we ceased to import them.

3. As the transit of dead meat is cheaper than that of live animals, it is almost certain that our supply of foreign meat would be increased rather than diminished by a measure which would induce foreigners to turn their attention to the dead meat trade exclusively in supplying us.

4. Our superior breeds of cattle and sheep are greatly needed in the United States, Canada, and Australia, to enable those great meat-producing countries to improve their stocks, and thus be able to supply us extensively with meat of the best quality; and they will not buy freely of us until we can show a clean bill of health for our live stock.

Thus the effects of the Bill now before Parliament will, if it is stringent enough (my only doubt), be to give a great impetus to the home production of meat, and ultimately, if not immediately, to increase the foreign supply also.

## SALE OF MR. HORLEY'S FLOCK AND HERD.

The fame of the late Mr. Tom Horley, jun., attracted a large number of those interested in the breeding and feeding of stock to the Fosse Farm, Radford, on Monday. Visitors were rewarded by seeing what a pitch of perfection can be reached by a skilful agriculturist in the rearing of cattle and tilling of the soil. The farm, comprising 800 acres, is the property of Mr. Williams, and had been between twenty and thirty years in the occupation of the deceased, who spared neither pains nor expense to make it a model farm. The buildings are convenient and commodious, and the land is in the highest state of cultivation, the portion under corn looking particularly clean and promising. The implements are nearly all modern. Practical men from all parts of the country visited the Fosse Farm on Monday, not so much to see how Mr. Thomas Horley used to farm his land or the implements which have marked the new era in agriculture, but "to take notes" of the celebrated Fosse flock, which, started by Mr. Horley from the Norton Caines flock twenty-seven years ago, has made the name of that gentleman a household word by the admirers of "Shropshires." For some years Mr. Horley held an annual sale, which was patronised by the most noted breeders of that class of sheep. In 1871 Mr. Horley disposed of the greater portion of his flock, reserving only some forty ewes, from which the sheep sold on Monday were bred, no expense having been spared in obtaining noted sires, and resort was, therefore, had to such fashionable strains as "The Peer," from Lord Chesham; "Commander-in-Chief" and "No. 10," 1876, from Mr. Coxon; "The Gem" and "Carbineer" from Mr. Masfen's Pendeford flock; and "Lord Aston," first prize at the Royal Society's Show at Birmingham. The flock was accordingly of great merit, and there was a keen desire to obtain such pure-bred sheep. Among the company were Lord Ernest Seymour, the Rev. T. B. Whitehurst (vicar of Radford), the Rev. G. Clark, (Vicar of Upton), Messrs. T. Horley, sen., J. Bryan (South Leigh, Oxfordshire), R. H. Masfen (Pendeford), Keeling, Ryland (Birmingham), J. B. Lythall (Birmingham), E. Lythall (Radford), E. Scriven, J. Staite, Hutton (agent to Lord Willoughby de Broke), D. Tough (manager of Lord Warwick's irrigation farm), H. Hunt, George C. Greenway, Speeier, McNicoll, R. Jacks, &c. After luncheon the sale commenced with the implements. The sheep—which were in a very healthy state—were then submitted by Messrs. John Margetts and Son, the ewes with lambs taking precedence. The ewes (including the lambs) made from £4 5s. to £6 10s. each. The in-lamb ewes fetched from £2 15s. to £4 16s. each. A grand show of ewe tegs was next sold; the highest given was £8 each for a pen of five. The rams commanded good prices, the highest figures realised being 17 guineas. The well-bred herd of Short-horned cow stock—numbering about 100 animals—were next brought into the ring, and excited a spirited competition. The in-milch barrens fetched from £18 10s. to £26 10s.; the in-calf cows from £19 10s. to £26 10s.; the down-calving cows from £24 to £30 10s.; the down-calving heifers from £13 10s. to £30; the two-year-old heifers from £28 to £34; the yearling steers from £17 to £30. Good prices were also given for rearing calves. In the course of the sale the auctioneer paid a high compliment to the judgment and experience of the founder of the flock, Mr. T. Horley, who was well known in

Birmingham as one of the warmest supporters of the exhibitions of cattle in Bingley Hall. The sale was continued on Tuesday, when the interest principally centred in the horses, all of which were of the agricultural class. The colts fetched from £30 to £70 each, and the horses from £50 to £85 each.—*Banbury Guardian*.

## CATTLE FEEDING.

Mr. Peter Love has sent us the following interesting account of certain results which he obtained by forcing calves into flesh from birth to slaughter:—

"Four years ago my engagement called upon me to provide by the most economical means farmyard manure for the requirement of a hundred-acre growth of hops.

"Having a dairy of 15 good cross-bred cows and a good pedigree Shorthorn bull, I determined to rear and fatten for sale to the butcher, at the most profitable age, 50 head per annum.

"The extra calves were bought in Aylesbury market, of the best Shorthorn type (after they had had their dams' milk for a fortnight), at 50s. per head, and I allowed our own dairy credit for the same amount, and 4d. a gallon for skim milk, of which each calf had an average of a gallon per day for 108 days. With this they had an average of 5-8ths of a lb. of equal parts pure linseed, rape, and decorticated cotton cake meal, boiled and blended with the milk; also an average of 4lb. of roots, green tares, or clover, and a pound of hay per day.

"After four months old they had a daily allowance of compound composed of one part bran, one malt dust, two rapecake, two pure linseed, and four decorticated cotton cake. The cakes were all broken fine, and the compound thoroughly mixed. Of this each calf had 1½ lb. per day, and at the beginning of each subsequent month 6½ lb. was added to the daily allowance. The allowance of roots, green tares, or clover was 7½ lb., and 2lb. of chaff, equal weight meadow hay or pea straw for each lb. of the compound given.

"The compound at that time cost 7-8ths of a penny a lb. or £8 5s. per ton; roots, &c., I charged at 12s. 6d., and the chaff at £3 15s., making the rations cost 2 1-6th pence per lb. of compound consumed. This gave data easily to calculate the cost of each animal on the day of slaughter. All were sold by weight, and I saw each weighed. The average price was 9d. per lb.

"I had an average calf sold at four months old, to find how far its carcass would meet the cost (£5). Its weight was 128lb., at 9d., equal to £4 16s. (it made 9½d.) This proved so far satisfactory as to their paying their way up to what I term the advent of their manure manufacturing career.

"The labour was 2s. 6d. per head per month, and the manurial value (according to Lawes) is 4-5ths of a penny per lb. of compound consumed; but as there was loss from imperfect shelter, &c., I deducted above twenty per cent., and only take credit for 5-8ths of a penny for each lb. of compound. The following table gives the results from twelve head slaughtered from 18 to 25 months old. Of these there

were two Sussex and one Welsh; the rest were very good common Shorthorns:—

Age.	Weight of Carcase.	Price made.	Value of Manure.	Com-pound consumed.	Total cost.	Profit.	Profit per cent. per annum on price.	Observations.
Months.	lb.	£ s. d.	£ s. d.	lb.	£ s. d.	£ s. d.		
18	666	22 14 6	4 9 0	1,707	21 19 2	5 4 4	30	Sussex steer.
19	557	20 17 9	4 1 8	1,568	20 14 1	4 5 4	37	Average of two Shorthorns.
19	462	18 9 0	3 12 2	1,286	18 1 2	4 0 0	39	Welsh steer.
19	681	23 13 3	4 17 0	1,804	22 18 10	5 11 5	29	Average of three Shorthorns.
21	732	27 9 0	5 13 8	2,240	27 3 0	5 16 8	24	Sussex heifer.
22	669	24 13 0	5 9 10	2,110	25 1 0	4 9 0	18	Shorthorn do.
23	724	27 3 4	6 9 4	2,584	29 13 9	3 13 7	15	Do. steer.
24	748	28 1 9	7 6 6	2,814	32 14 1	2 14 2	9	Do. heifer.
25	748	28 1 0	7 13 0	2,938	33 19 0	1 15 0	6	Do. steer.

“These results, as far as the feeding, are very satisfactory, and when viewed from a farmer's general stand point, price made, and value of manure per head, the longer the animal is kept the more profitable. But when treated financially all is reversed, and it is found that during the time of most active growth more meat is produced from the food consumed; but when the body gets large a large percentage of the food consumed is taken up to keep up the heat and meet the wear and tear, and the time comes when this is greater than that assimilated into flesh and fat; therefore, after this age gradually increasing daily loss begins. These circumstances are very different to those where stock are reared with healthy rough pasture, to graze inexpensively till they are at the best stage of growth to put up to fatten either on feeding pasture or artificially.”—*Irish Farmers' Gazette*.

BRITISH DAIRY FARMERS' ASSOCIATION.—Mr. Henry F. Moore, the hon. secretary of this Association, has forwarded us a copy of the design for the medal of the Association, which has been kindly given by Mr. Harrison Weir. He informs us that the delay in their preparation has been caused through waiting for the design, but the medal now

in hand, and it is hoped will in the course of a few weeks be sent to those to whom they were awarded at the last dairy show. It will be remembered that the gold medal was awarded to Mr. Nuttall, of Beeby, for his wonderful collection of Stiltons. The name of the recipient will be engraved on the white space represented by the large Parmesan cheese.

HULL AND THE FOREIGN CATTLE TRADE.—At a meeting of the Cattle Plague Committee of the Hull Corporation on Monday, a letter was read from Mr. Peel, Privy Council Office, stating that he had received the Chairman's (Mr. Leak) report on the Contagious Diseases (Animals) Bill, and he was directed to state in reply that the Lord President would give his best consideration to any amendment suggested on behalf of the Corporation of Hull on any point; but that His Grace could not hold out any hope that he would be able to agree to any provision that would fetter the discretion of the Privy Council in their consideration of the places to be used for the landing and slaughtering of foreign animals in the intended Act, or that would compel the Privy Council to continue to sanction under the Act the use of places approved for this purpose under the existing law, the requirements of which were much less stringent than those of the Act would be.—The Chairman stated that whilst the deputation to the Charity Commissioners on the subject of Ferrie's Charity were in London last week they paid an informal visit to the Privy Council Offices, with a view to obtain some opinion with respect to the rejection of the Albert Dock site for the temporary accommodation of foreign cattle. Professor Brown said the Council would not consent to licence any temporary place, and this was not approved of, because they could not thoroughly isolate it. The conversation then turned upon the suitability of Edward's place, and Professor Brown stated that if they got that as a foreign cattle depot it might be a bad thing for Hull, because if rinderpest broke out, or there was a strong outbreak of pleuro-pneumonia or foot-and-mouth disease, the Privy Council would be compelled to make an order that every person and every thing that went into the defined district should be disinfected before they came out. This was substantially what took place.—Mr. Elam expressed himself to the effect that as this was not an official interview, no notice should be taken of the opinions expressed.

DAMAGE TO CROPS BY CHEMICAL WORKS.—At the Dewsbury County Court recently, an action was brought by Rufus Mann, farmer and maltster, Thornhill, to recover from Messrs. Brown and Co., manufacturing chemists, of the same place, the sum of £7 10s. for damage done to a crop of beans belonging to the plaintiff, who was represented by Mr. J. Ibberson, defendants having the services of Mr. T. L. Chadwick. It appeared that in July last a fire took place in a pitch tank belonging to the defendants, from which dense black smoke was conveyed across a corner of the plaintiff's field of beans, and in a week or two afterwards about three roods of the crop began to appear sickly and withered away. Several witnesses deposed to these facts. For the defence it was contended that the damage was caused by the beans being grown in damp soil, and from damp caused by mildew. Amongst the witnesses for the defence were Mr. B. Crowther, chemist, Gomersal, and Mr. George Jarmain, analytical chemist, Huddersfield. His Honour was of opinion that the weight of evidence was in favour of the plaintiff, and he gave a verdict for the full amount claimed with costs.

## MIDDLE CLASS AGRICULTURAL COLLEGE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Much has been done, and is being done, for the improved education of the children of our labouring classes, and this is beyond doubt a work which is entitled to our sympathy and co-operation.

On the other hand, the wealthy classes connected with agriculture are already provided for, for the possession of the means of payment is tolerably sure to induce a supply of that which is desired. The Royal Agricultural College has done a very great work during thirty-two years of active operations in providing for these a high-class education in the sciences connected with agriculture. This institution is, however, only available for persons who are willing to expend for such a purpose about £150 a year for two or three years. Hence the sphere of its action is pretty clearly defined, and within that sphere it has gained a just repute.

But between these extreme classes we have the great bulk of the farmers of this country, who have hitherto had but little opportunity of giving their sons that education in science which they justly value. These constitute a vast and most important interest in the country, and as agricultural prosperity has been by no means general for some years past comparatively few farmers have been able to give their sons a college education, neither would they let them be educated with the children of their labourers. In fact, between the two stools they have gone to the ground. It must be admitted that of late years the establishment of the county schools has done much to remedy the difficulty, but the great bulk of the work has yet to be provided for.

The Central Chamber of Agriculture has most wisely undertaken the duty of informing the agricultural public as to the great advantages which the Council of Education has placed within the reach of the sons of the smaller farmers. At a cost not exceeding one or two pounds a year good instruction in science may be obtained by making use of the assistance recently provided by the Council of Education. I need not comment further upon this portion of the work, as I feel satisfied that the advantages offered by the Government Department of Science will now be made known, and, being known, will be largely made use of by the class who need this assistance.

A very large class of farmers who can well afford a larger expenditure for their sons have long felt the necessity for a Middle Class Agricultural College, in which their sons may receive a really high-class education in science at a cost of about £50 a year—a college to which boys from the county schools may be advanced—and in which scholarships may be held. It affords me great pleasure to inform you that this has at last been secured under circumstances which will command an early success. The Council of the University College at Aberystwith—under the presidency of the Right Hon. Lord Aberdare—

have cordially approved of a scheme which I have submitted to them for the establishment of a thoroughly good system of science instruction, suitable for persons about to enter upon agricultural pursuits. The system will not contemplate teaching farming, but it will make the pupils intelligent observers, and thereby better prepared for learning the practical duties of the farm. The College is one of the noblest buildings of its kind in the kingdom, and well worthy of the good cause it will be called upon to serve. The arrangements will be in every way satisfactory for the object in view, and are adapted for fully 100 resident students and a large number of out-students. The details of the course of instruction are now under preparation, and will shortly be placed before the agricultural public.

We may congratulate ourselves that the two missing links in agricultural education have now been provided. Many an anxious mind will be set at rest by seeing that in the race of life, which is becoming swifter and swifter day by day, every farmer will be able to secure for his sons their proper share of scientific education, and that they will be able to hold their position in society. The education of the labourer may then be looked upon with satisfaction, because the advancement by education will be equally within the command of employer and employed. The advance will be general, and in that advance all may take part.

I am, Sir, &c.,

HENRY TANNER,

March 19.

WONDERS OF THE AMERICAN CONTINENT.—The American Enquirer thus catalogues a few of the wonders of the American continent: The greatest cataract in the world is the Falls of Niagara, where the water from the great upper lakes forms a river of three-fourths of a mile in width, and then, being suddenly contracted, plunges over the rocks in two columns to the depth of 175 feet. The greatest cave in the world is the Mammoth Cave of Kentucky, where any one can make a voyage on the waters of a subterranean river, and catch fish without eyes. The greatest river in the known world is the Mississippi, 4,000 miles long. The largest valley in the world is the valley of the Mississippi. It contains 5,000,000 square miles, and is one of the most fertile regions of the globe. The greatest city park in the world is in Philadelphia. It contains over 2,700 acres. The greatest grain port in the world is Chicago. The largest lake in the world is Lake Superior, which is truly an inland sea, being 430 miles long and 1,000 feet deep. The longest railroad at present is the Pacific railroad, over 3,000 miles in length. The greatest mass of solid iron in the world is the Pilot Knob of Missouri. It is 350 feet high and two miles in circuit. The best specimen of Grecian architecture in the world is the Girard College for orphans, Philadelphia. The largest aqueduct in the world is the Croton Aqueduct, New York; its length is 40½ miles, and it cost 12,500,000 dollars. The largest deposits of anthracite coal in the world are in Pennsylvania, the mines of which supply the market with millions of tons annually, and appear to be inexhaustible.—*Chicago Factory and Farm.*

MR. J. B. LAWES ON THE ACTION OF  
NITROGENOUS MANURES.

Mr. J. B. Lawes has written the following letter to *The North British Agriculturist* :—

My attention has been directed to some remarks made by Mr. Falconer King at a discussion with the farmers of Mid-Lothian, and published in your journal of the 27th of last month. Mr. King differs from me in thinking that nitrogen is not so valuable in nitrate of soda as it is in salts of ammonia, because it is more readily washed away. He also proposes to test the drainage water from various farms, to ascertain how much nitrate of soda and sulphate of ammonia have escaped from each. As parts of my land have been growing wheat, manured with different proportions of salts of ammonia and of nitrate of soda, for the last 20 or 30 years, they present unusual facilities for such an investigation, of which Professor Voelcker and Dr. Frankland have availed themselves. The latter has determined the ammonia and nitric acid in more than 100 samples of drainage water from my land, and all these analyses agree in showing that whether salts of ammonia or nitrate of soda are applied to the soil, nitric acid, and practically no ammonia, appears in the drainage water. The proportion of nitric acid in the water was always larger where the most salts of ammonia had been applied. As large quantities of water pass into the subsoil, and beyond the reach of plants, besides what passes through the drains, it would be impossible to measure with any accuracy the relative loss of nitric acid by drainage when equal amounts of nitrogen are applied to the land in salts of ammonia or nitrate of soda. If such a measurement could be effected there would be a better chance of a successful result on my land than elsewhere, as the two substances are always applied to it in such quantities as shall give an equal amount of nitrogen; and no other nitrogenous manures have been used for a very long period.

It has recently been discovered by Schloesing that the conversion of ammonia into nitric acid is due to some low form of vegetable life; and these results have been confirmed in my laboratory. Whatever these organisms may be, they abound in all soils, and consequently the conversion of ammonia into nitric acid is sure to take place. The distinction between salts of ammonia and nitrate of soda consists in the ammonia entering into some fixed combination in the soil and being afterwards converted into nitric acid, and so passing into the drain; while nitrate of soda passes down at once. Mr. Falconer King considers that the superiority which he assigns to ammonia over nitric acid is due to this fixation of the former; and he says if we could find out some method of fixing the nitrate of soda, it would doubtless enhance the value of this manure. Is he quite sure that such would be the case? May it not be that the great activity which we prize so much in nitrate of soda is due to its solubility? and that salts of ammonia do not become active until the nitrogen is converted into nitric acid?

The four great elements of plant food—ammonia, potash, phosphoric acid, and nitric acid—are perfectly soluble in water. Let us endeavour to trace what happens when a diluted solution of these substances is poured upon the soil. Unless used in too large quantities, the three former substances enter into very insoluble compounds with the soil; nitrate of soda remains in solution, passing downwards and upwards with

every shower and every breeze of wind. The ammonia, potash, and phosphoric acid remain fixed very near the surface of the soil, and are only taken up by plants by direct contact of their roots. It appears probable that as long as ammonia remains in this fixed form it possesses no more activity than the other two substances. The organised germs, however, in a short time convert the fixed ammonia into soluble nitric acid, which, uniting with some base in the soil (generally lime), remains in solution until it is either taken up by plants or escapes into the drains or river. Schloesing found that in 20 days the ammonia in sewage, even filtered through sand, was entirely converted into nitric acid. If, therefore, the solubility of nitric acid is the cause of its activity we should, in endeavouring to fix this nitric acid, be reverting to the idea that the value of a manure depended upon its durability rather than upon its activity. The great practical question for the farmer is, how he shall convert into growth the largest amount of this soluble nitrogen. As his knowledge advances the importance of this question will force itself more and more upon his attention. Between 1 and 2 lb. of nitrogen is equivalent to that contained in a bushel of wheat and 100 lb. of straw. In our most careful experiments there is a wide difference between the nitrogen we apply to the soil and that which we recover in the crop.

The general result of the experiments here, where equivalent quantities of nitrogen in salts of ammonia and nitrate of soda have been tried for many years upon all the usual agricultural crops, has been in favour of nitrate of soda; but this may be partly due to the soda in the nitrate—for although potash is indispensable for the growth of plants, and where both these alkalis are abundant they take up but little soda, still in their growing state many plants possess the power of using soda where potash is scarce. In our pasture experiments the weight of soda taken up in the hay has in some cases exceeded that of potash. Where produce such as grass or hay is sold there appears to be a certain economy in using nitrate of soda rather than salts of ammonia; the selection, however, must in all cases be regulated by price and experience.

**CHEESE FROM POTATOES.**—A foreign journal thus describes the process of making a sort of cheese from potatoes in Thuringia and Saxony: After having collected a quantity of potatoes of good quality, giving the preference to a large, white kind, they are boiled in a caldron, and after becoming cool they are peeled and reduced to a pulp, either by means of a grater or mortar. To five pounds of this pulp, which ought to be as equal as possible, is added one pound of sour milk and the necessary quantity of salt. The whole is kneaded together, and the mixture covered up and allowed to lie for three or four days, according to the season. At the end of this time it is kneaded anew, and the cheeses are placed in little baskets, when the superfluous moisture escapes. They are then allowed to dry in the shade, and placed in layers in large vessels, where they must remain for fifteen days. The older these cheeses are the more their quality improves. Three kinds are made—the first and most common is made as detailed above; the second, with four parts of potatoes and two parts of curdled milk; the third, with two parts of potatoes and four parts of cow or ewe milk. These cheeses have this advantage over other kinds, that they do not engender worms, and keep fresh for a number of years, provided they are placed in a dry situation and in well-closed vessels.

## THE LAND AND THE PEOPLE.

The indifference of the mass of the people, and especially the inhabitants of our towns and cities, to that group of problems commonly referred to under the generic term the "Land Question," is marvellous to those who duly appreciate the vastness of the interests involved therein. Subjects of comparative insignificance, such as a proposed addition of a penny to the Income-tax, excite interest enough to turn a general election, when questions relating to what is, after all, the most important of our national industries, do not decisively affect a score of elections. Or, to take another illustration, if we compare the feeling excited by the Burials Question with that which exists in relation to Land Tenure, we might almost come to the conclusion that people care more how they are buried than how they live. Yet there have not been wanting utterances by men or note which are well calculated to strike public attention, and which, indeed, have been quoted repeatedly until from their very triteness they have ceased to attract notice. Such was the declaration of one of our most cautious Conservative statesmen, to the effect that the land of this country might be made to yield double its present produce in food; and such is Mr. Mechi's oft-repeated estimate, that if all the farmed land of the country produced as much human food as his naturally poor farm does the present quantity would be multiplied by three. Lord Derby's statement I fully endorse, and I am by no means prepared to say that Mr. Mechi's estimate is exaggerated. But a greater than Lord Derby or Mr. Mechi—one of the most sagacious politicians that England ever produced—has left on record words of eloquence and power expressive of the vast importance attached by him to the question of land tenure which are well calculated to stir up public attention upon the subject. In a speech delivered by Mr. Cobden at Rochdale, on the 23rd of November, 1864, the following passage, which has been often referred to, but seldom quoted in full, occurs:—

"If I were five-and-twenty or thirty, instead of, unhappily, twice that number of years, I would take Adam Smith in hand—I would not go beyond him, I would have no politics in it—I would take Adam Smith in hand, and I would have a League for Free Trade in Land just as we have had a League for Free Trade in Corn. You will find the same authority in Adam Smith for the one as the other; and if it only were taken up as it must be taken up to succeed, and as a political revolutionary, Radical, Chartist notion, but taken up on politico-economic grounds, the agitation would be certain to succeed; and if you can apply Free Trade to land and labour too—that is, by getting rid of those abominable restrictions in your parish settlements and the like—then, I say, the men who do that will have done for England probably more than we have been able to do by making Free Trade in Corn."

This is only one of the very many passages of like purport that are to be found amongst the collected speeches of Mr. Cobden in that valuable volume, published by Macmillan, which it is, in these times, more desirable than ever, perhaps, that his countrymen should read.

Having thus referred to Mr. Cobden and his strong opinions on questions of land tenure, it will at first appear strange when I assert that, had it not been for him and his co-workers, that collection of abominations known as the Land Laws must have been dealt with in a very drastic

manner long ago. If the Corn Laws had not been repealed a starving nation would have risen in overwhelming indignation to sweep away those legal restrictions which keep the land of the country in the hands of a few, who have neither the capital to develop its resources themselves, nor the grace to grant their tenants such security as would induce the latter to do what they themselves cannot do. Through the repeal of the Corn Laws the people have cheap bread, and this keeps them quiet, and, unhappily, render them indifferent to the enormous waste of national wealth involved in paying annually to foreign countries upwards £125,000,000 for agricultural produce that might be produced at home—to say nothing of such estimates as that of Mr. Mechi, to the effect that if the United Kingdom were one vast Tiptree Hall Farm the produce would be increased to the enormous extent of £421,000,000.

But if bread is cheap, meat is not, and there is no kind of agricultural produce the increase of which depends so materially upon the amount of capital invested in farming as that of meat. Just now much public interest is excited in relation to a Bill which proposes to enact restrictions which it is supposed will reduce our supply of foreign cattle. I will not go into that question—upon which I am entirely with the Government, as far as they go—and I only allude to it in order to remark that our meat supply would be increased to an immensely greater extent by such reforms of our system of land tenure as would attract capital to the land, than it would if our ports were opened to the unrestricted importation of cattle and sheep from all countries, even if these foreign animals did not—as I am convinced they do now—in effect, destroy and prevent the production of more meat than they bring.

Why are not such considerations as these more frequently brought before the public by our Liberal leaders? I am very much afraid that in too many instances it is self-interest—imaginary self-interest, that is—that stops their mouths. A majority of our legislators, even Liberals, are landowners, and most of those who are not are related to, or friendly with, those who are, and who have influence over them. Thus even the professed followers of Cobden hung back from the crusade to which, in the eloquent words above quoted, he incited them. After a visit to Lord Broadlands, on whose estate they found more game than corn or stock, they do not like to suggest that it would be better if their noble friend had fewer acres, and that the laws which render it directly contrary to his own interests to improve what he kept should be done away with. Still less, as they have probably been shooting, can they point out the evils of game preservation. Depend upon it, until a very different set of men from those who are there now are sent to the House of Commons we shall not have an effectual reform of our abominable Land Laws.

How, then, are the people to be roused to a due appreciation of the great importance of land tenure reform? If their leaders in Parliament will not lead them on this question, who shall? I say that the Press might, could, and ought to lead them. But, apart from a few journals which can almost be counted on one's fingers, what has the Press of this country done to promote land tenure reform? "Present company excepted," what have the great London dailies done? I say that this great question has been disgracefully neglected by the Liberal Press.

In relation to the greatest of all reforms now needed in the interest of this country, then, we are in this quandary—the Conservatives are traditionally against it; the bulk of the recognised Liberal leaders are averse from, or fearful of, touching it; the Press, as a rule, neglects it; the farmers, many of whom are strongly in favour of it, are afraid to meddle with it; and the people of the towns care nothing about it. Unless the Press wakes to a sense of its duty in relation to the question, the townspeople are not likely to be moved from their indifference, and the only hope will be in the acquisition of the franchise by the farm labourers. Not that I think—for I wish to be frank and honest in all my arguments—that the majority of the labourers know or care much about the Land Question. They do not care because they do not know. But their leaders both know and care, and they have no expectations from Lord Broughlands.

Since I wrote the article which appeared in these columns on Thursday last a copy of that excellent paper, *The Financial Reformer*, has been sent to me, and I am pleased to see that, in earnest and persuasive language, it points out to the Liberal party the necessity of engaging in that work which I complained of it for neglecting. In an article entitled "Work for English Liberals," after urging the revival of the earnestness and energy of former times throughout the field of politics at large, the writer proceeds thus:—"It is, however, towards the counties that it is our desire to direct the attention of the Liberal party. The Tories have long claimed to be the farmers' friends, but their advent to power has been the signal for their abandonment of every promise by means of which their support had been obtained. The Malt Tax is no grievance so long as the Tories are in power; the promised relief in the matter of local taxation turns out to be the veriest delusion that was ever palmed off upon confiding supporters; the great evils of local administration are yet untouched; and a mockery of security has been given for capital invested in the pursuit of agriculture, while not the slightest attempt is made to check the destruction of tenants' crops by landlords' game. . . . If English Liberals have the courage to take up these questions in a manner worthy of the historic fame of the Party to which they are proud to belong we are convinced that a great future is before them, and that they may recover their lost ascendancy in the English constituencies." In another article, in reply to a critic who has questioned the possibility of doubling our agricultural production, the same journal says:—"The statement that the produce of the land might be doubled has not been made haphazard, but in the deliberate conviction of competent authorities upon the question, and has been endorsed by no less a person than the present Earl of Derby. Has 'J. J. K.' never heard of extensive waste lands yet needing reclamation in England, Scotland, and Ireland; of tenants' crops nearly wholly destroyed by landlords' game; of encumbered estates, the owners of which cannot effect improvements themselves, and will not enable their tenants to do so; and of vast districts in Scotland that have been cleared of an industrious peasantry in order to make room for deer and grouse? . . . That the application of capital to the cultivation of the soil is discouraged by the present monopoly cannot for a moment be doubted, for who will freely embark his capital in any pursuit if the chief benefit of the investment is to be enjoyed by another? Millions have been invested in foreign loans, a very great portion of which is lost, while the capabilities of our own soil are imperfectly de-

veloped, the number of people employed in its cultivation diminished, and the growth of a steady and remunerative home market for our manufactures is prevented. In the complete reform of our Land Laws the manufacturing, mercantile, and industrial community have an object of vast importance, far more deserving of attention than the pursuit of a specious phantom (Reciprocity), which will only land them in mortification, disappointment, and regret."

This is the kind of propaganda that should be general, instead of so exceptional as to call for remark and quotation, in the Liberal Press. There is not the slightest exaggeration in the estimate that our land might—and would, if capital were liberally and judiciously expended on it—produce at least double the amount of its present yield of food for the people, and that without any recourse to the waste lands of the country. I have known the annual returns of a farm held on lease to be more than double for several years in the middle of the term what they were in the first few years; and then dwindle down to the low amount again as the lease approached its conclusion, without any prospect of renewal. I know of adjoining farms on one of which I am certain quite twice as much corn and meat is produced as there is on the other. My attention has been called to game-farms on which not more than half the produce is obtained that would be secured through the absence of the game alone. There are even farms on which the production of meat alone is equal to the gross return per acre of other farms equal in natural fertility. No doubt I shall be asked why, if such great results can be attained, in exceptional instances, under our existing system of land tenure, they cannot be secured in all cases—excepting on game farms, which every one must allow to be incapable of such large produce—without any alteration in the Land Laws? To that question I will reply presently. Just now I am concerned in showing that it is no mere enthusiast's dream that the farmed land of the country could produce double its present amount of food, and in urging that, therefore, it is of the most vital interest to our non-agricultural classes that their attention should be turned to the development of the resources of the soil. What is the chief cause of the commercial depression that prevails in nearly every branch of our manufacturing and commercial industries? Some say it is over-production; others, that it is trade-unionism; a third party, that it is the war; a fourth, that it is the extravagance of the people generally; and others, that it is want of confidence in a Conservative Government. For some of these alleged reasons for the general depression there is probably much to be said, while the rest are on the face of them absurd. In my opinion, the whole of those of them which may be accepted as partial causes of the present distress, taken together, have not produced a tenth part of the effect that may be attributed to three bad harvests in succession. The bad effect of one bad harvest is almost incalculable, and when three come together it is impossible to form anything approaching to a trustworthy estimate of the loss to the nation. All the people lose by the extra outlay of many millions of pounds for foreign food, and there is consequently less money to be spent by the home customers of our manufacturers and tradesmen. The farmers have to economise in all branches of their expenditure, and the thousands of tradesmen, manufacturers, and others who depend wholly or partially upon the custom of farmers have to follow suit. But the farmers not only keep from spending; they cannot pay their debts. The tradesmen, in their turn, require prolonged

credit from the manufacturers and merchants, and refrain from ordering fresh goods in their usual quantities. The manufacturers next get short of money, find their goods unsaleable, and have to discharge some of their hands, or put the whole on half-time, sometimes reducing wages as well. Then the men have less to spend, and the tradesmen they deal with also, in turn; and so the beggar-my-neighbour process goes on, till all classes of the nation are more or less seriously affected by the result of a series of bad harvests. I need not stop to point out how the mischief caused by deficient crops has been increased by the diminution of our meat produce, caused almost entirely, I believe, by the losses and the fear of loss attributable to the prevalence of cattle disease. It is enough to declare the conviction that the general depression of our industries and commerce is chiefly due to bad harvests of corn and meat together.

But how does all this bear upon the question discussed in these articles? Obviously thus: comparatively speaking, *bad harvests of corn and meat are perpetual, and not merely exceptional, with us, because of our impoverishing system of land tenure.*

Here an objector will probably ask me, in addition to the question before referred to, why I attribute a permanently comparative short supply of home-grown meat to a bad system of land tenure, when I have just before charged the diminution of our live stock to the loss and fear of loss caused by cattle disease. The reply is simple enough. As our land system has certainly not changed for the worse during the last few years it would be unreasonable to charge against it the recent falling-off in the numbers of our live stock. Apart from the effects of cattle disease I know of no reason why those numbers should not have kept up to their former level, unless it is the loss of the farmers' capital through bad crops; and that is insufficient to account for the deficiency, because our breeders, as a rule, depend to a small extent only on cereal produce. But when we come to consider the smallness of our meat production compared with what it might be, and apart from what may be termed the accident of cattle disease, we are brought face to face with that lamentable divorce of capital from the soil to which all sound and honest thinkers who understand the question attribute what I have called our perpetual bad harvests of corn and meat. My reply to the question why, if on certain farms a unsatisfactory amount of produce is forthcoming under our existing system of land tenure, it cannot be expected on all without a change in our Land Laws, must be reserved for my next article.

A FREE FARMER.

**ANOTHER INDUSTRY FOR INDIA.**—Not very many years ago the idea of any large proportion of our tea supplies ever coming from India was ridiculed as chimerical. As for the chincona plantations they were generally regarded by Anglo-Indians as experiments foredoomed to failure. In spite of these pessimist predictions England is now receiving about 25,000,000 pounds of tea annually from her great dependency, while chincona cultivation is recognised as a perfect success. Looking at these antecedents, it would be rash to say that *The Examiner* may not prove right when prophesying equally good results from the growth of tobacco in India. As regards soil and climate, little seems needed to make the industry succeed in carefully-selected districts. Already, some finely-flavoured sorts are grown in Madras and Burmah from Virginia seed. The "Lunka" is a very fair cheroot, so far as the mere material

goes, and the same may be asserted of some special brands from Trichinopoly. Of course, a great deal depends upon the care bestowed upon the growth and manufacture. As a general rule, the object of the cultivators seems to be to produce a large quantity at a low price, irrespective of quality. But here and there a wiser system prevails, and cheroots are turned out which would sell readily in England at a fair price but for the roughness of their manufacture. The chances generally are that at least half of every bundle of "Lunkas," or "Trichies," will have to be thrown away, owing to the impossibility of making them "draw." Instead of rolling the leaf tenderly and carefully after the manner of the Manilla manipulator, the Burmese and Hindostan workpeople squeeze the material into some sort of shape by main force. The consequence is, of course, the formation of lumps inside, which prevent the free passage of smoke. Our contemporary acknowledges the existence of this evil, but believes it might be surmounted by the importation of skilled hands from America and the Manillas, to act as teachers and superintendents. Perhaps this might effect a partial cure in time, but we doubt whether much will be done towards inducing the world to consume Indian tobacco until the industry be taken in hand by British enterprise. As it seems to present a very promising opening for the employment of some of our superfluous capital, we expect to witness a considerable improvement in the methods of cultivation and of manufacture before many years elapse.—*Globe.*

**LANDED ESTATES COURT.**—A return has been issued of all fee simple land, subject only to quit and tithe rent-charge, exposed for sale or sold in the Landed Estates Court, Ireland, in the years ending the 31st of October, 1875 and 1876. The return gives, in the case of each estate, the county, the name of the estate, the acreage of each lot, the net rental or annual value of each lot, the date or dates on which exposed for sale, the date of sale, and the amount of purchase money. It also shows to what portion of each lot the purchaser would be entitled to immediate possession. The following is a summary of the return: In the province of Ulster the gross annual profit rent for the years 1875-6 was £9,455 15s. 6d., and the gross purchase money £319,719 13s. 4d. For Munster the annual profit rent for the two years was £9,693 10s. 5d., and the purchase money £201,800 13s. 4d. The profit rent for the same period in the province of Leinster was £21,532 14s. 1d., and the purchase money £488,746 16s.; while in Connaught the gross annual profit rent was £11,962 9s. 7d., and gross purchase money £262,874 7s. 1d. The average number of years' purchase in the four provinces is as follows: Ulster, 23.23; Munster 20.82; Leinster, 22.69; Connaught, 21.97.

**AVERAGE PERIOD OF GESTATION.**—The *American National Live Stock Journal* publishes the following table, showing the average period of gestation of the various kinds of farm stock, which will be found very convenient for reference. Mares vary considerably from the average period, and the same is true, but in a less degree, with cows; but as we approach the smaller animals and shorter periods the variation constantly grows less:—

GESTATION.		INCUBATION.	
	Days.		Days.
Mare ...	336	Goose ...	30
Cow ...	280	Turkey ...	28
Ewe ...	154	Peafowl ...	28
Goat ...	153	Duck ...	28
Sow ...	112	Chicken ...	21
Bitch ...	60	Pigeon ...	18
Rabbit ...	30	Canary ...	13



## FARMERS' CLUBS.

## NEWCASTLE.

At the last meeting of this Club Mr. HALL read a paper on "The Use of Artificial Food," in which he recommended its use as profitable to the grazier. To the majority of our readers such an argument hardly needs repeating, and we can only find space for the following remarks, chiefly relating to the manurial value of certain feeding stuffs:—

In order to ascertain as nearly as possible the relative values of these manures, I had specimens of each analysed by the excellent analyst to this Club, Mr. Pattinson. This gentleman sent me a very exact and, I should say, very accurate analysis. He found that the dung of cattle fed on grass alone contained—water, 89·15 per cent.; organic matter, 8·61; ash, 2·24; whilst the dung of cattle fed on grass, and supplemented with about 5lb. of linseed cake, cotton cake, and pea-meal mixed, contained—water, 87·34 per cent.; organic matter, 9·42; ash, 3·24; or 1·81 per cent. less water, 81 per cent. more organic matter, 1 per cent. more ash than the dung of the wholly grass fed ones. The organic matter in the dung of the unsupplemented ones contained—nitrogen, 0·30 per cent., equal to ammonia 0·36; while in the dung of the supplemented ones it contained—nitrogen, 0·37, equal to ammonia 0·45. The ash in the dung of the unsupplemented ones contained—potash, 0·15; phosphoric acid, 0·28. In the dung of the supplemented ones it contained—potash, 0·12, or rather less than the other; phosphoric acid, 0·40, or nearly double the other; equal to tribasic phosphate of lime in each respectively 0·61 and 0·87; whilst the siliceous matter in each amounted respectively to 1·14 and 2 per cent. It is clear from this analysis that the fertilising agents, ammonia and phosphate of lime, are much more strongly represented in the dung of cake-fed cattle than in that of purely grass-fed ones. Phosphate of lime is especially present in greater quantity. Any one who has noticed the effects of artificial feeding on grass must have observed that the pasture bears a marked change; in fact, no one seems to doubt this. I am convinced that after caking cattle upon land for several years consecutively the manurial value becomes barely appreciable. Having noticed this for some time, I this year caused a very small quantity of nitrate of soda to be sown on a place where the cake-troughs had been standing. I assure you, gentlemen, that the effect of this was marvellous. The grass grew up with such freshness and vigour as I have never seen equalled by any top-dressing. The droppings of cake-fed cattle cause a great change on the grasses of our pastures, having much the same effect as a top-dressing with bones; although I observe this difference: that whereas bones cause clover to grow in great abundance, the droppings of artificially-fed cattle have a tendency to develop other grasses, such as cocksfoot. I firmly believe, also, that cattle and sheep fatten much more quickly on pastures where cake has been consumed, or which have been top-dressed with bones or nitrate, as their food by that means is much more highly nitrigenised. To say that the use of artificial feeding stuffs is at all times remunerative would be simply absurd, for there can be no doubt that there are very many cases in which they do not pay. In fact, to make them pay much care and calculation

must be exercised. I believe that it is not profitable to begin to give cake to very lean cattle on grass, nor almost under any circumstances to continue its use for a lengthened period; for we must ever keep the fact before us that it is a very expensive business. I fancy that artificial feeding pays best when a farmer has a lot of cattle in very good condition, and wishes to have them fat as quickly as possible. It not unfrequently happens, also, that certain fields will make cattle nearly fat, but not of sufficient quality to command the best price. In a case of this kind a little cake for about eight weeks, to finish them, as it is called, will almost invariably pay extremely well. I think it is a good plan to use cake in certain fields, always having in these fields cattle in good condition; and, as they become fat and get disposed of, to put in their places cattle from other fields where cake has not been used. These again are finished, and their places taken a before. Thus the farmer works his cattle away, always bringing them forward to better keep.

## PENRITH.

A meeting of the members of the Penrith Farmers Club was held in the club-room on Tuesday, Feb. 19th, Mr. WILLIAM HESKETT, of Plumpton Hall, in the chair.

Dr. MONTGOMERY delivered a lecture on "The Adulteration of Feeding Stuffs and Manures," which he said was one of the most important questions the farmer had to consider, because he believed that the adulteration of both these articles had been very extensively practised in this country and also in all other countries in which farming is in so advanced a state that they are largely used. By frauds of this kind the farmer who suffers by them at all suffers very grievously. He pays for what he purchases far more than it is worth; and when he has expended £100 he has received what is not worth probably more than £50, perhaps only £30, or it may be much less—in some cases next to nothing at all—for such cases have come to light, and even cases of the purchase of feeding-stuffs that had better have been thrown on the dung-hill immediately on their being brought home, as when given to animals they have produced injurious effects, and death have occurred among stock previously healthy and thriving. It is pleasant to know that many of the farmers of England and Scotland are now pretty thoroughly alive to the dangers of heavy loss through having adulterated manures and feeding-stuffs palmed upon them by scoundrelly manufacturers and merchants. This is no doubt owing to the praiseworthy exertions of some of the agricultural Societies and the exposures which they have made—the Royal Society being most active in this respect. Even where there has been no adulteration it is quite possible for an article to be far from pure; and it concerns the farmer to see to the actual purity of the article which he purchases. In going into the details, the lecturer said that he had seen a statement where it was said that in some of the Peruvian Islands rocks are actually quarried to furnish sand for mixing with guano, so that a farmer ought to see when he buys what he calls guano he does not pay for sand. It has also been found that there is as much as 24 to 26 per cent. of water in the guano from the Guanape and Macabi Islands,

from which most of the Peruvian guano now imported comes. After dwelling at some length on this subject, the lecturer dealt with the question of artificial manures made from phosphate minerals. Of phosphatic minerals Dr. Voelcker says, in the *Journal* of the Royal Society of England for 1875: "The percentage of phosphate of lime alone is not the sole measure of their commercial value; and it not unfrequently happens that a phosphate having a lower percentage of lime nevertheless is worth more, weight by weight, than another kind richer in phosphate of lime, for whilst some impurities, for instance, quartz, rock, and insoluble silicious matter, do not consume any sulphuric acid, others, like carbonate of lime, neutralise and render ineffectual a portion of the acid which is employed in the manufacture of superphosphates for rendering the phosphates soluble." The best superphosphate of lime is guaranteed to contain 28 per cent. of phosphates, but the article sold under this name, and with this guarantee, has been found to contain only 19½ per cent. of soluble phosphates, which alone are of any value, and merely a trace of ammonia. He warned farmers against buying a dark-brown coloured sulphate of ammonia obtained in the purification of coal-gas, which soon finds its way into the market. Bone-dust and bone-meal are deservedly held in high esteem as manures. Dissolved bones ought to consist entirely of bone-dust treated with sulphuric acid; but owing to the insufficient supply of bones this excellent manure cannot be manufactured in quantity sufficiently adequate to the demand for it; and much that is sold under the name of dissolved bones is made from mixtures of mineral superphosphates with small quantities of bone-dust. What is sold as dissolved bones rarely contains more than 20 per cent. of bone-dust, and often as little as 10 or 12 per cent. There was no manure safer to buy without an analysis than bone-dust, but it was sometimes too damp, and this adds to its price. Raw bones were mixed with boiled bones, and the mixture was less valuable than bone-dust made wholly from raw bones. The bone-dust made from boiled bones is more energetic in its immediate effects on vegetation than that made from raw bones, but its effects were not so lasting. It is very suitable for grass-lands, but not for most of the purposes for which a farmer buys bone-dust. Boiled bones yield only 1¾ to 2 per cent. of ammonia, whilst fresh bones yield fully 4½ per cent. The lecturer, in a comprehensive and interesting address, dealt with the whole subject, and concluded with the following remarks:—Too great care cannot be taken to buy no cake of any kind that is not quite fresh. Cake that has become heated, although it may not yet have become mouldy, is certainly unwholesome. Dr. Voelcker speaks of having two samples of linseed and other cakes sent to him as having caused sickness and death among animals fed by them, in which he could detect nothing wrong except that. But that was enough, even though the cake may have been but slightly heated.

#### TUNBRIDGE WELLS.

At a meeting of the Tunbridge Wells Farmers' Club, held at the Great Hall Restaurant, on Friday, Feb. 15th, Mr. T. Batcheler, President, in the chair, Mr. D. H. Hutchence, of Well Place Farm, Penshurst, read a very interesting paper on the "Breeding and Rearing of Stock."

In the first instance the lecturer said his topic would be cattle, and as there were many varieties, Shorthorns, Herefords, Devons, Sussex, Alderneys, &c., he should confine him-

self more particularly to Shorthorns—were they generally considered equally profitable for dairy purposes and the butcher? Judging from his own experience, both in Yorkshire and Kent, he should say they were. He did not infer that pedigree cows answered so well for dairy purposes. On the contrary they would not. Still he found that one cross did not tend to lessen the quantity of milk which a cow would give; yet he felt convinced it very much enhanced the value of stock—he meant by adding weight and symmetry to an animal. During the last four years he had adopted the method of keeping a pure-bred bull, and he had proved the importance of using means to improve the blood. His object was simply that by having two or three crosses he could procure a larger beast, and it would fatten at much less cost than a cross-bred inferior animal. He believed there were many agriculturists who strongly objected to dairy farming, because in the first place it entailed a greater amount of labour and an increased risk of infectious diseases; also that it was impossible for a cow to produce both milk and beef. His idea was that a good Shorthorn, crossed with pure blood, was not only suited for milk but also for beef. The principal features to be noticed in a good milch cow were a compact frame, thin neck, fine chap and cheekbones. She should also possess an amount of secreting powers that would enable her to supply continually for any length of time a large quantity of milk. What was wanted was a beast that would give a large amount of milk and beef from a relative supply of food.

In the last report of the American Dairymen's Association comparisons were made, the deduction being that the same amount of food produced twice the result when fed to a milch cow as when given to a steer for beef. At present he had some heifers 15 months old, bred from pure blood on the sire side, and compared with some others he had bought, though kept on the same food, the former were quite 25 per cent. superior to the others.

In the present day farmers had many difficulties to contend with, the rinderpest, the foot-and-mouth disease, and especially the importation of live and dead stock from America and the colonies. This was both interesting and important to home producers, and needed some little consideration. He noticed that the cost to bring dead meat across the Atlantic was but a fraction over one penny per pound, and the charge for a living animal rather more than three pence per pound. The importations last week to Liverpool were about 390 tons and 300 carcasses; yet to make any material alteration in our markets there must be larger imports. Supposing the Americans could place their meat in our markets at two pence per pound below our English prices, the supply and demand would cause an actual falling in price of only one halfpenny per pound if one-fourth of the total was forthcoming from that source. The Duke of Richmond, in the Cattle Plague Bill, had asserted that in order to make home restrictions bearable he thought it absolutely necessary to decree that all foreign cattle should be slaughtered at the port of debarkation, and accordingly provisions to that end had been inserted in the Bill. Should the Bill become law farmers should not be afraid to increase their stock by using the best means known to procure an animal that would be certain to command a buyer in any market. He was glad that many of his neighbours in adjoining parishes had taken a deep interest in breeding from a pedigree sire of late years, and had turned out at two years old beasts ready for the butcher which were a credit to themselves, and in some measure at

remunerative prices, even with stall fattening, which was not generally considered the most profitable way to produce beef.

Next he referred to breeding of horses. In the first place he would ask, Was it profitable for tenant farmers to breed? and if so, What class of horse was likely to prove to him a financial success? On this point he thought all would agree that it was a good draught horse. He remembered the advice of an experienced farmer in reference to breeding. Nothing pays so well as a good cart horse, and as a rule nothing would lose so much money as a nag. He should recommend the Clydesdale in preference to any breed for agricultural purposes. For instance, in the North the farmers generally bred from the best blood that could possibly be found, and as an inducement to horse proprietors valuable prizes were offered on condition that the winner should travel in the district the following season, at a given price, foal or no foal. Of late years the pure Clydesdale had been the first favourite, and a decided improvement had been made in the stock of agricultural horses, which had realised high prices. During the last season he knew of 60 guineas being refused for a sacking colt, and £120 for one eighteen months old, both by the same horse, who earned in one season £300 and was after-

wards sold for £600. He was no advocate for extremely large or heavy horses for farm work. On the contrary he considered they had many disadvantages; they were generally not so active and would not answer so well on the land in a wet season. Again in cultivating breeding they must not only aim at pleasing themselves, but study to produce an animal that would command a customer at any time. In the latter case they must have size and strength for town work. Another point he wished to impress upon his hearers was the great necessity of allowing young horses plenty of room in a good yard, thus to enable them to have an ample supply of fresh air and exercise. He had known several instances of serious loss to those who had kept yearling colts in small confined boxes. In this particular department of the farming business it required the greatest care and sound practical judgment, which if judiciously applied would amply repay the breeder. Their motto should be to produce the best possible animal in the least possible time.

A discussion followed, in which Mr. Roper, Mr. Pain, Mr. Tobitt, Mr. J. Noakes, and Mr. Williams took part, all agreeing generally with Mr. Hutchence, to whom a vote of thanks was passed.

### THE ANALYSIS OF MILK, BUTTER, AND ARTIFICIAL MANURES.

At a meeting of the Botley and South Hants Farmers' Club, on Monday, February 18, the President, Mr. W. Warner, in the chair,

Mr. ARTHUR ANGELL, the county analyst, introduced the above subject for discussion.

The question which naturally crosses the mind of every man who is practically acquainted with the management of cows and dairy produce is how can it be possible for the chemist or any one else to declare a standard for natural milk? How can there be anything like uniformity in any part of the composition of a fluid which is sometimes naturally rich and at other times naturally poor; and when the surrounding circumstances, such as breed, kind and quantity of food, time before or after calving, have such a marked influence upon the quality and quantity of the milk of the cow, I say that this question naturally, and in my opinion very reasonably, enters into the minds of many who from long familiarity with all to do with the production of milk feel themselves justified in possessing and holding very tenaciously to the opinion that the composition of cows' milk must be so variable as to render it a seriously hazardous and uncertain matter for the analyst to fix a standard of strength for natural milk, and to declare all milk falling below that standard to be adulterated. It is with no feeling of combativeness that I venture to lay before the members of this Club to-day the arguments and reasons, both theoretical and practical, why the analyst declares that it is an easy and certain matter, within known limits, to state whether to a given sample of milk water has or has not been added. The one great aim of Nature amongst both animals and vegetables appears to be made to insure their multiplication and to maintain the integrity of the various species. She endows every one of her creatures, from the highest form of animals to the lowest of vegetables, with natural instincts and desires, the only aim of which appears to be the production and preservation of healthy offspring like unto its parents, and this law, under favourable circumstances, and unmolested by, as it were, outside influences, never fails to continue the

race in all its beauty and perfection. If we admit this law, and recognise its absolute wisdom, we must also see that any infringement of it must be met with dire calamity. Let us reason this out by regarding one or two instances of the slow but certain degeneration brought about by the artificial culture of our most valuable natural production. Take, for example, the potato and the sheep. I think that none of you will deny that the former is more difficult to grow without being attacked by disease, and the latter much more difficult to breed without loss of both ewes and lambs than used to be the case. Looking at both these instances of degeneration from the standpoint we have now taken up, namely, a contemplation of the working of specific integrity, to be logical we must arrive at the conclusion that some foreign and disturbing cause is at work to produce such a result. Man, when he first found out that the tubers of the potato were good to eat, naturally enough selected those plants for further cultivation which yielded the largest crop of those tubers. This has been, of course, the tendency with all those who have since grown potatoes. This artificial selection has always been governed by the same desire—that is the production of the best, the largest, and the most tubers. But see how cruelly, and with what a rough hand, we have all the while been breaking the fundamental law which governs, guides, and controls the reproduction of species. The potato plant, as you know, bears flowers, and these flowers are marvellous arrangements wherein the pollen of the male organ is made to impregnate the ovary of the female, and by this natural and beautiful means the plant is made to produce fruit after its kind. This legitimate fruit, or true seed, has, however, been entirely neglected, and in this country for some 250 years potatoes have been reproduced from tubers, without even an occasional revivification by the use of the sexual faculties of the plant. Thus the law is broken; a penalty must be paid; the naturally weakened plant is on its way to ruin; Nature's great scavenger—the fungi—have it in their possession, and sooner or later, if the present course be pursued, it will be completely destroyed, and man will have to go back to its native woods to find a true and natural potato plant, cou-

stitutionally strong, possessing and using all its faculties, and therefore able to withstand the attacks of disease. Amongst sheep we have been breeding mutton and wool—butcher's sheep, not Nature's sheep. Too much pains has been taken to get flesh and wool at the cost of constitutional strength and breeding properties. What man calls high breeding Nature calls low breeding, and if we will have sheep with fat fleshy limbs and small bones we shall have Nature to fight against, and she, good as a friend, is very dangerous as an opponent. I give these two instances of the effects resulting from the infringement in order to prove the existence of this law, and when we admit that Nature's supreme effort, her most glorious triumph, is the reproduction of species, and the multiplication of animals and vegetables upon the face of the earth, we should reasonably expect that that secretion, that typical food—milk—with which she nourishes the young of the most delicately organised animals, should be constant in its nutritive properties, and unliable to such fluctuations in its chemical composition as would cause the offspring to suffer. If we had no practical experience, and knew nothing by experiments, we should by theory alone arrive at the conclusion that milk is or ought to be of constant composition. We will now see how far these reasonings, rendered potent by analogy, and by their agreement with the general tendencies of the laws of Nature, are borne out by the chemical composition of milk as demonstrated by actual analysis.

Milk is a watery solution of a nitrogenous substance called casein, or curd, of sugar, and mineral matter, including salt and phosphates. This solution holds a certain quantity of fat in suspension, in the form of minute globules. Now, if the casein was to fall short the calf would cease to derive true nutrition from the milk, that which breeds up muscle and nerve. The milk sugar is important as a carbon by water, from which heat and power are obtained. The butter is easily assimilated as fat, and the salts, or mineral matters, are all important as bone producers. Now the fat or butter is the substance which may vary most with the least effect upon the young animal, and this is actually the most variable constituent of cow's milk. When the fat is removed from milk we get a watery solution of curd, sugar, and saline matter. Now, if the water be evaporated off we get left the dry solids of the milk, minus the fat, in fact, all the dry matter which has been in solution, for the fat is not now in solution, and therefore does not intimately form a part of the milk. In practice it is found easier to first evaporate the whole milk with its cream, and then to remove the fat from the dry residue with suitable solvents. We then get the solids, not fat, left behind. Now, these solids, not fat, are found to vary only within very narrow limits in all cow's milk, whether from the small wild creatures of the himalagons or from the highly-fed stall-kept animals of the London dairies. This is chosen as the datum upon which the present method of milk analysis is based, and forms the factor from which adulteration with water is calculated. It would be exceedingly wearisome to wade through the results of all those who have been of late years working upon milk analyses, but it is well that you should know that many hundreds of analyses of milk, from all kinds of cows, and under varying circumstances of feeding, climate, &c., were made, both in this and other countries, before the Society of Public Analysts ventured to fix a standard for genuine milk, and that since that time thousands of samples purchased under the provisions of the Food Act have been submitted to the same test and, perhaps, the most satisfactory proof of the

correctness and fairness of the standard is given in the gradual but pretty general, and in some instances very marked, improvement in the quality of milk supplied to the British public. If any mistake has been made it is that over-anxiety to do injustice to no man has caused the standard to be placed too low, and I think it is likely that shortly it will be found expedient to raise it a little. The standard at present in use is that milk shall contain not less than 9 per cent. by weight of milk solids, not fat, and not less than 2.5 per cent. of butter fat. In short terms, all wholesome cow's milk is chemically alike, or varies only within narrow limits, and the only difference between rich and poor milk is that the one holds more fat in suspension than the other. It is because the fat is not in solution that it rises to the top as cream, and that is why the strippings are so rich, and why the calf keeps continually butting its head against the udder so as to keep the milk within in a state of agitation, and to prevent the cream from rising.

Now, gentlemen, I have endeavoured, as well as I could in such limited time, to show that the milk inquiry has been carefully and exhaustively worked out, and that the members of the Society of Public Analysts, being masters of the facts, were safe and justified in fixing a standard below which milk shall not be exposed for sale. The public analyst has had to wade through this question, and to fight battles, not bloody, but milky, not as partisans, but as all honest scientists should—namely, to arrive at the truth, and in this case they believe that they have succeeded in doing so. Soon after the Adulteration Acts were put into operation it was found that a method for the detection of foreign fats when mixed with butter was badly wanted. At the time I refer to, about five years ago, even prepared fats containing no butter could not be chemically distinguished from genuine butter. In consequence of this want great difference of opinion arose, and a pretty general confusion followed. Butter was fought shy of by the analytical chemists, and an enormous quantity of cleansed fat from bone-boilers and marine store dealers found its way into the market, and was sold to the consumer as butter. Now, these mixtures are generally so thoroughly cleansed and so carefully prepared that as articles of diet they are certainly less injurious than bad rancid butter, even if it be the produce of the dairy and not of the marine stores. These factitious butters, therefore, should be recognised as fit for food but must not be sold at the price of and as butter. Besides the admixture of foreign fats butter is sometimes loaded with water to an incredible extent, and forms a very important part of the weight of the sample. I have frequently met with 15 to 20 per cent. of water, and once found a butter with 42 per cent. Now, water at 1s. 6d. per pound is rather dear. Mr. Otto Hehner and myself, whilst working in Dr. Hassall's laboratory in 1872, frequently felt the want of a method of butter analysis, and soon we determined that it was a subject worthy of consideration. We commenced a series of experiments for the purpose, if possible, of finding out some feature in the chemical composition of butter which was different from that of any other fat. After many failures our labours were rewarded, and we found that in butter there was a larger percentage of certain volatile or soluble acids than in any other known fat. Perhaps no analytical process has met with more opposition on the one hand, and such cordial favour on the other, as has this. The opposition came at first from certain witnesses, who having expressed their opinion before the House of Commons' Committee that it was impossible to

distinguish by chemical or any other means foreign fat when mixed with butter, have since considered it dignified, if neither graceful nor truthful, to adhere to their first statement. In spite, and, perhaps, partly in consequence, of this spirit of opposition which was thrown into the controversy, no subject has of late been so thoroughly canvassed, sifted, and examined amongst analysts, both in this country and abroad as butter analysis. Fortunately for the public and the producers of honest butter, and unfortunately for those who manufacture and trade in "bosh," it is now placed upon a firm basis, and when the Leipsic University awarded us a prize which was competed for by chemists of various nations all opposition may have said to have been overruled. In the early part of the year 1876 I examined officially 54 samples of butter, and found 21 or 25 per cent. to be adulterated with foreign fat, or excess of water, or both, and I now find it quite exceptional to meet with a single sample of adulterated butter. No doubt much less of it is sold in the parts of Hampshire protected by the "Sale of Food and Drugs Act."

Mr. Augell then quoted from his "Butter Book" in order to show the constituents, &c., of butter, and proceeded as follows:—The remaining part of my paper relates to another set of articles in which the cultivators of land are deeply interested. I refer to artificial manures, and more particularly to the so-called superphosphates and to guanos. Manures are, of course, plant foods, and just as with animals, that is the most valuable food which contains the largest quantity of the substances of which their bodies are built, and those in a condition most easily assimilated by the creature which eats them. So amongst manures, the most valuable is that which contains the largest percentage of certain nutritive principles in a soluble and easily-accumulated form. Theoretically a perfect manure should contain every constituent of the plant it is meant to feed. So it would be practically if the plant was to be grown upon a soil containing nothing which it could take up. There is, however, in cultivated soils a certain quantity of silica, soda, potash, and lime, so that we need not generally put them into our manures. It has been found out by experience that the food which plants most need, and which in the most part can be returned to them only through the agency of animals either directly or indirectly, are nitrogen and phosphoric acid, and these are found in all animals and excrementitious matter, and eminently in guano, which is principally the partially fossilized dung of sea fowls, and in bones. It was Liebig who first suggested that bones would be rendered much more valuable if made more soluble, and consequently more easily assimilated by plants. This suggestion has since been carried out in all civilized nations where the land needs artificial cultivation, and now forms the centre of the enormous seat of industry—the cultivation of artificial manures.

Bones are rich in phosphates and so are coprolites, and phosphatic limestones, which probably at one time derived their phosphoric acid from the fossilised remains of animals, so that whether we take the bones of recent animals, or the earth which contains the fossilised remains, it matters little, and *ceteris paribus* the phosphoric acid is equally valuable as a manure. The phosphoric acid of bones, coprolites, and other phosphatic material is now rendered speedily available for plant growth, by rendering it soluble. This is done by treatment with sulphuric acid; the phosphate of lime is altered in its composition, and is then called superphosphate of lime. The value of a superphosphate is dependent mainly upon its per-

centage of soluble phosphoric acid, and this depends upon the quality and kind of material used and the skill of the manufacturer. There is no other means of testing but by chemical analysis, and therefore all phosphates and superphosphates are bought and sold by analysis, at least it is so amongst manufacturers and merchants. It is remarkable, however, to what a small extent the farmer, the final purchaser, who has no manner of means of testing the quality of his purchased articles, has recourse to the analytical chemist. Matters, however, I have no doubt will soon change, and as the needs for the cultivator of the soil to produce the most in the shortest time, and to economise in all directions become greater, chemical analysis will be resorted to more frequently, in order to certify the manurial value of every parcel of artificial manure purchased. Next to those who get their living by analytical work no set of persons would rejoice so much as *bona fide* manufacturers of genuine goods, and no one would profit so much as the men who now frequently suffer by purchasing manures at prices far beyond their true value as food for plants. The manurial properties of guano are nitrogen as ammonia and phosphoric acid. There is a vast deal of difference in quality even amongst genuine guanos, and there always are to be found samples of so-called guanos which contain very little indeed of the true articles, but are made up of mixtures possessing limited manurial properties, but differing very little in appearance from genuine guanos of a good quality. The best Peruvian guano contains from 10 to 15 per cent. of ammonia, whilst some other genuine guanos have only 1 to 2 per cent. Even guanos from the same deposit may differ much in quality; those which have been most exposed will be found to be less valuable than those which have been covered up and not subjected to atmospheric influences. Furthermore, guano deteriorates by keeping, and therefore cannot safely be purchased on the terms of an analysis of old date. As illustrating the risk of loss to the purchaser of guano of improved composition, I would mention that speaking approximately the value of ammonia is £60 per ton—in other words, that a loss of 1 per cent. of ammonia reduces the value of the manure 12s. per ton. Another important artificial manure is sulphate of ammonium, which is now obtained chiefly from coal. The ammoniacal liquor is distilled with quick lime, and the ammonia is saturated with sulphuric acid, forming the sulphate of commerce. Thousands of tons of this salt are annually placed upon the land, so that the remains of the gigantic ferns and conifers of the grand old coal forests—those magnificent plants which at that time were truly the monarchs of the vegetable world—are now scooped out from the bowels of the earth, and are made to yield up their nitrogen; the nitrogen which they in their turn had obtained from the saurians and gigantic lizards of the period is now given to help to nourish a new generation of plants. Again, in the superphosphates we have an instance of economy. The bones of the huge wocouth animals of geological ages are made to yield up phosphoric acids for the benefit of the plants of to-day, and these in their turn give their phosphoric acids towards building up the bones of a new race of animals. Thus all things in nature are re-used and re-used, and than this I know of no more striking instance of the triumph of man's ingenuity, who thus makes the mighty machinery of Nature's economical process to move faster for his own special benefit. As much for his common sense cannot, however, be said with respect to the economising of manurial matters to be derived from the sewage of cities and towns. What dreadful waste there is, to say nothing of the effect upon his own

health and longevity, in the mad manner in which he throws away millions of tons of manure, rich in ammonia and phosphates! That this will not be so much longer I am perfectly persuaded. Something is being done to economise in our neighbourhood—in that admirable little establishment at Portswood, where the whole of the drainage of the township is allowed to deposit its solid matter, and it, with the liquid, is used upon the land, which so purifies it as to cause it to flow out into the river Itchen as an effluent containing less organic matter than some samples of drinking water submitted to me for analysis.

The only sort of cattle foods I need refer to here are those called cakes, which are what remains of certain oleaginous seeds, after the oil has been expressed. It is found by the manufacturer to be impossible to press out all the oil from such seeds as linseed and cottonseed, so that some is left behind in the refuse or cake. This cake, mainly in consequence of the oil present, possesses eminently fattening properties, besides which it contains a considerable quantity of albuminous or nitrogenous matter, and is therefore truly nutritious. Consequently the feeding value of a cake can be declared in percentage of oil and of nitrogen. The microscopic examination of an oil cake is of some importance, as

often foreign and useless materials are worked into so-called oil cakes—materials which, in some instances, have not the least claim to nutritive or fattening properties, such as refuse cocoa fibre and the extreme silicious tips of the oat. These two forms of useless rubbish are in my own knowledge of sufficient value for the purpose of adulteration to pay for their shipment from abroad, although they are in themselves utterly valueless.

I have mentioned cattle condiments in my syllabus, but I find that I know very little about them. All I can say is that, like condiments in the food of man I look upon them as artificial resources for which to obtain a filip for a pampered stomach, and that the need or taste for condiments indicates a disordered indigestion, so that their use is at least questionable amongst cattle, for the lower animals, left to themselves, will select the simplest and plainest of food.

Mr. Angell concluded by saying that he thanked them for the courteous manner in which they had listened to him, and he assured them they had done him a great honour in allowing him to be there that day. He should be happy to answer any questions that might be put to him.

### STRAW, ITS VALUE AND WASTE.

At a meeting of the Framlingham Farmers' Club, held on Monday, February 25, Mr. A. Pulliam read the above paper.

MR. A. PULLIAM said: First there is its value, which of course will vary according to the district—that is, whether far from or near a town or mansions where probably a good stud of hunters is kept; but as a basis for this year I would say that wheat straw may fairly be put at £4 per ton, barley straw at £2 10s., pea straw at about the same value; bean stalks are no doubt of more value than the two latter, but less than wheat straw. Mr. Mechi tells us that bean stalks when cut into chaff and scalded is of more value than chaff cut from any kind of straw, but assuming this to be the case it would only apply to large occupations where steam can otherwise be used to advantage, as I found that his method of scalding and keeping up the heat is by means of waste steam. I would say nothing about the value of oat or rye straw, as I don't grow either, but perhaps there are gentlemen present who will kindly give me their opinions and experience. Now our usual method of treading down straw into muck is in open yards, when I believe a ton of wheat straw will make about five three-quarter load carts, barley and pea straw about four three-quarter load carts. Bean stalks will no doubt make more owing to their requiring a longer time to tread down, say six three-quarter loads. If you have given this subject a little thought, I feel sure that you will agree with me this looks like great waste, as each load of manure as it goes from the yard is worth about 2s. 6d., or an average of 12s. 6d. for each ton of straw. This leads me to a part of my subject that I wish more particularly to draw your attention to—that is, covered yards and greater freedom in the sale of our farm produce. Where the system of covered yards has been adopted it is found that straw goes very much further, and each load of manure is of 50 per cent. greater value, and may frequently be taken direct to the land and ploughed in, saving that rather heavy item in our expenses of turning over and refilling. Besides, it is well

known that cattle, when kept warm and clean, thrive faster and require less food. And now that we have the foreigner to compete with in our meat supply it behoves us to adopt the best method of doing so, and the last three harvests should alone, I think, prove how necessary it is for all who are interested in agriculture to pay great attention to rearing and feeding stock, for although our foreign friends have something to do with keeping down the price of wheat, they have not yet sent us much more beef than we require, or we should see that old English fare at a lower figure than 10s. per stone, and as we have about the best climate in the world for producing beef, we should be able to hold our own. When speaking of covered yards, I don't mean to say that all should be entirely closed in. Probably our horses would be more hardy and healthy with a small open yard, in addition to a good wide shed. Pea straw, when well harvested, ought never to be used for littering our yards, but cut with hay or second crop of clover into chaff for sheep or young stock. If used for horses, it should be used very sparingly. Bean stalks should, of course, always be first picked over by colts or horses when not at regular work before being used for litter. Barley straw, when mixed with hay, makes a good chaff, and may be used tolerably freely without danger; but wheat straw cut into chaff I have no faith in, owing to the hard and indigestible knots it contains; and I am persuaded that were it not for the old-fashioned covenants by which we are debarred selling straw, very little of it would be used for that purpose. No doubt these restrictions were necessary and proper some 30 years ago, when guano, rape cake, dissolved bones, and the numerous kinds of artificial manures were almost unknown. Greater freedom in the sale of our farm produce would immediately be followed by a larger capital being employed in agriculture, which means a national benefit, inasmuch as our home supply would be larger. I find that according to our trade returns for the past year, we imported just fifteen millions of qrs. of wheat and flour. This looks like fetching our British corn

with a vengeance, as our export trade in manufactured articles has fallen off. Dr. Taylor, curator to the Ipswich Museum, tells us that straw has no material properties. If such is the case, how injudicious must be the custom of carting from our yards straw simply wetted with coloured water; yet this is going on every day, owing to large open yards and buildings untroughed. Naturally you will ask who is to remedy this? I can only say if you are fairly rented, and have a tolerably safe tenure, go to your landlord's agent, who is generally a gentleman of experience and practical knowledge, if not he ought to be, and make the best bargain you can. If, on the other hand, you are highly rented and heavily taxed, and the agent can do nothing for you, I must say you are in that unfortunate and unenviable position of having a tight-laced landlord. I am told that on some estates a tenant can have almost any number of buildings erected provided he is willing to pay a percentage on the cost, and perhaps it may be wise to accept those terms rather than be stin'ed in shed room, although this looks like being a nice method of employing surplus capital. Where a tenant farms highly by a liberal purchase of cake, maize, and artificial manures, may he not reasonably expect something as an equivalent in the form of better accommodation and greater freedom in the sale of his farm produce? I venture to hope that our landlords will meet this question in accordance with the spirit of the age. Although straw may have no manurial properties, it is the best vehicle at our command for absorbing and conveying to the soil the excretal matter from our soil bins, &c. Therefore, as an act of economy it should be used as sparingly as possible, with the view of keeping down our heavy labour costs, and by so doing, probably at the end of the year a few tons of straw could be sold, and some other commodity brought to the farm which has also manurial properties—say hay, for instance, which can frequently be bought at about the same price per ton. Now, it is the farmer alone who has to suffer in consequence of these restrictions? Our friends in town who keep horses are frequently put to great inconvenience through not being able to buy straw, some being obliged to use sawdust in their stables. Straw is wasted in a variety of ways, but I believe that one in which we feel it more particularly is in the thatching of cottages, and no doubt there are gentlemen present who have such cottages attached to their farms. If so, I feel sure they will bear me out in the assertion that it does not need to be a large one to require three or four loads of straw to thatch it. Now, if this straw could be sold, it would frequently realise more than sufficient to purchase tiles for the purpose. Perhaps some gentlemen will say that thatched cottages have their advantages. If they have, I still think they have numerous disadvantages; for, in the first place, they are a great harbour for rats, mice, and sparrows, and I may add another familiar little fellow known as the lively flea. The same remarks may be applied to thatched buildings, besides which there is the great difficulty of trouthing. The chances are that if you get the trouthing fixed this year it will require to be refixed next, owing to the thatch becoming worn or wasted, and the water is continually getting stopped, when the trouthing becomes worse than useless; and in case of fire every one is helpless, even the fire engine men will stand and look as if paralysed and tell you that it is all U.P. Great waste is frequently made of straw at the mansions of our landlords, where tenants are required to supply an unlimited quantity at a nominal price, servants of both sexes using it as of no value. I don't know that our landlords are to be blamed much for this; it is a custom that has been

handed down from one generation to another, something like an heir-loom, and so long as the tenant could grow plenty of straw by breaking up a piece of pasture once in a while, of course he thought nothing of it. But things have changed. It is satisfactory to observe that the antiquated custom of using straw for draining is fast dying out, and the wonder is that it should have continued so long, seeing that straw has such an attraction for rats that drains have frequently been destroyed by them before they had been done twelve months, and yet this practice has been followed where "flashings," *i.e.*, rough trimmings from hedges, could have been had for the cutting. Of course your men will try to persuade you to use straw on account of the facility with which it can be put into the drain. If flashings cannot be found in sufficient quantities on the farm, whin, broom, or ling may be bought at a price that will make it preferable to straw. But I think there can be no doubt our old ploughed lands will be better drained with pipes, and I venture to hope that there are but few landlords to be found who would object to supply them. Now that straw has increased so much in value, it becomes necessary for us to take greater care in preserving it. If we have no barn adjoining our stackyards at liberty, the stack should be carefully topped up and thatched as quickly as possible after it is thrashed, but wheat straw will take but little harm if the roof is well raked down. Having taken care of your straw in your barns or stacks, see that no unnecessary water gets to it in the stackyards. Rest assured that your cattle will find the proper ingredients for converting it into a valuable manure.

Mr. JEAFFRESON asked for suggestions as to a substitute for straw in stables, observing that Lord Ellesmere used sawdust, and Mr. Whitehead suggested the use of hay.

The CHAIRMAN complimented Mr. Pulliam on his paper. He suggested that for feeding, straw thrashed without steam was best, and agreed in condemning the use of straw for draining, and recommended the straw stack should be thatched speedily. He did not believe that straw had no manurial value, but no doubt it was chiefly valuable as an absorbent, and in using it thus covered yards were of value. Tying up cattle was an economical plan.

Mr. J. HEAD spoke of the use of straw in countries where it was valueless as food and as fodder. Amongst these countries was Russia, where six or seven years ago he was led to consider the possibility of using straw as fuel, and he explained the mode by which he had succeeded in burning straw in the portable engine, the straw being injected into the fire box by means of rollers, and steam generated as rapidly as by the best coal or wood. The engines would also burn coal, wood, or peat, while in Egypt the refuse cotton stalks of an acre were sufficient to irrigate that acre. It would take eight sheaves of wheat straw to thrash one hundred sheaves of wheat, but he did not think these engines would come into use in England except in outlying districts far away from coal fields; they would, however, burn sticks or gorse. As to fodder, he said cutting straw into chaff in the tropics left the particles of straw too sharp, or bruising was necessary. This he had also accomplished by machinery in a way which he explained, the beaten straw being highly relished.

Rev. C. T. CORRANCE argued unlimited sale would reduce price and impoverish farms, for he believed straw had manurial value. It must be soaked in more than water, and be in yards, for which it was desirable the tenant should pay reasonable interest. Messrs. GLEED, JEAFFRESON, and the CHAIRMAN spoke, and Mr. PULLIAM replied to the discussion at the close of the proceedings.

## CAPITAL AND LAND.

Mr. James W. Southern writes as follows to *The Manchester Examiner*, in reply to a letter from the Bishop (of Manchester we presume) which we do not happen to have seen:—

It is certainly not from deficiency of capital seeking investment that agriculture languishes. There are many indications that capital is redundant. In the manufacturing industries cotton, coal, iron, paper, and others, we are suffering from over-investment, and whilst a large amount of money spent in mills, mines, &c., during recent years is irretrievably lost, a still larger amount is unremunerative. At present capital seeks vainly for investments combining security with fair interest, and failing to find its "channel," remains stagnant at two per cent. But besides this over-investment at home, it is by English money that half the enterprise of the world is supported. Hither come needy governments, inventors, speculators, and projectors from all parts. It would be an interesting inquiry—I commend it to those who have time to pursue it—how far the utterly lost capital lent by this country would have developed the resources of our own soil; I mean money invested in such ventures as Eries, Peruvian bonds, Honduras railroads, Egyptian and Turkish stocks—not to speak of the swindles and abortive enterprises by which, from time to time, fools and their money have been parted. Any one who doubts the redundancy of capital seeking employment may find instruction by perusing a London daily stock and share list, and noting the bewildering sums, running into thousands of millions sterling, invested in various ways—Government stocks, home, foreign, and colonial; railways at home and abroad; insurance, docks, canals, and all manner of miscellaneous enterprises—and remembering that a large proportion of these enormous sums represent the accumulation of English capital. The money which cannot be attracted to English soil provides shipping on the Amoor, grows tea in Assam, lays down tramways in Brazil, and gas works in Hong kong, provides harbours in New Zealand, and develops the agriculture of Australia and Van Diemen's Land, and having filled all these channels leaves a reserve so large that it seeks employment with a Bank rate at two per cent. Assuredly if English capital is not applied to the development and increased productiveness of English agriculture it is not because there is lack of it, it is not inadequacy to sustain at once the requirements of industry, commerce, and agriculture that explains the neglect of the last; and I have now to consider the allegation that the returns from capital invested in land are insufficient to attract it. In considering this point it is well to remember at what percentage of profit money finds its way into other channels. The present low value of money is not a fair index, but it may be fairly assumed that from four to five per cent., with good security, will permanently attract capital. Corporations can borrow any amount on these terms. So can railways. The daily share list quotes 55 issues of home railway preference stock, of which only 2 offer a higher return than 9 per cent, and in one of these the £100 stock stands at £193. The average interest on the 55 is  $4\frac{3}{4}$  per cent.; the total amount of capital they represent is £117,000,000.

Now there is good evidence that capital invested in land improvement returns a larger profit than this. I will not quote Mr. Mechi's experience. The Bishop might not accept his

results as a fair guide; nor indeed is it necessary to quote any individual authority. What I regard as an unwilling witness shall speak. I refer to the report of the Lords' committee on the improvement of land. Whenever a law shall be passed to make land distribution easy the political power of the territorial class will probably diminish, and nineteen lords "steeped in acres to the lips" may be excused if they showed a great relish for modes of land improvement which might interfere with "the sacred ark of limited ownership."

Speaking of the necessity of land improvement the appendix says: "Mr. Bailey Denton, who has given especial attention to this subject, states, as the result of his calculations, that out of 20,000,000 acres of land requiring drainage in England and Wales only 3,000,000 have as yet been drained. Mr. Caird, the enclosure commissioner, speaking not only of drainage but of all kinds of improvement, estimated that we have only accomplished one-fifth of what requires to be done." The opinion he expressed, "Yet no work is more remunerative," is left out in the appendix. The report admits that tenants are willing to pay fair interest on expenditure for drainage. "In the case of drainage it appears that sometimes, though not in all cases, the tenant will pay back to the landowner in the form of rent the full 7 per cent which he pays to the company. In forty cases of improvement mentioned by Mr. Ryder, involving a total expenditure of £191,730, and an average expenditure of £4,868, the average increase on the rental in eight or ten years between the first and the last application was  $26\frac{3}{4}$  per cent. The average is much reduced by the comparatively small increase arising from new buildings, as compared with the large increase resulting from drainage. The root of the difficulty is laid here by section 4 of the appendix. "A frequent arrangement is that the landlord only receives 5 per cent. on the effective outlay to reimburse him for the 7 per cent. which he pays for 25 years to the company. Practically, therefore, the investment presents itself to him as one involving loss to himself with a gain to his heir." The real secret of "starved land in the heart of the richest country the world has ever seen" lies in the fact that the life owner will not sacrifice any portion of his present income to increase the rental of his successor.

By the evidence given before Mr. Pusey's committee the estates under settlement were estimated as exceeding two-thirds of the kingdom, which is to say that two-thirds of the land is held by nominal owners, who cannot sell if they would, who if they possess the means cannot improve the land except by acting in defiance of ordinary human motives, who cannot borrow capital for the purpose, at less than 7 per cent, whereas the real owner can borrow at  $4\frac{1}{2}$ , and who, as Mr. Caird says, "are so heavily burdened with settlement incumbrances that they have not the means of improving the land which they are obliged to" hold. I need not point out that what a tenant is willing to pay for improvement, as addition to his rent, affords no adequate indication of what the same man could realise from the same capital if expended on property which was his own, working with the consciousness that every hour, every energy, every sovereign, was sown for his own advantage. That intelligent selfishness which in the manufacture and distribution of commodities makes the fortune of individuals,



but ministers to the comfort of the worlds would operate with similar results in agriculture, and instead of a return of 7 per cent. on expenditure we might reasonably expect similar results to those which have followed the distribution of land in other countries.

Mr. Joseph Kay, for whose knowledge of and labours in this land question I desire to offer the tribute of respectful admiration, has shown us, in his book on "The Social Condition of the People in England and Europe," what has been the result of free trade in land elsewhere. He quotes, among others, Herr van Brounau, of Zurich: 'Since the Government has sold to the peasants lands which formerly belonged to the State, and has, in this manner, created a great number of small peasant properties, very often a third or a fourth of the land produces as much corn and supports as many head of cattle as the whole estate formerly did when it was cultivated by leasehold tenants.' Mr. Kay also quotes—and I will only add this additional quotation—Herr Papikofor, of Thurgovie: "The division of the great tracts of land belonging to the Government and creating small peasant properties out of them has

had this effect, that often a third or a fourth of the original estate produces now as much corn and supports as many cattle as the whole of the original estate did when it was cultivated by lessees." Notwithstanding the Bishop's quotation from Mr. Card as to the relative produce of wheat per acre in France and England, the conclusion drawn, that the removal of "iniquitous land laws" had not resulted in increased productiveness is quite wrong; but my letter is already too long to enter on the discussion of this point. The real obstacle to the free application of capital to the soil is the system of settlement. Remove the "dead hand" which interposes and paralyzes English agriculture; limit the testator's power of disposal to lives in being. As Wren Hoskyns says, bring "the ownership of the land abreast of the age." Convert the nominal owner into the real owner, and capital would find its way to the soil, providing labour for thousands and food for millions. I should like to have said something of the "iniquity" of the land laws, of the results of "Morecellement" in France, and of the system of conveyance, but I dare not trespass further.

### LIVE STOCK NOTES.

There is an increasing degree of alarm felt amongst breeders as to the prevalence of yellow in the coats of the Shorthorn, especially the Cherry Duchess and Cambridge Rose tribes. It is simply that farmers have got saucy, and are spoilt by choice. The abundance of young bulls, and the frequency of their sale, give them such a wide chance of purchase that they turn up their noses at anything but a "rich roan," a colour Mr. Booth would not have at Warlaby at any price. The blue roan, beautiful as it is, is *not* quite suggestive of *purity* of blood. For its presence one may look to some such tradition as the following, which I have just seen quoted in the American *National Live Stock Journal*, February, 1878. "Chieftain (135), bred by Mr. T. Bates, got by Daisy bull (186)." "But in Mr. Allen's reprint of the pedigrees of English bulls we find appended the following: Note.—Mr. Bates notes in his copy of the 'English Herd Book'—Dam by a grandson of Favourite, out of a *black* Highland cow which Mr. Bates bought in Scotland in 1796." The blue-roan has, no doubt, come from a cross with an ordinary black, blue-black cow, and not a brown-black cow. The Booth roan (and their best cattle are mainly descended from the same elements as the Cambridge Roses) is a *yellow-roan*, or a "strawberry-roan," and if you take up any description of the early herds you will always find abundant mention of yellow and yellow-red. Hubback was yellow-red. Coates's Patriot (486), sold in those times for 500 guineas, was a *red-roan*. Belvedere was a *yellow-roan*. "Old Sockburn was a large yellow cow, with 'some white.'"—Hutchinson. "On June 14, 1784, Mr. C. Colling bought his first Duchess cow, price £13, a massive, shortlegged cow, breast near the ground, a great grower, with wide back, and of a beautiful *yellowish-red* flaked colour."—Bates. "Jacob Smith's bull was of a *yellowish-red* colour, with a white back, white face, and white legs to the knees."—Bates. It was with reason,

then, that the late Mr. Storer, "instead of describing *yellow*, which not unfrequently shows itself in the Knightleys, 'as an occasional vagary,' said that the old Shorthorn breeders would have considered it a strong indication of *purity and antiquity of blood*, whilst they would have thought the inky-reds and sooty-rons we now see so frequently just the contrary. This is so notorious that I need scarcely give examples; but I may say, *en passant*, that on scarcely any other point was Mr. Bates, as a breeder, so consistent as he was in his uniform admiration of the *yellow* colour." The fact is, the blue-roan, or the purple-roan, is the *complementary* hue to the yellow-green of the landscape. Hence it delights the eye, as an amethyst brooch upon the missus's bosom, when attired in sage green. So long as it pleases the eye it will, of course, have its value. The most curious instance of colour that I know is on a cow of Sir Frederic Smythe's, which begins with a yellow and ends with a blueish roan. You have there the corrective influences combined, poison and antidote, like reading *The Daily News* and *Standard* the same hour, as all folks who study mental equilibrium should.

*The American Agriculturist*, after a review of the live stock market for 1877, comes to the conclusion "that the export business in meats, and live beeves, and sheep can never become anything more than a spasmodic affair, flourishing when prices are low, and stocks heavy here, and when stocks are light and prices high on the other side. The expenses and risks are too great, and the profits, when any are made, are too small to sustain a steady trade. It may answer as a safety-valve to relieve pressure here, but as soon as the pressure is relieved the movement must cease. We may build up a business in the course of years, but not until beeves bear a lower price here than we hope to see." Let our farmers then here in

England "keep up their pecker," and continue to purchase sires of the bluest blood they can afford, to follow on with in succession. They will thus by degrees cheaply enable themselves to undersell the American in quality.

I have just returned from a gallop, in astonishment at the sight of a coal-black lamb in the midst of a Cotswold flock that's held in high estimation for its purity. Whence came this dark sport? I had lately a white pigling in the midst of a jet litter, but it was owing, I fancy, to my man's having turned in a friend's sow in my absence amongst the "in-calvers." Anyhow she has paid the penalty of the accident, and has passed into ham and sausages. But whence, I repeat, this sooty lamb, as astonishing to behold as a dark tup his too inquisitive visitor found hidden away on Bakewell's premises? I must make inquiry, and report.

I have recently seen the strength of hereditary excellence in a pair of ordinary-looking mares that run back in the fifth generation to a pure desert Arabian dam. Out of a sure-footed roadster, they stumble themselves at every step, but not so much as to endanger, though incessantly to alarm, their riders. They never come down, but they trip for everlasting. But the trait one notes them to have derived from their ancestry is that you *cannot tire* them. On, on, for ever; at their pace, a hand gallop, they wear out a whole field of fashionable hunters. It was no wonder that Whitaker (as Bates records) would never use a bull of an indifferently milking strain. Let the tyro keep this in mind. Accumulate in your breeding operations every good disposition you can, and avoid the very semblance of a bad one. The historian Hume remarks of Oliver Cromwell in his latter days that he diligently sought alliance with the *haute noblesse*, which is, to my mind, accounted for in the words with which he closes his description of him. Cromwell's mother "was of a good family, of the name of Stuart, remotely allied, as is by some supposed, to the royal family." An instinct engrained by descent will find an outlet!

An ingenious young amateur farmer observed to me the other day that there was something curious in the matter with his yearling ewes; the wool came off in handfuls when you touched them. Why, of course, the sheep are rotten! What a pity it is when men buy a painful experience of this sort. On uncertain pasture there is no more dangerous stock to keep. It is odd that ewes with lambs alongside are found to escape the deadly infection of the miasma, on the principle, I suppose, that the sitting pheasant emits no scent for Reynard to inhale. Wise provision of Nature! I wish cold roast goose were as well protected during the Christmas holidays. The young gentleman-farmer should at least engage a competent shepherd.

I must enter a friendly protest against pigs being named after famous cattle. It would be far better to invent a special nomenclature than to appropriate one of already definite meaning. Wildeyes, Belvedere, Leonard, &c.—there is a distinct appropriation of these names as breeding animals already.

I am glad to find that Mr. Hermann Biddell is to edit the Suffolk Horse Stud Book, and will give some history of the breed. Mr. Barthrop's beautiful winners having been all painted, there need be no lack of illustration.

We had to part the ducks to-day, for the wild brown ones and the lustrous black Buenos Ayres sort were exchanging mates. Some wire netting through the pool effected our purpose, but it was quite sad in its consequences. One poor duck, somewhat mulatto in her plumage, owing to last year's neglect, kept straining her neck through the loops and trauning up her eyes with sad, amatory intention, whereas the naughty brown drake seemed to revel in his escape from unwelcome matrimony, and dipped and splashed as if resolutely to wash out all recollection of the attentions he had hitherto paid her. VIGIL, March 1.

HOT-BEDS IN COVERED YARDS there never will be, if farmers will follow the instructions or advice which I have so often publicly given. The main point is that the urine should not be allowed to pass away from the general mass. The floor should be paved, and grouted with cement, and the sides should be walled, to prevent lateral escape. If the urine passes through into a loose sandy floor there will be heat, but not otherwise—always provided we avoid the too usual mistake of over-littering, or using more straw than can be thoroughly moistened or wetted by the solid or liquid excrement. The littering should be little and often. The first layers should be thoroughly wet before more is added. A too abundant dry beginning or foundation cannot be subsequently cured. For 30 odd years I have never had a hot-bed; but then I was obliged to enforce a sparsity of straw—much less than the men had been previously accustomed to use in open, rain-saturated yards. Animals cannot thrive and be healthy with heated beds, and the manure is also injured. I like to see the bed poached into a mass by the plunging in nearly knee-deep of the cattle, which thus not only get exercise, but also exclude air and mix the manure bed better than any man can mix a dung heap. There is thus no smell and no escape of gases, but when raised by the fork the chemical agents are at once in action, and we hold our noses. I again say that covered and enclosed well-ventilated cattle-yards are an essential in farm profits, especially on heavy lands. No open dung heaps, but leave the dung untouched, until you want it, and use another yard, if required.—J. J. MERRI.

FILIAL LOVE.—In our recent hill warfare with the Afreedees we have been utilising some of the native local population for subordinate garrison duty at the hill forts. These locals love fighting; that is their chief reason for assailing us; and if they can be found employment, to fight for us for money they prefer it to fighting against us for love. An officer on duty at a fort pointed out to a sentry a particular native that had among many others been skulking round the fort all day, evidently with no good intent. "I see him, sar," said the sentry; "I had two shots at him already; but he dam hard to hit; he the hardest man to hit I know!" "Oh! you know him, then, do you?" asked the officer. "Oh, yes, sar, I know the dam rascal well; I been trying to shoot him all the week." "Who is he? What's his name?" "The dam old rascal—he my father."—*Examiner*.

## "VIGIL" AND MR. SOTHAM.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I was much pleased with and interested in the article from "Vigil" in "Live Stock Notes" of January 21st, but think he is a little mistaken as to my being prejudiced against Shorthorns. No man values a well-bred, symmetrical Shorthorn more highly than I do, and probably I have seen as many herds as any one. There are but very few of them that have come under my eye and hand possessing uniformity of character, either in quality, size, or symmetry. Can "Vigil" pronounce this to be good breeding? I consider such of low standing, however rich or fanciful their owners. Any man of wealth can buy the animal he *fancies*, and yet not have sufficient judgment to know whether he has secured a good one, and at this point you may consider whether the rich men of England, with their uneven herds, deserve the exalted name of breeders, more especially when they have to pamper them to hide their faults, and when under the hammer encourage excitement to ruinous prices. Similar men of monied power are attracted, and in their pride will not be outdone. Money is no object to those who are born with silver spoons in their mouths. Such recklessness overpowers reason, and the bidder knows not in his roused condition whether he is getting a cow so loaded with forced flesh as to prevent breeding or one he will have to take to the Smithfield Show.

This ring of fanciful speculators has been the ruin of good breeding. I believe in this country that the end has come, as the reckless bidders here are trying to settle with their creditors so as to begin anew, but if their spirit is willing to bid, *flesh* will be exceedingly weak.

I do not wish to injure any breeder, as I consider the breeder proper, in connection with a well and profitably-cultivated farm, to be one of the most exalted characters on earth, whether Duke, Lord, or commoner; and, of course, they are at liberty to adopt whatever breed their fancy dictates. But men generally, when they have a large overflow of capital, are very apt to let their fancy overpower reason, and in this pride of power are inclined to imagine themselves exalted by possessing what men of less means cannot have, and are gratified whilst riding this hobby; hence this Duchess mania. I have seen several of these Duchesses, and cannot help saying I have yet to see a good and profitable animal, apart from speculation. Those bred from the original Duchess of Bates, called "pure Bates," from close in and in breeding, are almost extinct, from lack of constitution, and those possessing the few remaining ones pride themselves on the possession. Reason would say that this must be shortsightedness. Those Duchesses now living with a cross of the West Highlander, of which no breeder of judgment (knowing the breed) can be deceived, are constitutionally recovering by this out-cross, by which they have gained in quality, symmetry, weight, and compactness; but what

a beautiful picture this for men of pedigree, notwithstanding that "Vigil" says: "Fair play then to the noblemen and wealthy commoners, who have of late years in this country been engaged in an honourable rivalry to obtain and nurse in their purity such cattle as were commended by the early improvers, such as the Messrs. Collings," &c. ! Will "Vigil" tell us how many "nurses" it has taken to preserve and nurture this purity, and what kind of cows were kept in the nursery? This might lead to a very interesting confession. I once witnessed a splendid lot of milking cows in Col. Guter's nursery. Did "Vigil" gain his information on the purity of breeding "from the lips of Mr. Bates" or from those numerous insertions of Bell on Bates of which he speaks? I have marked his contradictions. The discrepancy in his letters to Mr. Renick in this country, after his visit to him to purchase Shorthorns for the Ohio Company, was enough for me. Can anything be "pure" with hidden crosses in pedigree? As to those "rotten bonds," which "Vigil" says have engulfed so many of our apparently shrewdest people, it seems hard; but those bonds built the railroads in this country that are now bringing the beef from the far West to supply the English market. Were not these "*shrewd men*" some of the very same Shorthorn speculators anticipating this event, to aid them in their recklessness to support the "Bates' mania" then existing in both countries? But I think Jonathan has got the better of John Bull, by sending his Duchesses back again and obtaining his gold. Now, Mr. "Vigil," tell me which is "the shrewdest?" Although I have never forfeited my allegiance to my native country, I think Jonathan has the advantage in this mad speculation on Duchesses. Those who have lost money on these rotten bonds, had better go to breeding and feeding Herefords on the plains of Colorado, or the extensive rich prairies of Kansas or Texas. The bonds they hold may be redeemed by the increased traffic in the beef they produce, thereby making a double profit. The breeders and feeders there feel assured that the Herefords will carry more of it on their backs in the right places, and of a better quality generally to market than any other breed. All the grade Herefords that have come from the far West have obtained the top price in all markets, either as stockers or for beef.

Messrs. T. Miller and Son have a farm of 1,200 acres at Beecher, Illinois, and a herd of 100 Hereford cows, and they send all their bull-calves to Colorado and Texas every year. The demand is increasing as their merits are better known, and to show you that this is no mean herd, he showed in the class for herds of all breeds at the Illinois State Fair, last Fall, a bull and four cows, contending against eleven Shorthorn herds, all pampered to the extreme, and took the first prize under a majority of Shorthorn judges. Wherever the Herefords have been allowed

to show *fairly* against the Shorthorns, they have always triumphed. They took the same prize at the Ohio State Fair, Michigan State Fair, and that of Indiana in the previous year. Mr. Frederick W. Stone, of Guelph, Canada, is a breeder of Shorthorns and Herefords, having a large number of each breed, both possessing high breeding. He does not pamper either, but I think the Shorthorns have the best pastures. About a month since he sold eleven Hereford bulls, one cow, and five young heifers, to go to Colorado, having only one aged bull left for sale. He is getting from three to four hundred dollars each for his heifers, and his young bulls realised about one hundred and fifty each. He has now about thirty young Shorthorn bulls on hand, all well-bred, some of them *fancifully*, which he would be very glad to dispose of. I do not say this in a spirit of boasting in favour of Herefords, but they are facts that cannot be justly denied.

Another instance I wish to show to the "fancy ring" is the end of the sixteen-thousand-dollar cow, purchased at the New York Mills sale by Mr. Lewis G. Morris. Not producing a calf since that time, she was fed and slaughtered at Port Huron, in this State, for Christmas beef. I saw her the day she was dressed. A worse carcase of blubber (for you could not call it beef) I never saw hung in shambles. Under this blubber, and along the back-bone, was a streak of black lean, without a particle of fat interlarded. Her rumps were as shaly as bags of jelly; her deep brisket hung over with soft greasy fat, as if it had been oiled; her whole body was covered with small bags of blubber, quite unnatural to a healthy animal; her back ribs bowed out to give space for her extended paunch; while her fore-ribs were contracted so as to compress the heart and lungs and impair the constitution, characteristic of all "pure Duchesses." She had not meat enough on those contracted fore-ribs to feed an American eagle twice. Such has been the character of all the "pure Duchesses" I have seen. What would dukes, lords, and rich commoners say if they were compelled to eat such fanciful beef? The "roast beef" of Old England would lose its reputation. Will "Vigil" tell us whether he ever saw a Duchess differing from the above description? I saw the skin in which she was enveloped—it looked thin enough to make purses to hold the bidders' gold, and the butcher told me that it was with great difficulty that he separated the hide from the blubber. A few days after I called to look at the quarters, and their cuttings, and found two other thorough bred cows from the same herd. In these three animals were three distinct qualities of beef, the white one's as finely marbled and as first-class as ever was cut; the red one's fat was solid, the lean not at all interlarded, and of a reddish colour. All were fed alike, and all high-bred. The pure Duchess never could get ripe; *quality was not bred in her*; neither could her blubber set except when frozen. I have met with several instances of this kind in fanciful herds, and the cow named above is from one of the most prominent and costly in this country. It is such proofs of want of uniformity that had prompted my criticism, which "Vigil" calls "prejudice"

If he can show a herd belonging to those rich noblemen and commoners, bred by themselves, uniform in size symmetry, and quality in substance, as the worthy old veteran Abram Renick has done, I will praise them until their cheeks become crimson; I will even take a trip to England, although I am in my seventy-sixth year, purposely to try the experiment. I admire a man who will pay a liberal price for a superior animal, but when he buys pedigree without the animal, I condemn him as a novice in good breeding. Such are my views, and thus I offer them.

I asked the butcher which was the most profitable animal of the three for him and the consumer. He said pointing to the white, "That will net me 3 cents per lb more than the Duchess, although her previous owner thought she was the best, and held that out as an inducement for me to buy the whole, for which I paid 5½ cents per lb. live weight, 2 cents. more than the Duchess was worth. I must now do the best I can to make the good sell the bad."

One more ocular proof, and I have done. A few weeks ago I saw two cows purchased by Messrs. Wm. Smith and Son, in Detroit. I recognised both of these cows, having seen them sold at a sale in Chicago, purchased by one of the speculators. One was called "high in Bates, more especially in the top crosses," and sold at a fancy figure, while the other, being Booth, prejudice injured her character, and she sold low. We handled them; the touch of each was distinct, one being firm, the other flabby, and so they died. The Bates was of the same character as the sixteen-thousand-dollar cow, while the other proved a fine level first-class quality carcase of beef, that could be produced from any herd or breed, every pound as saleable as a pound of butter. The Bates cow's blubber had to be pared off for the tallow-tub, leaving her quarters in an unsaleable shape to attract first-class customers; they went for what they were worth. Such dark lean meets a slow sale, is tough, and indigestible. I witnessed the facts above stated, and will vouch for them. I hope "Vigil" will give us some proofs to sustain the Duchesses' and Bates' blood, so as to place them in a more favourable light than that in which I see them.

I am, Sir, &c.,

WM. H. SOTHAM.

Cass Hotel, Detroit, Michigan, U.S., Feb. 9.

INSPECTION NEEDED.—I have heard of yet another case of serious illness caused by the ignorant carelessness of that most ignorant and most careless of British workmen the plumber, who, as usual, had established a connection between the water-cistern and the sewer by means of an overflow pipe, and by this simple arrangement poisoned a family. As railway companies cannot carry passengers until their lines have been surveyed and approved by the Board of Trade, and as steamboat companies are subjected to a like inspection and control, I am not able to see why the speculative builder and the intelligent artisan should be free to work their wicked will and put in imperfect drains, badly-planned pipes, and other lethal arrangements for the discomfort and destruction of the British householder. If landlords had to produce certificates of sanitary perfection before they could let houses, and if the expense caused by gross neglect and "scamping" were legally deducible from rents, we should have less typhoid fever.—*World.*

## THE MANAGEMENT OF LIGHT LAND.

A few months since I ventured to propound a theory which I had for some time considered, and which in my opinion might account for, at least in a partial manner, the decreasing productiveness of our soils, especially those which do not come under the head of heavy lands.

One result has been that attention has been called to this subject by others who have in a great measure confirmed my opinion as to the deterioration of the soil, and who agree with me as to the causes of the falling-off of its productive power.

A former remark of mine was, that, in the old-fashioned times, when autumn cultivation was a thing little practised, when the wheat-stubbles were allowed to remain in possession of all the twitch, weeds, and rubbish which was their legacy after harvest, until the following March and April, such grass and weeds having a certain value as a run for the ewe flock during the winter months, the land was more productive in the growth of both roots and cereals than has been the case since the introduction of what may be termed a more advanced system of cultivation.

I even recommended by way of test that an acre or two of wheat-stubble should be left in a field uncleaned, while the remainder of the field should be cleaned and cultivated according to the most approved modern system; that the acre or two thus left should be broken up and hastily tilled in the month of May in preparation for a crop of swedes, both portions of the field receiving the same amount of dung and artificial manure previous to the last ploughing; and that the treatment in both cases should then be alike in all respects. Such a test I venture to say would result in a crop of far greater weight, and better in quality, on the land which had been scamped in its earlier stages than on the portion which had received autumn cultivation and winter tillage.

I am perfectly well aware that I am laying myself open to the charge of being retrograde, and that the return to a more primitive state of things tends to encourage slovenly farming. The charge may be partially true or not, as the land is treated in the old-fashioned way, or on the principle adopted by me, which pretty well secures the advantage of the older system without incurring the risk and censure of fouling the land.

As I said in a previous article embracing this subject, my observations for several years past have induced me to believe that the various operations included in the term autumn cultivation, which result in baring the land of vegetable life, in exposing the soil reduced to minute particles to the scorching sun of August and September, and the drying winds of October, possibly to be succeeded by drenching rains in November and December, then to be exposed to the blighting frosts of winter, and the parching winds of March, have a great tendency to

weaken the lighter soils, reducing their consistency and thus inducing a great waste of valuable soluble matter.

Now, the point is how to arrest this deterioration and thus increase the productive power of the soil, which is a result much to be desired. It is absolutely necessary to adopt some method by which the manurial property in the land may be conserved, and it is of special consequence to keep this object in view now that we depend so much upon special manures as food for our crops; far greater is the necessity now than in days of yore, when farmers were entirely dependent on farmyard dung for recouping the land. It must be borne in mind that the proportion of soluble manures—and many manures are exceedingly soluble—used on the land now is very large; hence the need of devising an arrangement by which the land can be constantly covered with vegetable life, thus securing by surface growth and a considerable development of root fibre a great absorbing agent, which shall retain in a large degree the soluble matters and at the same time shade the land from the weakening influences of sun, rain, frost, and wind.

The method which I adopt, and that on no small scale, is this (I may mention incidentally that my land is clean, and free from couch, grass, &c.): so soon as I have a wheat stubble clear, taking care to secure the cleanest first, I drill in a peck and a half of trifolium seed, which by the early autumn forms a fair covering for the soil. Later on the trifolium is covered with a coating of good farm dung, which protects it in winter and pushes it forward, either to be fed by sheep or to be mown late in May, when the land is turned only once, taking care to turn down with the skim-coulter all the surface to a depth of five inches; the heavy roller is kept close after the ploughs, and when all the ploughing is done, the land is harrowed with heavy harrows for the purpose of thoroughly disintegrating the soil, the roller then follows, and these operations are continued until a fine and firm seed-bed is secured for the turnip seed. If the condition of the land requires it, a small dressing of 4 cwt. of superphosphate of lime is worked in after the ploughs.

About one-fourth of wheat stubble is thus treated. Another portion of the wheat stubble is rapidly cultivated, or skeleton-ploughed, and reduced to a condition to be sown with mustard-seed, which soon forms a shade above, and root fibres below the soil. The mustard is allowed to remain so long as it is not wanted for the sheep when it is fed, the sheep receiving at the same time half a pound of cotton cake per diem; the land then remains as the sheep leave it until the spring, when the operations in preparation for the turnip crop are regulated by the state of the land. If the land was fed dry a single ploughing of five inches is sufficient, to be followed

by the same tillage as after the trifolium; if the land is wet at the time of feeding then the land is ploughed a little deeper, and one or two very shallow ploughings are given so as to guard against bringing up the mustard roots.

The remainder of the wheat stubble is broken up and prepared for the sowing of rye at three bushels per acre, which stands until wanted in the spring, when it is fed

off by the sheep; at the same time they receive cake or an equivalent of meal.

It will thus be seen that I keep my land undisturbed and shaded by vegetable life during a time of the year when most lands are bare and exposed to the influence which I consider to be very prejudicial to our light soils

W. D.

## FATTENING CATTLE.

Mr. Boyd Kinnear, who resides in Jersey, I believe, and is a great admirer of Jersey cattle, has contributed to *The Agricultural Gazette* of February 4th a very valuable paper on "The Value of Food," a subject which all practical farmers who desire to make a profit by the fattening of cattle would do well to read. I do not propose to discuss that question, for it is very well put in the article I refer to, but I would simply call the attention of your readers who are interested in the matter to a few common-sense rules which may be considered as the finger-posts to guide those who desire to fatten cattle with profit.

1. Animals of the same species eat in direct proportion to their weight (of course there are individual exceptions, but they are accidental); that is to say, an ox weighing 1,000 lb. in ordinary store condition will eat one quarter more than an ox weighing 800 lb. also in store condition.

2. Every animal requires a certain amount of food to support life while "in a state of rest," but if he is also "in exercise or doing work" then he will require an additional amount of food to make up for the waste of his system which the exercise or the work occasions. All food which he consumes over and above those two quantities goes to increase his weight.

3. But cold has the same effect as exercise or work, it takes something out of the animal and he must consume food to make up the animal heat which has flown off. Thus, if one animal be kept in a warm, dry house, well ventilated, while another is left exposed to the cold of winter on the hillside it will be found that the exposed animal, although he may keep in perfect health, will consume considerably more food and yet will not increase in weight, while his warmly-housed cousin will get comfortably fat on considerably less food.

4. Animals of the same sort kept in the same house and fed with the same quantity of food, and being of the same weight, will increase in live weight "on the average" in strict proportion to the food they consume. I say "on the average" because there may be accidental differences owing to "health" in some individuals, but if we take a sufficient number, say 50 in opposite sides of the same house, the rule will hold good.

5. Every animal which chews the cud, such as cattle or sheep, must have "bulk" in their food as "nutriment." You could not feed an ox wholly on maize, meal, or linseed meal, but you can feed him wholly on straw; but

you could not fatten him on straw, whereas you could fatten him on straw and linseed meal combined. The food required to support life must be chiefly what is called "heat and fat producers," but if we want to fatten an animal we must add to this some other food which possesses a large proportion of what are called "flesh formers." [Now, the feeding material in straw is almost wholly "heat and fat producers," while linseed meal contains a very large proportion of "flesh formers" or albuminous matter. Now, hay, besides containing heat producers, also contains a considerable quantity of flesh formers, and it would be possible to fatten animals on hay alone, although the process would be a slow one. But if the hay was clover-hay cut in full flower, then it contains a much larger percentage of flesh formers, and the process of fattening would be much faster. But if any substance has a quantity of oil in its composition, although oil is a "heat producer," yet that substance becomes a fattening food. Hay, for instance, cut into chaff and mixed with a small quantity of olive oil, would unquestionably become a fattening food.

6. A vast number of the ordinary foods given to cattle have been analysed to show the amount of heat and fat producers and of flesh formers which they contain. These analyses of course vary a little, but on the whole they are very useful guides to a practical farmer; that is to say, they are useful for comparing one sort of food with another. I do not say that any man should pin his faith to them, but if intelligently used they will assist the practical farmer greatly in his "feeding" operations. I have from time to time extracted out of various publications the following analyses, and which for my own guidance I arranged under the four different heads of "flesh formers," "heat and fat producers," "wood fibre and ashes and waste," "simple water;" and the way in which I have used them to estimate the quantity of food likely to be consumed by a given animal has been to *exclude the water* and allow that one animal will eat one-fiftieth part of his own weight daily, or, if the water does not exceed 14 to 16 per cent. (the amount of water usually present in substances as dry as hay, or straw, or soen, the ordinary winter food for farm stock), then to allow that each animal will eat every day about one-fortieth part of his own weight of such food. The following is the table I have compiled from the various publications I have come across:

One hundred pounds of the following foods contain :—

Foods.	Flesh Formers.	Heat Producers.	Fibre and Waste.	Simple Water.
Mangels .....	1.51	8.60	2.08	87.78
Swedes .....	1.44	5.93	3.16	89.47
Yellow Turnips .....	1.80	4.62	3.00	90.58
White Turnips .....	1.14	3.96	3.02	91.88
Kohl Rabi (green) ...	2.73	7.28	4.16	85.83
Kohl Rabi (purple) ...	2.18	5.67	3.00	89.15
Carrots .....	1.21	7.00	9.06	82.73
Parsnips .....	0.60	6.60	4.30	88.50
Potatoes .....	1.40	22.50	0.90	75.20
Cattle Melons .....	0.73	4.66	2.54	92.02
Rape .....	3.13	4.61	5.16	87.07
Cabbage .....	1.45	7.20	1.93	89.42
Leaves of Cabbage ...	1.29	4.57	1.39	92.75
Leaves of Swedes ...	2.08	7.25	2.31	88.36
Leaves of Mangels ...	1.76	4.98	1.30	91.96
Meadow Grass .....	3.00	13.90	8.10	75.00
Green Clover .....	3.20	10.30	8.50	78.00
Green Vetches .....	3.50	7.20	7.30	82.00
Wheat Straw .....	1.79	31.06	52.92	14.23
Barley Straw .....	1.68	39.98	44.14	14.20
Oat Straw .....	1.63	39.98	44.04	14.35
Rye Straw .....	2.29	37.15	46.26	14.30
Bean Straw .....	10.20	35.20	38.60	16.00
Pea Straw .....	6.50	35.00	42.50	16.00
Meadow Hay .....	8.44	43.63	33.32	14.61
Clover Hay .....	18.79	40.12	24.43	16.66
Vetch Hay .....	19.68	35.42	28.24	16.66
Trifolium Hay .....	13.83	34.36	35.15	16.66
White Clover Hay ...	15.63	37.02	30.69	16.66
Yellow Clover Hay ...	20.50	31.14	31.70	16.66
Lucerne Hay .....	10.63	35.77	28.94	16.66
Sainfoin Hay .....	15.38	40.81	27.15	16.66
Wheat .....	11.04	71.74	4.35	12.26
Barley .....	10.84	68.71	6.20	14.25
Oats .....	11.85	63.64	11.72	12.79
Rye .....	13.83	71.50	2.72	11.94
Maize .....	11.27	67.48	6.29	14.96
Buckwheat .....	8.60	65.49	12.40	13.60
Beans .....	23.30	48.50	13.40	14.80
Peas .....	23.40	50.00	12.00	14.60
Lentils .....	24.00	52.00	11.50	12.50
Rice .....	12.37	68.47	11.65	7.51
Bran .....	14.00	49.70	23.20	13.10
Linseed Cake .....	27.23	54.15	6.43	12.14
Rape Cake .....	29.53	52.00	7.79	10.63
Cotton Cake (decor- ticated) .....	25.16	58.01	5.64	11.19
Carob Beans .....	3.11	62.92	21.40	12.57

7. But the secret of all successful fattening, indeed, of all successful farming, is "to have no waste." Every article of food grown upon a farm should be either sold or consumed with live stock, except so much of the straw as is absolutely necessary as bedding for the creatures. And the quantity given for bedding should be as little as will keep the animals clean and comfortable. Stalls are unquestionably more economical of straw than boxes. Hammels are very nearly the same as boxes if straw is only put into the house portion and none spread over the small yard. But as to uncovered straw yards, no farmer who has any regard for his pocket should attempt to use them; they are simply "traps for wasting straw." Every ton of straw fed to stock on the farm should produce the tenant about forty shillings, and the manure which comes from that straw after it has passed through the beast is very nearly as valuable as what would remain if

the ton of straw had been wetted and allowed to rot. Every ton of straw then used for bedding is almost entirely "wasted;" nevertheless, that waste every farmer must make, because straw is the cheapest material he has for bedding his creatures with in winter. But let every farmer remember that if any article of food grown upon his farm is allowed to rot instead of being sold or fed to stock, he is picking his own pocket. If his agreement prohibits him from selling it he should feed it to stock, and if he lacks money to buy stock he had much better take a smaller farm where his rent and his expenses will all be smaller, and on which he will be able to keep as much stock as he is now doing on a larger and a dearer occupation. *Even weeds are valuable* if he cuts them down green and cuts them up with some of last year's straw into chaff to be stowed away for next winter's food. Docks are perhaps as uninviting a food for cattle as one could think of, yet I have seen my own fattening bullocks fed daily with cake and corn in a rich pasture go to the hedgerow and deliberately bite off and eat large docks two feet high, and this not once, but many times! I have seen, too, the roots of couch grass and knotted or onion-rooted grass eaten with great relish by horses, and cattle, and sheep. Chickweed is considered a nasty weed, and yet sheep will eat it greedily. Thistles, too, are about as nutritive as clover, a fact which every donkey is well aware of, and when they are cut down in summer before they flower, if they were at once gathered up and made into "chop," with straw for next winter's feeding, the land they occupied would not have been wasted, but would in fact have contributed its due share to the feeding of the stock. In fact all weeds (even the roots of couch grass, which can be easily washed), instead of being burnt, should be cut up into chaff with straw and made to contribute to the general good. In fact, let every "arable" farmer who desires to succeed in his business *fatten cattle by stall feeding in winter*, and let him write up over the entrance to his farmyard "Waste not, want not."

8. Last, though not least. Let every farmer remember that the faster he fattens his beasts the less food he will require to do it. Every beast requires every day a certain quantity of food to support life (see clause 2), and it is the surplus only which goes to increase the weight. If I can fatten a beast in 120 days giving him 35 pounds a day of certain food, he will have eaten 4,200 lb., but if it took 180 days to fatten a similar beast on similar food given at the rate of 30 lb. a day, the second beast would have eaten 5,400 lb., or 1,200 lb. more, and it will not be one shilling more valuable to the butcher; in fact, the 1,200 lb. represents his "life food" for the extra 60 days, the food it was absolutely necessary for him to consume to support life. Give fattening beasts, then, as much as ever they will eat, and if the food is wholesome they will not eat more than they can digest.

## POACHING AS A PROFESSION.

The wire is, perhaps, the regular poacher's best implement, and ground game his most profitable source of income. Hares exist in numbers upon the downs, especially near the localities where the great coursing meetings are held, where a dozen may be kicked out of the grass in five minutes. In these districts of course the downs are watched; but hares cannot be kept within bounds, and wander miles and miles at night, limping daintily with their odd gait (when undisturbed) along the lanes leading into the ploughed fields on the lower slopes and plains. The hills—wide and almost pathless, and practically destitute of fences—where the foot leaves no trail on the short grass and elastic turf, are peculiarly favourable to illicit sport. Though apparently roaming aimlessly, hares have their regular highways, or “runs;” and it is the poacher's business to discover which of these narrow paths are most beaten by continuous use. He then sets his wire, as early in the evening as compatible with safety to himself, for hares are abroad with the twilight. Long practice and delicate skill are essential to successful snaring. First, the look itself into which the hare is to run his head must be of the exact size. If it be too small he will simply thrust it aside; if too large his body will slip through, and his hind leg will be captured: being crooked it draws the noose probably. Then if caught by the hind leg, the wretched creature, mad with terror, will shriek his loudest; and a hare shrieks precisely like a human being in distress. The sound, well understood by the watchers, will at once reveal what is going forward. But there may be no watchers about; and in that case the miserable animal will tug and tug during the night till the wire completely bares the lower bone of the leg, and in the morning, should any one pass, his leaps and bounds and rolls will of course be seen. Sometimes he twists the wire till it snaps, and so escapes—but probably to die a lingering death, since the copper or brass is pretty sure to mortify the flesh. No greater cruelty can be imagined. The poacher, however, is very anxious to avoid it, as it may lead to detection; and if his wire is properly set the animal simply hangs himself, brought up with a sudden jerk which kills him in two seconds, and with less pain than is caused by the sting of the sportsman's cartridge. Experience is required to set the loop at the right height above the ground. It is measured by placing the clenched fist on the earth, and then putting the extended thumb of the other hand upon it, stretching it out as in the action of spanning, when the tip of the little finger gives the right height for the lower bend of the loop—that is, as a rule; but clever poachers vary it slightly to suit the conformation of the ground. A hare carries his head much higher than might be thought; and he is very strong, so that the plug which holds the wire must be driven in firmly to withstand his first convulsive struggle. The small upright stick whose cleft suspends the wire across the “run” must not be put too near the hare's path, or he will see it, and it must be tolerably stiff, or his head will push the wire aside. Just behind a “tussocky” bunch of grass is a favourite spot to set a noose; the grass partially conceals it. The poacher revisits his snares very early in the morning, and if he is judicious invariably pulls them up, whether successful or not, because they may be seen in the day. Half the men who are fined by the magistrates have been caught by keepers who, having observed wires, let them remain, but keep a watch and take the offenders red-

handed. The professional poacher never leaves his wires set up all day, unless a sudden change of weather and the duck's frost prevent him from approaching them, and then he abandons those particular snares for ever. For this reason he does not set up more than he can easily manage. If he gets three hares a night (wholesale price 2s. 6d. each) he is well repaid. Rabbits are also wired in great numbers. The loop is a trifle smaller, and should be just a span from the ground. But the ferret is the poacher's chief assistant in rabbiting; it takes two men, one on each side of the “bury” and a ferret which will not “lie in”—i.e., stay in the hole and feast till overcome with sleep. Ferrets differ remarkably in disposition, and the poacher chooses his with care; otherwise if the ferret will not come out the keepers are certain to find him the next day hunting on his own account. Part of the secret is to feed him properly, so that he may have sufficient appetite to hunt well and yet be quickly satisfied with a taste of blood. Skill is essential in setting up the nets at the mouth of the holes; but beyond the mere knack, easily acquired there is little to learn in ferreting.

The greatest difficulty with any kind of game is to get him unobserved with the bag. Keepers are quite aware of this; and in the case of large estates, leaving one or two assistants near the preserves, they patrol the byways and footpaths while the police watch the cross-roads and lanes which lead to the villages. If a man comes along at an exceptionally early hour with coat pockets violently bulging, there is a *primâ facie* case for searching him. One advantage of wiring or netting over the gun is here very noticeable; anything shot bleeds and stains the pocket—a suspicious sign even when empty; strangulation leaves no traces. Without a knowledge of the policeman's oar and the keepers' post the poacher can do nothing on a large scale. He has, however, no great trouble in ascertaining these things; the labourers who do not themselves poach sympathise warmly and whisper information. There is reason to think that men sometimes get drunk, or sufficiently so to simulate intoxication very successfully, with the express purpose of being out all night with a good excuse and so discovering the policeman's ambush. Finding a man whom he knows to be usually sober overtaken with drink in a lonely road, where he injures none but himself, the policeman good-naturedly leads him home with a caution only.

The receivers of game are many and various. The low beer-shop keepers are known to purchase large quantities; Sometimes a local pork-butcher in a small way buys and transmits it, having facilities for sending hampers, &c., unsuspected. Sometimes the carriers are the channel of communication; and there is no doubt the lower class of game dealers, in the provincial towns get a good deal in this way. The London dealer, who receives large consignments at once, has of course no means of distinguishing poached from other game. The men who purchase the rabbits ferreted by the keepers during the winter in the woods and preserves, and who often buy £100 worth or more in the season, have peculiar opportunities for conveying poached animals carefully stowed for them in a ditch on their route. This fact having crept out has induced gentlemen to remove rabbit contracts from local men, and to prefer purchasers from a distance, who must take some time to get acquainted with the district poachers.



The raiders, who come in gangs armed with guns and shoot in the preserves, are usually the scum of manufacturing towns, led or guided by a man expelled through his own bad conduct from the village, and who has a knowledge of the ground. These gangs display no skill, relying on their numbers, arms, and known desperation of character to protect them from arrest, as it does in nine cases out of ten. Keepers and policemen cannot be expected to face such brutes as these fellows; they do sometimes, however, and get shattered with shot. The "mouchers" sneak about the hedgerows on Sundays with lurcher dogs, and snap up a rabbit or a hare; they do not do much damage except near great towns, where they are very numerous. Shepherds, also,

occasionally mouch—their dogs being sometimes very expert; ploughmen set wires in the gateways, or gaps, where they have noticed the track of a hare, but it is only for their own eating, and is not of much consequence in comparison with the work of the real local professional. These regular hands form a class which are probably more numerous now than ever; the reasons are—first, the high value of game, and the immense demand for it since poultry has become so dear, and secondly, the ease of transmission now that railways spread into the most outlying districts, and carry baskets or parcels swiftly out of reach. Poaching, in fact, well followed, is a lucrative business.—*Pall Mall Gazette.*

## AGRICULTURAL SOCIETIES.

### HIGHLAND.

The monthly meeting of the directors of this Society was held on March 6, in their chambers, No. 3, George IV. Bridge. Sir Alexander Jardine, Bart., in the chair.

#### IMPLEMENT REGULATIONS, DUMFRIES SHOW, 1878.

The following report by the Committee on General Shows in reference to the statement received from the Scottish Agricultural Engineers' Association, dated 13th February, was submitted:—"The Secretary having read the remit from the Board of 6th February, and the committee having carefully considered the same, along with the existing implement regulations, beg to report as follows:—In the statement of grievances by the Scottish Agricultural Engineers' Association, it is stated that they object—(1) To the present mode of inspecting and judging implements in the show ground; (2) to the arrangement which provides that all new inventions, and improvements, and machinery in motion be entered in different sections and placed separately in the show ground; (3) that the charge for ground is not in proportion to the money expended by the Society in awards to implement exhibitors; and (4) that of late the extent of free ground allotted to members has been considerably decreased, while the charge for additional space has been considerably increased. Under the first head, the committee recommend that to the rule stating that the official duties of the Implement Committee are to inspect the new inventions and improvements, and that they may award such minor gold or silver medals as they see fit after due trial or otherwise, the following clause should be added:—"It being understood that no award will be made without an exhaustive trial, if the implement admits of such trial." Under the second head the committee recommend that the rule on this point should be:—"All new inventions and improvements, with the exception of those in motion, will be placed in the catalogue at the head of each exhibitor's entry, and must be arranged by him at the beginning of his stand according to the numbers in the catalogue;" and to meet the case of those exhibiting in two sections, that a new section should be added to the list, namely—"All under cover, or all open, for articles not in motion belonging to exhibitors in the motion yard," and that this section, and the one for the motion yard, should be placed next each other. Under the third and fourth heads the committee have to remark that at present implement exhibitors are allowed 20 feet by 20 feet open space, or in motion yard 8 feet by 50 feet, free, and that the rate for additional

open space is only half of what is charged to non-members. The committee may further observe that the space allowed free is equal to double the amount of an annual subscription, and that no other class of exhibitors has a similar concession. For these reasons the committee cannot recommend any reduction in the rate, as, looking to the large sum the Society has to pay for the use of the ground, they are of opinion that in respect of the grievances stated under the third and fourth heads implement exhibitors are most liberally dealt with."

The Board approved of the report, and the Secretary was instructed to transmit a copy of it to the Secretary of the Scottish Agricultural Engineers' Association.

COMPETITION OF THOROUGHBRED STALLIONS.—The Secretary reported that the local committee in charge of the competition for the premium of £50 for a thoroughbred stallion to serve in the Dumfries district this season had fixed the competition to be held on the Whitesands, Dumfries, on the 20th March, at 11 o'clock, and that entries must be made before 10 a.m. on the day of the show with Mr. Thomas B. Anderson, 76 Irish Street, Dumfries.

AGRICULTURAL EDUCATION.—The Board approved of the examination for the Society's agricultural certificates and diploma being held on the 1st, 2nd, and 3rd of April, candidates being required to lodge intimation before the 16th of March.

VETERINARY EXAMINATIONS.—It was remitted to the Secretary to arrange the days for the examination of candidates for the Society's veterinary certificate.

MISCELLANEOUS SUBJECTS.—Letters were submitted from Mr. A. H. Hutchison, vice-consul, Leith, sending two copies of the regulations now in force in Sweden and Norway having for their object the prevention of the introduction and spread of cattle disease in those countries; from the Rev. John Gillespie, Mouswald Manse, Dumfries, presenting for the library of the Society a copy of part 1, volume ii. of the Galloway Herd Book; from Mr. George Fleming, veterinary surgeon, 2nd Life Guards, presenting copy of his work on "Veterinary Obstetrics;" and from the Royal Observatory with the 14th vol. of the Edinburgh Astronomical Observations from 1870-77.

PARIS AGRICULTURAL CONGRESS.—The Board resolved that the report on the agriculture of Scotland which is being prepared at the request of the Society of Agriculturists of France should be sent to Paris in print. The report will con-

tain a description of the area, general physical features, geology, and climatology of Scotland; of the farming and general rural economy of the east and west coasts and central and hill districts respectively; of the breeds of horses, cattle,

and sheep special to Scotland; statistics of the agriculture of Scotland; and an account of the principal proceedings of the Highland and Agricultural Society from its institution in 1784.

## FARMERS' CLUBS.

### MAIDSTONE.

A meeting of the members of this Club was held at the Star Hotel, Maidstone, on March 7th.

Mr. A. CHITTENDEN presided, and there was a large attendance of members to hear a paper on "Steam Cultivation" by Mr. W. Smith, of Woolston, Bucks.

Mr. SMITH commenced his paper by recommending the young farmers, who might contemplate farming with steam power, to get well up to their work and not be dependent upon their men. His advice to young farmers was, "Do your work once over, so that a second operation is not needed by steam, for horses can do that cheaper and better than steam can, and, what is better still, while steam is doing the next field, whereby the two powers are driving on together, and whereby the greatest amount of autumn work can be got over in the least turn." He recommended them to use the Woolston ridger and subsoiler, and throw their wheat and barley stubbles into ridges to get well frosted in the winter; then they would find what cheap and clean farming was. The implement outside of Woolston, however, made no progress, although it was the best implement he had. To make their set of implements complete, they should have a ridge splitter, to be worked by horses. There was only one such implement in England, and that was the one he had. Mr. Smith concluded a brief paper by condemning the double operation by steam power and its cost, and contending that they never ought to go but once over the land by steam power for a crop.

In the course of the discussion which ensued Mr. G. W. CHAMBERS, of Staplehurst, said that in the Weald of Kent steam ploughing did not pay on the stiff clay land, while the work done was unequal. He chiefly complained of the size of the clods thrown up, and the depths of the furrows, and said he found the ploughing costs 26s. 6d. per acre.

Mr. HAYES, of Boughton, remarked that Mr. Chamber's objections were well-founded, but he thought the objections might be overcome by having a narrower implement, and thus getting a more even furrow.

Mr. WYLES, of Rochester, said he was the owner of three sets of steam tackle, which ploughed all kinds of soils in all kinds of seasons, and where he had been in the habit of going in years past he still went, and the work seemed to be appreciated.

Mr. HARTTRIDGE took up the arguments of Mr. Chambers.

The VICE CHAIRMAN (Mr. Stonham) argued in favour of the use of steam ploughs, contending that they were a great convenience. With the steam plough, and the facilities for getting manure, and the hope of a more liberal land tenure, he felt sure the English farmer need not despair.

The CHAIRMAN also spoke in favour of steam ploughing, and

Mr. SMITH having replied, a hearty vote of thanks was passed to that gentleman for his lecture.

## THE BREEDING, REARING, AND MANAGEMENT OF CART HORSES.

At the usual monthly meeting of the London Farmers' Club, held on March 4, at the Club Rooms, Caledonian Hotel, Adelphi, Mr. J. Brown, of Elwyn Orchard, March, Chairman for the year, presiding, the above subject was introduced by Mr. F. Street, of Somersham, St. Ives, Hunts.

The CHAIRMAN said: Gentlemen, in taking the chair for the first time I may be allowed to express my regret that through indisposition I was unable to be present at the last meeting. I was very glad to find from the report that the subject then under discussion was well debated, and I hope the one for to night will be so as well. Science and steam and machinery have done much for us of late years. I trust they have yet something good in store for us. But we have not yet arrived at a stage at which we can do without that useful animal the cart horse. That animal is an important factor in the economy of the farm, and I am quite sure it is well worthy of the consideration of this Club. "The breeding, rearing, and management of cart horses" is a subject that must be of considerable interest, and I believe that it is placed in the hands of a good man to-night, and that he has something very practical and useful to tell us. I will not detain you, gentlemen, any longer myself, but will at once introduce to you Mr. Street.

Mr. F. STREET then introduced the subject as follows:—

When last November I suggested to our Secretary the desirability of a paper being read on this subject, I mentioned the names of several gentlemen that occurred to me who take great interest in cart horses, and who would be likely to introduce it to your notice. But I had not the slightest idea of doing so myself, and it was only after repeated communication with Mr. Druce that I agreed to read a short paper. When steam was introduced to agricultural pursuits for thrashing, chaff cutting, ploughing, and other cultivation of the land, it was predicted that the high price of horses had gone, never to return again. But I think the oldest member here present never knew good ones so dear, or heard of such prices as our best stallions and brood mares are making at the present day. This, to a very great extent, I believe, is attributable to the influence of our Royal and County Shows, as well as the increasing wealth and prosperity of the nation. In no other country can such exhibitions be witnessed. Some twenty years since, at most of the county shows, exhibitors and the public were not admitted until the judging was over. This, like most other matters done in secret, led to all manner of jealousy and ill-willing. Now, I am pleased to say, every yard is open, and it is interesting to see the education going on around the

crowded rings during judging. And as a rule the outside public fix on the best animals. On all sides is expressed great disappointment at the reduction in the prize sheet of the Royal Agricultural Society just issued for the Bristol meeting. The total amount offered in prizes for all breeds of cart horses is £175; only £169 more than the Essex Association offer at the forthcoming county meeting at Danmow. Last year at Liverpool the total amount was £1,312 10s.; viz., £870 by the Society, or nearly double; and £143 10s. special prizes given by the Liverpool Local Committee. But not the least alteration is made in the cattle or sheep classes, yet if it is right to encourage early maturity in Shorthorns by offering four prizes of £20, £15, £10, and £5 for bull calves above six months and under twelve months; and the same sum for heifer calves of the same age, and a prize list of £595 for this breed alone, while the Herefords, Devons, Sussex, Longhorns, Jerseys, Guernseys, Dairy Cattle, and Welsh Black, each have separate and attractive prizes offered, the breeders of cart horses, believing as they do in early development, think that surely prizes might have been offered for yearling colts and fillies, and also think they have a bone to pick with the Stock Prize Committee for not allowing them a class, which has been the case for many years past. But as out of a committee of twenty-four only one or two can be said to represent the breeders of cart horses, it is thought by many that the sooner the election of members of Council of the Royal Agricultural Society takes place in the same way as the Smithfield Club, viz., by the whole of the members, the better; further, that one-third should go out of office annually, and not be eligible for re-election for one year. The last two years at Birmingham and Liverpool prizes were offered for mares, with foal at foot; now the prizes are offered for mares in foal, or with foal at foot, thus going back to what the judges for years drew the attention of the Council to, viz. the unequal race a mare suckling a foal by her side had with a guest mare. Neither is there, as far as I see, any rule to prevent a mare said to be in foal taking a prize if she should prove not to be so. This changing of the prize sheet from year to year is thought to be wrong, and I do think if the Council really knew the feelings of cart horse exhibitors outside, they would reconsider the prize sheet, and offer some of the vested property, which, I am told, amounts to nearly £30,000, for a class for mares and foals, also a class for three-year-old entire colts, as they cannot successfully compete with older horses. There should be separate classes for each description of breed of three-year-old and two-year-old fillies, instead of as now offered in Classes 18 and 19 of agricultural fillies (including Clydesdale and Suffolk). What would the exhibitors of cattle say, if, after giving prizes for bulls and cows of separate breeds, a prize was offered for the best Shorthorn yearling heifer (including Hereford and Devon)? And also prizes should be offered for yearling colts and fillies. Foreigners attend in large numbers our Royal Shows, not only to look on and observe, but to purchase too. And the success of the cart horse classes at the future Bristol meeting will depend more upon the Council than on exhibitors. It is to be regretted that at the forthcoming Paris Universal Exhibition the horse show does not take place at the same time as the cattle and sheep show in June, but in the month of harvest, the first week in September. Our railway companies are great gainers by our national shows, and I think they would do well to copy the liberal terms offered by the French authorities—viz., to convey horses and cattle at half price. At the June show, Article 10 reads: "Foreign animals sent to the Exhibi-

tion will be conveyed from the French frontier to Paris at the expense of the French Government." And at the Horse Show, Article 6: "Custom duties will not be levied on animals entering France for the Exhibition." Article 7: "Both in going and returning only half-fares will be charged on French territory by the railway companies for animals admitted to the Exhibition and those in charge of them, without prejudice to any similar advantages which foreign Governments may obtain for their countrymen on their own territory."

I will now, with your permission, proceed to give a brief outline of the leading breeds of cart horses—viz.:

THE SHIRE-BRED, CLYDESDALE, AND SUFFOLK.—Mr. W. C. Spooner, in his prize essay on farm horses, says: "The cart horse is not an aboriginal breed in this country, but was imported from the neighbouring Continent since the Norman Conquest. Indeed, we have reason to believe that the horses employed in the army of William the Conqueror were little better as respects breeding than the cart horse of the present day. As long as armour was in fashion a large, massive animal was required to support the enormous weight of the steel-clad knight, and to withstand the attack of a similar opponent. The half bred horse was then unknown, and the barb of the Spanish horse was insufficient in size, so that recourse was had to the large black horse which had been known throughout the fertile plains of Europe from time immemorial, and from which no doubt the greater portion of our cart horses are descended, for we find that during the reign of the Edwards repeated importations of these animals took place. And in the time of the Duke of Newcastle, who wrote a work on horses in 1667, there was in this country an established breed of cart horses. The most prevailing colour amongst these animals is black, so much so that we recognize a distinct breed under the appellation of the old black horse."

Undoubtedly this was the origin of the Shire-bred horse. But they are by no means confined now to those of a black colour. Bays and browns are now in fashion, while some prefer roans, greys, or chesnuts. It is noticeable that at the last Royal Show at Liverpool, the first, second, and third prizes, and reserve number in a class of twenty-six two-year-old colts, were all of the latter colour. And, singularly enough, neither sire nor dam of either were chesnuts. These large, massive animals are chiefly reared in the rich marshes and fens of the Midland and Eastern counties, and are rapidly spreading into other districts, where lighter horses have hitherto been bred. This breed is much prized for heavy dray work in our large cities and towns, and commands high prices. While there is an increasing demand for good stallions and brood mares, thanks to the interest taken in the subject by noblemen like the Earl of Ellesmere, the Earl Spencer, the Earl of Macclesfield, and others, the shire-horse can, to say the least, hold its own in competition with other breeds. At Liverpool the Champion Cup of one hundred guineas for the best horse, and the fifty guinea cup for the best mare in the yard, both went to animals of this breed. Mr. Stanford, the celebrated breeder of Clydesdales, and owner of that grand horse the Duke, told me last autumn he intended giving them up; for said he, when I show I like to win, and this I cannot do in competition with shire-breds.

I will now proceed to give what I consider the points they should possess. The feet should be firm, deep, and wide at heel, not too long, or straight in pastern, flat bone, short between fetlock and knee. A stallion should not measure less than 11 inches below knee, and girth from 7 feet 9 inches to

8 feet 3 inches, should not stand more than 17 hands, should have wide chest, shoulders well thrown back, head big and masculine, without coarseness; full flowing mane, short back, large muscular development of the loin, long quarters, with tail well set on, good second thighs (this is a point where so many fail), large flat, clean hocks; plenty of long silky hair on legs; or, to sum up in a few words, a horse should be long, low, and wide, and thoroughly free from all hereditary disease. A main point is action; he should be a good mover in the cart-horse pace, walking, and if required to trot should have action like a Norfolk cob. Horses recently sold have made high figures. With Honest Tom, £500; Prince of the Isle, £800; Young Samson, £750; Paragon, £600; while as two-year-olds, King Tom made £500; Marvellous, the same sum; British Wonder, £550. As yearlings, Mr. Beart's unnamed colt recently made 500 guineas; Peeping Tom, 370 guineas. A foal last autumn by old Heart of Oak, made £150. These have all been sold to keep in this country, and others have made great prices for exportation, including Young Admiral by Columbus (now the property of Mr. James Howard), sold for America for £800. Two years since Mr. Stokes refused 1,000 guineas for Young Champion, own brother to Mr. Satter's celebrated horse of the same name. Mares and fillies have made equally long prices. The Clydesdale and Suffolk breeders have started a Stud Book Association, and I hope that before this meeting closes, a determination will be come to to establish one for shire-bred horses. It is an acknowledged want, and never let it be said that breeders of this description of horse are indifferent in what I consider a very important matter—pedigree—as affecting the future of breeding. Once started, I have no fear of the success of such an undertaking. Some gentlemen have suggested to me either Cambridge or Peterborough as head-quarters for such an Association, as being central for the breeding districts. I am rather inclined to think London would be better. A Stud Book I consider an important part of my subject, and I do hope it will be taken up in the discussion to follow.

**THE CLYDESDALE HORSE.**—I am indebted to Mr. Macdonald, editor of *The North British Agriculturalist* for the following. He says: "The origin of the Clydesdale horse is not very defined. It has often been stated that the Clydesdale was of Flemish extraction. Many years ago one of the Dukes of Hamilton imported a number of Flemish stallions, which he had crossed with the native mares of the west of Scotland; a by no means unpopular theory is, that from this alliance the Clydesdale horse sprang. Be this as it may, the south-west of Scotland has all along been the great centre of the Clydesdale breeding district; but over almost all Scotland Clydesdale horses have made their impression. Latterly, even in the south-western district of Scotland, a great deal of English blood in the form of shire or cart horses has been introduced, and mixed with Clydesdale element. This has improved rather than deteriorated the stamina of the Scotch horses, but buyers of the Clydesdales were naturally unwilling to have to pay fancy prices for what they believed to be Clydesdale blood, while in reality they may only have been getting a cross between the Clydesdale and the English horse. Hence the agitation for a Stud Book, which culminated successfully last year in the formation of a Clydesdale Horse Association, which has made considerable progress with the preparation of Vol. I. of the Stud Book. It has principally been mares and foals that have been brought from England, which when mated with a good Clydesdale stallion produced

first-class stock. Owing to this mixing of blood, the character, colour, and type of what generally pass muster as Clydesdales are not so uniform as could be desired, or as may have at one time been the case. The Clydesdale is an active and well-built durable animal, very suitable for heavy land farms, and prized for long and heavy town work. Prices for the better sorts have risen immensely within recent years. Several instances occur to me where as much as 500 guineas have been paid for a yearling colt of this breed, while as much as 1,000 guineas have been given lately for a mare and foal. For colts, fillies, and mares prices range from 200 to 600 guineas; entire horses of the best class fetch from 600 to 1,500 guineas. The Stud Book movement has so far been successful, the Earl of Dunmore having secured a large list of influential noblemen and gentlemen as life members of the Association. The original idea was to make two crosses of recognised Clydesdale blood the minimum for entry in the Stud Book. That, however, may not be quite insisted on, as we find by Clause 34 of the Clydesdale Society's byelaws 'stallions having a pedigree of not less than two crosses, which have entered in the Stud Book, and mares having a pedigree of one cross entered, and having also produce by a stallion which has been entered, shall be eligible for entry in subsequent volumes of the Stud Book.' "The Suffolk," or "Suffolk Punch," are chiefly bred in their own county and some parts of Essex. The colour most fancied is a bright whole-coloured light red or chesnut. They show great uniformity of character, and tell of past as well as present carefulness of breeding. Those interested in this breed of horse I would recommend to read a well-written paper on "The Suffolk Horse," by Mr. Herman Biddell, in the "Live Stock Journal Almanac" for this year, 1878. Suffolk landowners are mostly breeders of the county cart horses. The Duke of Grafton bought "Cottingham's Captain" for the use of his tenantry. Sir Edward Kerrison, the Marquis of Bristol, the Earl of Stradbroke, Lord Henniker, Colonel Wilson, the Duke of Hamilton, and others, not only breed but exhibit too. I mention this as I think landowners in other counties do not take that interest in the subject they ought to do. "Crisp's Cupbearer" was sold for 375 guineas to Mr. Garratt, "Crisp's Conqueror" to the King of Prussia for 300 guineas. "Manchester Boxer" made the same sum, and "Heir Apparent" 400 guineas. Up to the present time there has been no Stud Book of the Suffolk horse. An Association has now, however, under the presidency of Lord Waveney, been formed for the purpose of collecting information regarding pedigrees, and publishing a first volume or registry, from which it is proposed to carry on further a regular Stud Book. Through the courtesy of the secretaries we have been favoured with the loan of some MSS., from which it clearly appears that there is scarcely a Suffolk stallion in the county of any note whose pedigree is not clearly to be traced in a direct male line for 70 years, and some nearly 100.

The following rules of the Suffolk Stud Book Association may be of interest:—"At a meeting of the Association, held at Ipswich on January 5, 1878, it was unanimously resolved that the entries in the Suffolk Stud Book shall be subject to the following conditions:—1. No stallion which is known to have a cross of any other breed in the direct male line within four generations, and no mare which is known to have a cross of any other breed in the direct male line within two generations, shall be admitted: but all horses of chesnut colour which have hitherto been exhibited as Suffolks, and have been accepted as such by any Agricultural Society in the United

Kingdom, shall be eligible for entry. 2. No horse otherwise than of a chestnut colour shall be admitted, but white or silver hairs well bleached with chestnut shall not be held to be ground of objection, provided the quantity of each does not amount to decided roan. 2. No entry shall be rejected on account of white on face or legs, nor be subject to limit as to height, weight, or size. 4. The foregoing conditions shall apply to stallions, mares, colts, and fillies, unless specified to the contrary. No fees required for entry, and breeders of Suffolk horses wishing to enter their animals are requested to make application for forms, which will be supplied gratis. Any information relating to the pedigree, history, or exportation of Suffolk horses will be thankfully received. Further particulars to be obtained from the Honorary Secretaries' Office, Hill House, Playford, Ipswich.—HERMAN BIDDELL. ARTHUR W. CRISP."

The breeding of horses appears to be on the increase. The returns of 1877 show that a satisfactory increase is again noted in all the classes of horses enumerated in Great Britain. Brood mares and young horses are more numerous by 3 per cent. since 1876 and by 7 per cent. since 1875.

But in horned cattle in Great Britain there is again a large falling-off, in spite of the steady increase of pasture land in late years. The decrease since 1875 in the various classes of cattle has been 1 per cent. in cows, 6 per cent. in other cattle above two years of age, and 1 per cent. in young cattle, making the total decrease in all kinds of cattle  $2\frac{1}{2}$  per cent. In Ireland also cattle have decreased by about 3 per cent. Sheep and lambs differ very slightly from 1876, although a falling off of more than two millions, or nearly 7 per cent., is shown since 1874. The mention of cattle and sheep does not properly belong to my subject, but I give these statistics, as the increase in the breeding of horses is the result, to some extent, of fear of cattle plague, pleuro-pneumonia, foot-and-mouth, and other contagious diseases breeders and graziers have had to contend against in their herds and flocks. The successful breeding of cart horses depends much on the nature of land, and proportion of grass, &c., as well as the requirement of the teams at certain seasons of the year. The farmer of stiff, tenacious clay land runs a very unequal race with another farming ten land, and there is danger of mares casting their foals unless great care is taken when they are hard worked. The turnip-land farmer, too, has work in hand after barley-sowing is finished, to get his roots in; then follows hay-time, mostly now cut by mowing machines, drawn by horses; then harvest, which used to be the easiest time for horses, until the carting commences (the sickle is a thing of the past, never again to return, unless game-preserving landlords wish to farm their own land); now on most farms throughout the length and breadth of the kingdom, the corn is cut by reaping machines, many teams being changed out of the machine to take the place of those that have been carting. Such being the case, the farmer of arable land can never breed to any great extent with advantage, and it may answer better to buy in, as two-year-olds, thereby taking the surplus stock bred in the breeding districts. But as steam cultivation can easily be obtained by the strong-land farmer to break up the fallow and tare land before harvest, and the same power can be used by the root grower, for autumn cultivation, and as ordinary foals make from £30 to £40 each when weaned, an effort might be made to breed a few each year according to the size and requirements of the farm. A horse or mare of a bad constitution, or bad tempered ones should never be bred

from. The great difficulty is to secure a good stallion free from hereditary disease. It is too often the case that the worst brute that travels a neighbourhood, if the owner consents to serve mares at from 15s. to £1 a mare, will be fully employed—many of this description have 150 to 200 mares in about ten weeks—what but disgust and disappointment can be expected from such a course? I think no horse should have more than 100 mares, and if a shy getter not more than seventy or eighty. Better stallions can be secured in a district by holding the Entire Shows in the spring instead of, as is often the case, at the annual Stock Shows in the summer. It may be well for the Bath and West of England and the Royal to have a show in the summer; but at the end of a season a horse ought not to be in show condition. The offering of a good prize is of little use unless the Society guarantees a certain number of mares at a fixed price. I am pleased to say that many such Associations are springing up. For instance, the Welshpool Society, which keeps the horse, and gives £300, half paid at the commencement of the season, and the remaining half in July. Last year this Association hired what *The Mark Lane Express* calls the Stockwell of cart horses, better known as the Strawberry Roan. Two colts and two fillies have been sold as two-year-olds, by this sire for £1,475, and he is hired for the same district again this season. The Crewe breeders have started a good Association, with Lord Combermere as President. Forty-three horses competed for the £100 prize, February 23; they also guaranteed 100 mares at 2 guineas each. If good prizes are offered, unless mares are guaranteed, the show ring is turned into a market, and the prize horse is sold as a rule at a high figure to go elsewhere. For many years past a large sum has been voted annually in Parliament for "Queen's Plates;" racers are brought forward to win them strong enough to carry a pair of breeches and boots. If the members representing agricultural constituencies, when next this vote comes on, could secure the whole or part of this sum for prizes for cart stallions great good would result. The Scotch plan of having a great Spring Show of entire horses, at which different districts offer prizes and select stallions, is worthy of imitation, and I hope next year a similar show will be held in the Midland counties. In rearing young horses it always pays better to keep them well from the first, and especially their dams. A sheltered paddock with hovel to run under for the first two winters is far better than being kept too close and warm, and they will do much better with the old coat on when turned out in meadows in the spring. Bran, crushed oats and hay are the best dry food. If a foal scours when young, give a dose of castor-oil to take away the irritation, and then give a dose of diarrhoea mixture—that made by Mr. Goodenough, Somersham, I never knew to fail. Colts and fillies are generally broken in when two or two years and a half old, but I will not take up your time with this. Mares turned out to grass are more likely to breed than those kept in yards, and there is no time they are so likely to stand to the horse as about the ninth day after foaling. In the management of horses, colts, and fillies prepared for show purposes it is better to boil or scald the food. Nothing is better for this purpose than bran, oats, a small quantity of linseed (or the dust of linseed cake), boiled beans and boiled carrots, and pulped wurzel all mixed together. The entire male animal should have a dose of nitre and one of brimstone alternately weekly. Some years since my horses suffered much from gripes, caused by eating short cut chaff when returning from work. An old friend advised me to give them hay while the horsekeeper returned from dinner; since I have done so

it is quite the exception to have a horse griped. If griped, give immediately a pint of linseed oil, of which every owner should have a cask by him; if this fails give one of Day and Hewitt's drinks. For the ordinary working horse of the farm a few carrots or pulped wurzel, mixed with the chaff and corn, is a good thing. When hay runs short a great many rack up with bean or pea straw, and give the hay to the fattening stock. This I think bad policy, and if hay cannot be had, by all means order some long bran for night feed. For I am certain no animal will pay better for liberal treatment on the farm than cart horses. For some time past, in the case of valuable stallions, I have adopted the plan of insurance; this I effect through Messrs. Weatherby, 6, Old Burlington Street; the cost is 8 guineas per cent. per annum, or 4½ guineas per cent. for the six months or season. I am afraid, gentlemen, I have taken up your time too long, and in conclusion wish to tender my best thanks to Mr. Macdonald and Mr. Biddell for the information so kindly given me (cheers).

Mr. JAMES HOWARD (Bedford) said there could be no question that a very considerable change in public opinion and practice with respect to the breeding and rearing of cart horses had taken place of late years. It would be in the remembrance of many persons in that room that some twenty or thirty years ago there was almost a rage throughout England for clean-legged, active cart horses; and the old-fashioned English-bred shire horse was very much neglected in consequence. Indeed the Royal Agricultural Society, which for many years gave prizes for dray horses—the large shire-bred horse—dropped those prizes altogether from their list; consequently the want of estimation and general demand for the old-fashioned Lincolnshires horse greatly decreased, and Suffolks and other clean-legged horses became popular. Two things, however, were very soon discovered. The first was, that these clean-legged cart horses, of a later breed than the old-fashioned ones, when sent to the London and other markets, failed to command anything like the price of their larger rivals; and in the next place it was discovered that a horse with big bones, if active, was just as capable of doing as much work upon a farm as its clean-legged and later rival; and hence there had been of late years a growing tendency to return to the old-fashioned cart horse, hence the desire in many parts of England to possess a large-boned, big horse of the old type, possessing activity, because without activity no horse was, or could be, of any very great value. He could have wished that Mr. Street had given at greater length the result of his experience in the management of cart horses—(Hear, hear)—as he was so well able to do; and he hoped that Mr. Street, in his reply, would tell them how the cost of keeping these animals might be reduced, because one of the most expensive items of the farm was the keep of cart horses. However, Mr. Street had thrown out a great many suggestions in his paper, which there could be no question would prove highly valuable. He had very properly called prominent attention to the question of pedigree—for no animal in the kingdom would ever command much more than the ordinary market price except the owner could trace and give a reliable pedigree of the animal he wished to sell—of course he was referring now especially to horses for breeding purposes. What had given Shorthorn cattle their very exceptional value in this and other countries? Not their intrinsic value, great as that no doubt was, but the ability of the owners to point to a long line of pedigree. Breeders know full well, in practice, the value of length of pedigree;

and latterly our scientific men, in another department, had turned their attention to the physiology of breeding, and had also discovered the value of the longest pedigree. He believed that scientific men of the present day had come to the conclusion that in every class of animal the parent as it were sows certain seeds in the system many of which were not fructified, but remained in the system, and, perhaps, were fertilised generations after the parent was deceased (Hear, hear). That accounted for what had been so often noticed by every breeder of any long experience—how animals “throw back” to former parents; that is to say, the germ, or seed, has remained in the system and has not fructified, but when mated with subsequent parents the seed which had remained in the system unfructified became fertilised, and hence the value of a long and pure pedigree, especially in the male animal. A sire of good pedigree will often beget an animal better than himself, whereas a sire of uncertain pedigree is far more likely to get animals worse than himself. He hoped the suggestion of a stud book alluded to by Mr. Street would not be allowed to fall, for if this breed of horses were so valuable, as many believed, surely it was desirable that the country should be possessed of their pedigree. He need not again point out that the longer the pedigree and the better the pedigree the more certainty there would be in breeding. He hoped that before the meeting broke up some steps would be taken to form an Association of the kind to which Mr. Street had alluded.

Dr. SHORTHOUSE (Croydon), a visitor, asked to be allowed to allude to one point which had been almost a “hobby” of his life, viz., the pedigrees, as he had investigated and published thousands of them. He desired to tell them, as Mr. Street had made a feature of it, that they should begin on a sound basis at first. Mr. Street had mentioned as the foundation of a Stud Book that there should be two crosses in a stallion and one cross in a mare. He did not understand what Mr. Street meant by that, because a mule might be one “cross” from a mare.

The CHAIRMAN: I do not think he said that.

Mr. STREET: One part of that is what was said by the Suffolk Society in their rules, and the other is a quotation from Mr. McDonald, editor of the *North British Journal*.

Dr. SHORTHOUSE would like to know what one “cross” was, because a mule would come under that designation. Suppose they had a mare of any breed, and put it to a donkey, she would have but one cross, and the mule would come into the Stud Book (laughter). Mr. Street must not for a moment suppose he wished to say anything offensive.

Mr. STREET explained that the words quoted were not his words. They were the words of Mr. Herman Biddell and Mr. Crisp, the secretaries of the Suffolk Society, and Mr. Macdonald, the editor of the *North British Journal*, who gave a description of the Clydesdale horse.

Dr. SHORTHOUSE said he would stick to the Stud Book point as the one he was most familiar with. How were they to get the foundation for it when owners proverbially gave all sorts of fictitious and fanciful pedigrees to the horses. He remembered a Society, of which the late Lord Mayo was president—the Palmerstown Association of Ireland—where, directly any horse won the Derby, or the prize at an agricultural show, the association advertised that they had a yearling from the same stock, or a half-brother, or own-brother or sister; and a greater fraud was never perpetrated than through allowing people to give pedigrees of their own to their animals. This was quite true, and he had shown it up repeatedly. Another

point he would mention before sitting down. Mr. Street would allow the public to be admitted to the judging at shows; but he (Dr. Shorthouse believed it would be a vicious system. The judges should be men of irreproachable character, whose verdict ought to be accepted without question as being given to the best of their ability. Their decision ought not to be questioned by the rabble, or by a clique, or by the owners who went and pointed out the merits of the animals, as they did at the Islington Show. There were some owners who used to go into the ring, and on one occasion he (Dr. Shorthouse) saw the owner mount and ride his horse round before the prizes were awarded at the Islington show. Such a system was altogether vicious. What I said, or was saying, when I was interrupted by Mr. Howard, was to the following effect:—I thought the Stud Book question was a much more formidable matter than the introducer supposed it to be, for that in the Stud Book which professed to be a register of thorough-bred horses, and which if they won races and valuable stakes were disqualified if they were found to be incorrectly described. And when so much pains were taken that blunders should creep in was a serious matter, and I was sure that with certain horses even an approach to accuracy was impossible. I also instanced the case of the Duke of Wellington's famous charger "Copenhagen," whose pedigree, though admitted into the professed register of pure bloods, was on the same page acknowledged to be impure.

Mr. JAMES HOWARD rose to order, as the discussion was on the subject of cart horses, and not on thoroughbred horses, which Mr. Street had scarcely alluded to.

The CHAIRMAN: Will Dr. Shorthouse keep to the point?

Dr. SHORTHOUSE: I have done so sir.

Mr. FINLAY DUN said the subject was so extensive that it was difficult to know into what section to dive. He believed the great deficiency to be met with, at the present day, amongst the best and most valuable of our cart horses was, in spite of all efforts to the contrary, their want of action. He found that amongst the heaviest and most imposing of the cart horses that come into London there was a difference of something like from 25 to 40 per cent. in value according to whether they could step or not. It was surprising still to find that a very large number of what, in a sense, should be the best horses—because the biggest and heaviest, and probably most symmetrical—were deficient in action; their shoulders were upright, their heads were heavy, their limbs were round, the hair of the limbs was rough, and there was, as Mr. Street had said, an undue tendency to various hereditary diseases. What seemed to be wanted was that greater attention should be paid to constitution and action. Until some better system than that hitherto in force were adopted we were not likely to make the progress we ought to make in the breed of useful and valuable horses; and not only was a Stud Book very much wanted to register and preserve the pedigrees of the most valuable and best constitutioned horses throughout the Empire, but in addition we required also an increased development throughout the Midland and Southern counties of the system which had taken root and was flourishing both in Scotland and the Northern counties of England, and had borne good fruit—viz., the formation of associations for the hire of the best possible horses throughout the country. It was a wonderful and most satisfactory sight to anybody fond of horses to see collected at Glasgow, during the show week, upwards of 200 splendid draught stallions exhibited there before the representatives of about forty different county associations, which sent their best and most practical judges with

instructions and premiums so as to induce the best-bred and best-constitutioned and most symmetrical of the horses to travel various districts throughout the country. These prizes, as hinted at in the paper, varied from £50 to £100, the owners of the horses had a certain number of mares guaranteed; whilst to prevent disappointment the number was usually restricted to a hundred, and not merely 2 guineas each, but frequently 4 guineas per mare was given in the best breeding districts in the north of England and Scotland. With these increased facilities for the disposal of good stud horses, by hire or sale, large numbers of Clydesdales during the last twenty years have been brought together. At this great Glasgow spring show usually held in February, thence distributed on their service throughout the northern and agricultural districts, improving and multiplying an admirable breed of horses, not perhaps so cumbersome, so ponderous, and so heavy as those of the Midland Counties—from Leicestershire and Cambridgeshire—but horses with a greater amount of go, endurance, and activity; horses which are brought in increasingly large numbers to London, Manchester, and Birmingham, and other large towns, which are used in the large railway vans, and which are found able to stand the hard work of railways and contractors better than some of the more cumbersome, rough-limbed horses. Messrs. Pickford and Co., who employ about 2,000 horses, and who at present work 1,000 in London alone, began twenty years ago to send their commissioners to Carlisle, and then farther north, for the purpose of getting horses; and so well have these horses—though not filling the eye so thoroughly as the shire horses—answered the purpose, that now in Messrs. Pickford's establishment there was not probably more than about 10 per cent. of the English breed of horses, the north-country horses having almost entirely superseded them. These horses, as he had said, did not fill the eye, but they managed to walk about four miles an hour when out with the heavy vans, and when returning home were able to trot along over the hard stone and unyielding pavement of the London streets without shaking themselves or damaging their legs, as occurred, to a great extent, with some of the rounder-limbed, but worse bred, sort. Messrs. Pickford had not only shown good judgment in the selection of useful horses, but they had also led the way in another interesting department, viz., in regard to their management, their feeding. In their large establishment would be found a more thorough and systematic care bestowed upon the horses than obtained in the farmer's stables or in those of the smaller horse-owner. Almost every horse in their large establishment was very soon taught to eat its food pretty nearly bruised, cut up, and reduced to chaff. A little long food was generally given to a horse when it came home tired, fatigued, and hungry; but a large proportion of both fodder and corn was given in the reduced state. In Messrs. Pickford's, and in some of the large carrying establishments, where the horses weighed from 16 to 20 cwt., the amount of food given was 20 lb. of bruised grain, and about 20 lb. of cut fodder per day. For farm horses he found that an allowance of about three-fourths of what he had named, with 4 or 5 lb. of long hay, answered very well indeed, viz., about 15 lb. of mixed grain—mixed generally according to their relative price—probably the best mixture of 14½ years being about equal proportions of oats, maize and Canadian peas. Such a mixture, even when adding the expense of crushing, would not much exceed 1d. per lb. About the same, or a smaller weight, of cut fodder, was necessary for agricultural horses; and with a very small quantity of long food, this liberal allowance of grain, would keep such a horse in admir-

able condition, and free from serious disease. They ought to have, as every one knew, some bran or clean roots daily in order to counteract the heating and constipating tendency of the dry grain and fodder; but if such roots could not readily be got for heavy draught town horses an admirable and healthful substitute was 1 to 2 lb. weight of linseed cake. Horses were most grateful for linseed cakes. They showed it in their coats and in their condition, as much as young cattle did, and there was no more profitable adjunct to the winter food of a farm horse than good linseed cake. Mr. Street had, in his paper, expressed a partiality for a particular colour in horses, with which he (Mr. Dun) could scarcely agree. These big red roans which were a fancy sort of colour, in which some amateurs delighted were not so good in most respects as they should be. They had more delicacy and a worse constitution than any horse going. He would not say a good horse was ever a bad colour; but amongst horses of different colours they would find a difference in point of endurance, constitution, and activity in a certain colour as compared with a certain other colour. Clearly preferable in point of colour, as to useful hardiness, he would place the best bays and browns; and lowest amongst the most delicate, the most troublesome to rear, the most likely to be affected by the most serious diseases, and the least likely to pull 'through them, he would place the red roan horse. This condemnation, although applying tolerably equally to heavy draught and nag horses is not applicable to the Norfolk trotting horses, of which many good ones are red roan. He might point to the fact that a royal animal having travelled about, the result was a great number of horses known as yellowish bays, all of which had a distinct mark, while one of them had a mark like a cross round the shoulders (laughter). He would have been exceedingly glad to have got that animal's pedigree, and he felt certain that had there been a Stud Book the owner would have been too wise to have placed it there if he knew what it was. That animal took the first prize as a two-year-old—he would not say where—(A member: "At Battersea")—and yet it had produced stock of that peculiar kind, and he had reason to believe that his dam was an ordinary nag or half-bred mare. Further than that he would not go; and he only alluded to the case to show that very compact handsome horses and very good workers might have such germs as had been alluded to by Mr. Howard. The peculiar marks which belonged to defective breeds of horses had been perpetuated in the way which he had mentioned. In conclusion he desired to thank Mr. Street for the trouble he had taken in putting together so careful a paper.

Captain HEATON (Worsley, Manchester) said he felt that he was very much out of place in rising to make any remarks in the presence of so many leading agriculturists who had been accustomed to deal with such questions as that all their lives, and after what had fallen from Mr. Street, Mr. Howard, and Mr. Finlay Dun, there was in fact little more to be said. He could not quite concur in what Mr. Finlay Dun said about his pet Clydesdales. He must stick up for the shire breed of cart horses, and he feared unless something were done their Scotch friends would completely knock their legs from under them. Having Lord Ellesmere's horses under his control he had had frequent applications from foreigners, and he had observed that they generally asked for Clydesdales. He had asked them why they did so, and they told him that it was because the Clydesdales were the only pure breed of horses

in the country. Now he did not wish to say anything against Clydesdale horses, but they all knew that Scotchmen often went to England and took back shire-bred mares by hundreds, and hence their own horses had many of the characteristics of that breed, and English agriculturists ought to set up a Stud Book as soon as possible in order to prevent Clydesdale breeders from claiming purity for their breed over that of shire horses. They all knew what an immense number of old screws were travelling about the country, and unfairly damaging the character of English horses. In visiting Cambridgeshire and Huntingdonshire he had been much surprised to find how unwilling most farmers were to pay a moderate price for the use of a good horse. They would not consent to pay perhaps more than 2 guineas, whereas it was well known that a stallion which was worth £500 or £600 could not be allowed to be used for such a sum as that. In his own district landlords possessing large studs had horses worth from 500 to 1,000 guineas, and had offered to let the tenants have the use of them at the nominal fee of a guinea and a-half, and he had known farmers having good mares refuse the offer because they could obtain an old screw for a guinea. He would like to know what an English farmer would say if he were asked to pay 40 guineas for the use of a horse; yet Scotch farmers, who were supposed to be able to take care of their money, had paid 20 guineas for the serving, and twenty more for the foal. With regard to prize lists he must say that the list of the Royal Agricultural Society of England was miserable compared with that of the Highland Society. In the Highland Society there are four prizes (£40, £30, £20, and £10) for aged stallions, and four for three-year-old stallions, which could not compete successfully against their seniors. There were prizes also for two-year-olds and for yearling colts, with prizes for mares in foal, and others with mares with foals at foot, and a liberal list for fillies of various ages. He deprecated the continuance of the system adopted this year by the Royal Agricultural Society of giving prizes to mares in foal instead of giving prizes to mares with foal at foot, and he believed it was a fact that in few instances in former shows had the first prize winner been able to claim the prize, having failed to fulfil the conditions of having produced a foal. With reference to what Mr. Howard said about the keep of horses, he would remark that he thought that it was not desirable to give colts up to two years one atom of hard corn. He thought that the food of animals up to that period should be entirely cooked, and that they should have steamed oats, straw, and hay chopped up, boiled or steamed roots, and a large quantity of bran. He had found that farm horses were kept in better condition, and the mares bred far better when they were fed in that way than when they were kept upon hard corn. He noticed that farmers did not bestow sufficient care on the rearing of young stock. A colt should never be allowed to lose its foal's flesh, and for the first two years at least it should have a liberal supply of good nourishing food, which would do more to make it a good horse than all its keep in after life.

Mr. T. BELL (Newcastle) said he happened to be a member of the Northumberland Agricultural Society, and he knew that for the last two years a deputation had been sent from the southern district to the Glasgow Show of Stallions, with power to select stallions and also to offer a prize of £100. The second show having been held only last week, he was not in a position to state how the scheme had worked, and some time was required to show whether the experiment was a success or not; but he knew that in another case of the same kind the



result was satisfactory. He alluded to the case of a local society in Northumberland, which last year sent a similar deputation and offered a similar prize. He might add that he knew more than one English farmer in Northumberland who had paid 40 guineas for sending a mare to the Prince of Wales.

Mr. J. K. FOWLER (the Rebendal Farm, Aylesbury), wished to say a few words in reference to the practice of giving prizes at agricultural shows for cart horses. At a Buckinghamshire Show there was offered through the kindness of Lord Carington a first prize of £50, to which £20 was added by the Society, and the result was that the animal which obtained the prize was sold to Lord Camperdown, and did nothing to benefit the farmers of the district. With all due deference to Captain Heaton, he would remark that farmers must use the best horses they could get, and that it was not satisfactory for them to be denuded of all the advantages of prizes. He thought that the prizes given by agricultural societies should be of much larger amount, but arrangements should be made which would ensure successful exhibitors sending their horses to the districts in which they gained prizes. He was also of opinion that farmers should be prepared to pay considerably higher prices, and that in the case of such districts as his own, where farmers wished to breed cart horses for the London market, arrangements should be made for securing a reasonable subscription list for that purpose. He was sorry to differ from Mr. Finlay Dun, but he certainly thought the red roan was a very good kind of animal. About six years ago some friends of his bought the prize trotting horse at the Agricultural Hall Show, giving £100 for it for the purpose of improving their breed of horses, and the result was that they secured not only good hacks, but also good cart horses. The horses obtained in that way were very useful, but they had not as much hair as was expected, and the result was that after having had light-haired animals they had now gone in for animals with a great deal of hair.

Mr. C. S. READ, M.P., said with regard to what Mr. Fowler had just said about prize winners not benefiting the district, he wished to observe that they had experienced that evil in Norfolk to such an extent that it had been determined, in connection with the show of cart horses which was to take place at Norwich on the following Saturday, that the prizes should not be given until next June. The successful horses must travel about the district, or else the owners could not have the prizes (Hear, hear).

Mr. J. K. FOWLER: Oh, I beg to say that in our case such exhibitors as I alluded to won't have the money (laughter).

Mr. GEORGE STREET (Maulden, Ampthill) said he was one of those who thought it would be for the advantage of farmers generally to breed their own horses. When they remembered that cart mares could be worked up to the very day of foaling, and that, if necessary, they could be put to easy work soon after foaling, and when they also remembered that the colts were fit for work or for sale, and would fetch a good price as two-year-olds, he thought they would agree with him that no animal which was bred on the farm, except perhaps the sheep, would pay better than the cart-horse. When a man had made up his mind to begin breeding, if he were wise he would form an opinion as to the best type of animal to breed, and he would then steadily stick to it; not jumping about from one sort of animal to another, choosing first, perhaps, the big Lincolnshire horse and then going in for a clean-legged animal, but taking care at the outset to secure the best mare he can purchase. By using the best sire in his district he will soon have a good team. Mares that are bred from

regularly are far more likely to breed than those that are occasionally put to a horse. He would here throw out a hint to young breeders. He had known many gentlemen who, having suffered some loss and disappointment, had given up breeding; but his impression was that it was far the best to persevere, and stick to one particular breed. As to the best sort of horses to breed, that question depended very much upon locality, and upon what they wished the animals to do. He was not prepared to say that on light lands two compact horses, with plenty of bone, that would walk cheerfully away with the plough, would not do the work required quite as well as a big Lincolnshire horse; but those who wished to sell their horses at good prices must have plenty of size and substance, a good deep middle, plenty of hair, and plenty of bone beneath the knee. That was the sort of horse that would fetch a long price; and if a young man bred such animals steadily he would ultimately find his whole team pretty much of the same sort. If a man intended to make money by horses, he must secure plenty of substance, bone, and hair. Allusion was made by Mr. Finlay Dun to the fact that London horses are now somewhat changing their character. Perhaps he had lost sight of the fact that the reason of that was that the old-fashioned Lincolnshire horses went out of fashion when so many breeders went in for a light clean-legged horse. People did not know where to find those horses, and therefore they went in for light van horses, but the prize lists and high prices proved that the heavier kinds of animals were appreciated quite as highly as, if not more highly than, they ever were before. He had a strong impression that a vast number of foals were lost every year that might be saved. Many foals were turned out when they were only one or two days old, with their mares, and exposed all day to an east wind, and hence there was a sudden change in the milk, with other attendant evils, resulting in great loss. At such a period it was best to keep the mare and the foal in the stable, and let them be supplied with bran and bran meal, and they should watch for an opportunity of taking them out on a sunny day for an hour or two, and trying to get the mare and the foal accustomed to a change of food. That would be far better for them than turning them out too quickly. Another remark with regard to foals: they all knew that foals were generally very cheerful, lively animals; but sometimes when a foal was five or six days old he had gone into a field and found it with its ears drooping, tucked up, and in pain, and on examining the animal pretty closely he had found a watery substance oozing out from the belly. When that was the case no time should be lost. A veterinary surgeon should at once be sent for, and he would probably administer a pretty strong dose, or something to act upon the mare's milk, and indirectly on the foal. After sending for the veterinary surgeon, the next thing would be to lay the foal down, put a strong pin through just above the navel, and bind it tightly with strong thread. That might stop the discharge, and in that case the foal would probably be saved. He had a valuable yearling from his Cardiff mare, which he believed would have died if he had not pursued that course. When Mr. Finlay Dun remarked that red roans were very tender, he turned round to Mr. James Howard and said, 'What will he say to my brother's mare, and my Cardiff mare?' 'Oh!' he replied, 'you forget, they are blue roans.' He had always been under the impression that they were red roans, and were good doers. Further, he would say with regard to foals and colts, let them be kept moving, always improving, should be the rule for young stock. He agreed

most thoroughly with his brother that it was desirable that they should have a Stud Book for horses as well as for other kinds of animals. If he wanted to illustrate how good-looking horses were not necessarily well-bred, he might state that some years since a first prize two year-old at the Royal Show was used in his neighbourhood; nearly all his stock were of one colour, a yellowish bay with a brown mark down his back, and sometimes down the shoulders also. He had been told that his horse was bred from a nag or half-bred mare, but had not been able to trace his pedigree further back. If the horse had been entered in a Stud Book it would have been interesting to have discovered the origin of that particular and distinctive mark which was reproduced in successive generations, but, perhaps, the owner would not have entered him. It is only fair to say they are compact, good-looking horses, and capital workers.

Major DASHWOOD (Kirtlington, Oxfordshire) said he was glad to find Mr. Street advocating the shire horses, having himself witnessed the advantages connected with such horses. He admitted that Clydesdales and Suffolks were very useful animals, but they were not better than the shire horses. As regarded the management of horses, he had found the wear and tear much greater than it used to be, owing to the use of machinery and other causes, and that compelled them to keep their horses in better condition than they used to do. They now heard more than they used to do of horses that were broken-winded, &c., it proving the harder work and higher feeding required very careful treatment. He dare say many of them had sometimes suffered the loss of horses without knowing why. A little while ago he bought a six-year-old of a gentleman in his neighbourhood, who was giving up farming. That horse having gone to work on a Monday morning, worked for two hours, then began rolling about; on being taken towards the stable he fell down within 100 yards of it, and died within a few hours. A veterinary surgeon in the neighbourhood gave a reason, and said that there was no blame attaching to the owner. He (Major Dashwood) recollected at least one other case similar to this one. The animal lost the use of his extremities, and dropped down. Happening to know a large contractor in London, who had about 600 horses, he mentioned the case to him. "Oh," he said, "I know all about it. I have had several cases of the same kind. The horse has gone to work on Monday, or after a holiday, and perhaps a Bank holiday falling on a Tuesday, and then it has fallen down, and I have not known why in the world it was. I applied to the best authorities, but could not get much information about the matter. I now give a horse, when it is in the stable for two days in succession, 5lb. of bran." He also said that it appeared to him that foreign horses were especially liable to such attacks, but that in two cases the animals were English home-bred horses. He (Major Dashwood) afterwards went to the Royal Veterinary College, where Professor Pritchard was kind enough to tell him what was the real cause, which is the result of high feeding without work, causing apoplexy of the spinal cord. No doubt the same case had happened before, but it was so rare that veterinary surgeons as a body had not learned the cause. He hoped that Professor Pritchard would explain the matter better than he had done.

Professor PRITCHARD (Royal Veterinary College) said he must first thank the Club, as a stranger, for the privilege of saying a few words on the subject of the paper. He would first remark that, so far as he was aware, the malady just referred to by Major Dashwood first made its appearance among cart

horses at a comparatively recent period—only some five or six years ago at the utmost. There was very little doubt in the present day among those who had had an opportunity of examining the matter carefully, that the malady in question consisted of an apoplectic condition of the spinal cord. In *post mortem* examinations of such cases it had been found either that the vessels of the spinal cord were in a highly congested state, or that effusion had taken place, imparting undue pressure to the cord; such pressure would necessarily bring about what the last speaker mentioned as regarded the extremities. He had been asked to explain the cause. He was at first inclined to come to the conclusion that the malady belonged more particularly to foreign-bred horses, but a little investigation satisfied him that it extended to English horses, though it did not appear to attack them so frequently; and he formed the opinion that the malady, which had only recently made its appearance in this country, might be due to the introduction of a comparatively new food in the shape of maize. He made particular inquiries of those who were in the habit of feeding horses with large quantities of maize, and compared such cases with those of animals which were fed on other kinds of food. He however found that many cases occurred in horses fed on other kinds of food, including oats, beans, and peas. It then occurred to him that it might be due to a plethoric condition of the body, brought about by idleness or freedom from work. He found that far more cases occurred on Monday than on any other day of the week; and as the result of subsequent investigations he had very little doubt that the malady was really due to a plethoric habit of body brought on by animals in full condition being suddenly thrown, as it were, out of work. He had found, for example, that when a severe frost lasting for three or four days had prevented a number of horses from being worked, it was followed by a number of these attacks, and here was a clue to the mystery under such circumstances. He would, therefore recommend that when horses were thrown out of work for four-and-twenty hours, instead of being supplied with a larger quantity of food, as animals in that position were apt to be, they should be supplied with a smaller quantity and of a less stimulating character than that which they would require when kept at work. By the treatment now adopted in such cases they were enabled to save from 70 to 75 per cent. of the animals attacked. The best advice he could give them was that in all such cases they should endeavour to secure the aid of the best veterinary surgeon in their neighbourhood; and if he were asked whether there was anything they could do in the meantime for the purpose of bringing about recovery, he would say that if the horse could bear the slightest weight, or partly stand on his legs, they should try and sling him, while if he could not stand at all on his legs slings should not be used, the animal being turned over from time to time. There were one or two other points to which he wished to allude. He entirely concurred in what Mr. George Street said about the necessity of selecting horses free from hereditary taint. Nothing was more important to bear in mind, in the breeding of horses, than the absolute necessity of choosing dams and sires which had no hereditary disease. The number of horses that were seen working about farms with "side-bones" was marvellous, and in a large proportion of cases they were due to nothing else than hereditary taint; the time had come when farmers should be warned that they should not merely select animals of a particular breed, but should also take care that those which they selected were free from hereditary

disease. He did not think any one would question his statement that side-bone was an hereditary malady, but if any one did he would point to other defects which clearly arose from that cause. In travelling about the country he frequently saw a stallion with one eye, and he would put them on their guard against having anything to do with such animals unless they knew that the defect arose from an accident. In such cases it was often stated that the defect was caused by a stick or something of that kind; but the horse was the subject of a disease termed constitutional ophthalmia, which often led to the loss of one or even of both eyes. It was a remarkable fact that in many cases when that disease had destroyed one eye the other would remain sound, acute, and look as healthy as possible, although even that eye might have had one or two attacks. It should be borne in mind that although the remaining eye might appear to be in a very clear condition, and although there might be no proof of intentional injury, there were those who would do such things for a purpose; yet there might be actual hereditary disease, and they should not accept the statement that the lost eye had been destroyed by some accident without good proof that such was the case. Mr. Howard said he wished the essayist had said more in reference to the feeding and general management of horses. On that subject he would only say a few words. If they wanted to make the most of a horse and of the food which they gave him, they should let him be well housed; they should put him in a place which was thoroughly well-drained and ventilated and give him the best kind of food, including a moderate quantity of hay, and avoiding what would be likely to cause indigestion. Some years ago stoppages of the bowels and other evils of the same kind were much more common than they are now. Why? Because in those days nosebags were hardly ever used, and horses which had remained without food for a long period were allowed suddenly to consume a large quantity. Again, he thought that animals should be watered before they were fed. Within the last twenty years he had had opportunities of seeing many proofs of the advantages of that mode of treatment. He had lived among the South Staffordshire ironworks where the horses are very hard-worked; he had often been called up in the night to attend to horses that were suffering from affection of the bowels, and he could state that in a large proportion of cases the attack arose from the animal's having taken a great quantity of solid food. He would be happy to explain that physiologically, but time would not allow him to do so then. The engines connected with the ironworks supplied large tanks close to the stables with water in a chilled condition, and before taking any solid food the horse was left to go to the stand and take his fill of water. If water were chilled, he might add, it would not be attended with any danger when used in that way.

The CHAIRMAN said before Mr. Street replied he should like to say a word in reference to the prices paid for the serving of mares in this country. He believed that as regarded the rule that gentleman was quite right in his observations, but he had not exactly hit upon what had led to that. He and others who lived in the same district had been breeders of horses for some years, and they generally selected the very best animal that they could get to put to the mare, but they had been frequently disappointed at the absence of foals after having used prize animals, and hence they had been led to use other animals, feeling that they must either do that or remain without foals. He believed that that was what had generally

led to the employment of an inferior class of cart horses. The wonder was that the breed had kept up so well. In his own neighbourhood they had a very excellent breed of cart horses, and he did not believe many parts of England could show a better one than was to be seen at the slows of Chatteris, March, and some other Fen towns. He was sure he did not raise their expectations too high in what he said before in reference to Mr. Street's paper, and he would now call upon him to reply.

Mr. F. STREET then replied. He said as regards the small number of foals left, the causes of that were referred to in his paper, and he would add that if a horse were limited to 100 mares they could not reasonably expect more than 70 foals. As to the complaint with respect to the serving of mares he might remark that between Waterbeach and Cambridge out of fifteen mares served by Young Sampson fourteen were left in foal. Mr. James Howard, Captain Heaton, his (Mr. Street's) brother, and he thought other speakers also, had spoken of the necessity for having a Stud Book for cart horses, and he should be much pleased if some resolution on that subject were passed that evening.

The CHAIRMAN observed that it was not customary in that Club to pass resolutions at meetings for discussion.

Mr. F. STREET continued: He hoped that something would be done. Perhaps it might be well to summon a special meeting to consider the matter. There was nothing like striking while the iron was hot, and it was of great importance that something should be done at once to secure such an object. Dr. Shorthouse advocated secret judging. Secrecy did not belong to agriculture, and he hoped it never would. He was pleased to find Mr. Finlay Dun, Captain Heaton, Mr. Bell, and other gentlemen advocating the providing a collection of horses in the spring to select from. As regards feeding, he did not quite agree with Mr. Dun as to the advisability of using maize or peas, unless, indeed, they were mixed in a very small degree with other kinds of food. He had found that bruised oats, split beans, and bran, in about equal proportions formed on the whole the most useful kind of food, and that with such feeding an ordinary cart-horse would cost about 10s. a week. In introducing his paper he had thought it best to throw out points or discussion and not take up the time of practical men too long on the rearing of young horses. He would tell Mr. Fowler it would be useless for the Aylesbury Association to offer a good prize unless a given number of mares were guaranteed at a fixed price. And, as was the case last year, the owner of horses taking the prizes would not fulfil the conditions. He did trust they would soon see a number of Associations springing up similar to the Welchpool and Crewe spring shows. He could not concur in what Mr. Finlay Dun said about roan horses. If he had the opportunity of using the "Strawberry Roan" referred to he would rather use him than any other horse in the Kingdom. He offered Mr. Marston £300 for him for the season, but could not succeed in getting him.

Mr. T. DUCKHAM said he felt great pleasure in moving a vote of thanks to Mr. Street for his excellent paper, and he hoped the reading of it would soon be followed by the establishment of a Stud Book for cart horses.

Mr. T. WILLSON seconded the motion, which was then put and carried.

Mr. P. PHIPPS, M.P., in proposing a vote of thanks to the chairman, said he could not help remarking that the subject

discussed that evening was important not only to agriculturists but also to mercantile men and many others who wanted good horses. There was great difficulty in getting such animals, and one often had to pay a very high price, but he must say that after what he had heard he preferred a good big, bony horse with a fine hair on his legs.

Mr. CHARLES HOWARD, in seconding the motion, said there was one point in Professor Fritchard's valuable remarks which very much pleased him; he alluded to his calling the attention of the farmers of the country to the necessity of using nose-bags. He was in business for a great number of years before he found out the great advantages derivable from that very simple appendage of horse gear, and he had since reaped most beneficial results. With regard to the passing of a resolution

on the subject which had been discussed, he would remark that formerly the resolutions were generally proposed, but that after due consideration it was determined to discontinue the practice. Of course it was quite open to Mr. Street to convene a meeting to consider the question which he had introduced. With regard to what had been said about the Royal Agricultural Society he could not help expressing his regret that those who had made complaints had not, before the prize-sheets were sent out, placed themselves in communication with the Council of that Society in order that the defects to which they alluded might, if possible, be remedied.

The motion was then carried by acclamation, and the meeting separated.

## CHAMBERS OF AGRICULTURE.

### CENTRAL.

The usual monthly meeting of the Council of this Chamber was held on March 5, at the Rooms of the Society of Arts, Sir George Jenkinson, M.P., in the chair.

After the usual preliminary business, Mr. J. BELL, of Newcastle, presented, in the absence of the Chairman of the Education Committee appointed in December last the subjoined report. The Committee having been appointed to confer with Professor Tanner, of the Science and Art Department, and to report relative to the advantages offered by that Department towards the education of farmers' sons, reported as follows:—

"Your Committee, having, in accordance with their instructions, had an interview with Professor Tanner, beg to report that, for upwards of twenty years previous to 1876, the advantages of the Government grant in aid of science teaching, amounting in the year 1876 to £44,000, was exclusively enjoyed by urban and manufacturing interests. A very large number of schools have been established in towns, at which art and science instruction has been obtained at a very small cost, by young persons preparing to engage in manufacturing and other industrial pursuits. In 1876 the number of schools having science classes under qualified teachers was 1,426, having 58,000 pupils and students; and 33,000 were examined. The money grant was expended (1) in fees to the teachers at certain sums per head for the pupils and students who passed the examinations of the Department; (2) in sums in aid of local exhibitions and scholarships held by pupils for a term of years; (3) in sums paid in aid of travelling expenses of teachers attending lectures; (4) in grants towards the purchase of apparatus; and (5) in grants in aid of the erection or adaptation of buildings for the purpose of Science Schools. Early in 1876 the Committee of Council on Education decided to place agriculture on an equal footing with the other great industries of the nation; and accordingly provided a section for the principles of agriculture, for, encouraging and stimulating instruction at a low cost, not in technical farming and grazing, but in the applications of science to husbandry. In the first year, 150 candidates underwent examination in the principles of agriculture; Cirencester, Glasgow, Edinburgh, and Aberdeen contributing pupils and students, some of these being persons desirous of qualifying themselves to act as

teachers. In 1877 no fewer than 800 candidates came up and it is considered probable that in the present year there will be a still larger number. Of these, however, only a small proportion came from England, Scotland and Ireland supplying the large majority. According to the last official returns, the pupils under instruction in agriculture were as follows:—In England and Wales, 223; in Scotland and Ireland, 915; making a total of 1,138. This probably arises from the fact that little has been done in England for enabling the advantages offered to be made use of for the sons of farmers. Your Committee are aware that a most admirable course of study in the principles of agriculture is open to young men in the Royal Agricultural College at Cirencester, and elsewhere; and the Royal Agricultural Society of England is accomplishing a valuable work by its annual examinations in scientific and practical agriculture. Nevertheless, a great need still exists for local classes, at which, by means of courses of lectures boys in rural districts may receive some elementary instruction in the application of chemical, geological, botanical, and other sciences to the various branches of husbandry. With the help of the Government grant, and for fees not exceeding a few pounds, students could attend such lectures by qualified instructors at various rural centres. In order to secure a share for agriculturists in the advantages offered by the Committee of Council on Education for science teaching, it will be necessary in some localities to establish new centres, but in many cases it will suffice to provide new classes in connection with existing Schools where these are already established in county or market towns. The initiation in the matter consists in forming a small Local Committee of gentlemen of recognised position, to obtain suitable rooms for classes, to make application to the Science and Art Department for a qualified instructor in the principles of agriculture, and to superintend the system of local examinations. In rural districts it might be desirable to arrange for a teacher to visit different towns and villages in rotation. In submitting this Report your Committee venture to recommend the subject to the attention of the Council; and suggest that they or a larger committee, be re-appointed, with power to circulate among associated Chambers and farmers generally information respecting the conditions and benefits of the new section for the principles of agriculture established in connection with the Government Science and Art Department."—PICKERING PHIPPS, chairman

On the motion of Mr. BELL, seconded by Mr. CALDECOTT the Report was adopted.

Mr. T. WILLSON, in moving the reappointment of the Committee, observed that the master of a British school in his neighbourhood had for several years received £50 a-year from the Science and Art Department alone, and added that an enormous deal of scientific work must have been done to enable the Government to pay such an amount, and that the result as regarded the boys appeared to be very satisfactory.

Mr. ADKINS seconded the motion, and it was agreed to.

Mr. PELL, M.P., presented the Report of the Local Taxation Committee, which was as follows:—

“The Local Taxation Committee desire to direct attention to the important legislative measures introduced this session by her Majesty’s Government. These include Bills for the establishment of representative county boards, for the improvement of the details of highway management, and for the better valuation of rateable property. The first of these measures was read a second time on the 18th of February, by the large majority of 231 to 63. The Highway Bill has not yet been considered by the House of Commons, and the Valuation Bill has not yet been issued. To facilitate the discussion of the County Administration Bill, the Executive Committee thought it well to issue on February 13th, before the second reading, a detailed summary of its provisions, together with some suggestions as to the points which in their opinion most required attention or amendment. This statement, which is presented herewith, has been circulated among Chambers of Agriculture, Boards of Guardians, and others interested. During the two nights’ debate on the second reading of the Bill considerable preference was shown for the union instead of the petty sessional division of the electoral area for the new County Boards. Your Committee regard the substitution of the union area for that proposed in the Bill as the most important and pressing of the improvements to be desired in the Government scheme. Other amendments may, they believe, be desirable in the direction of reducing the magisterial quota prescribed in the constitution of the new boards, in securing publicity for their work, and in ensuring a uniform period of account, together with a proper official audit. They do not believe, however, the proposal which has been made to substitute a system of direct election in place of the selection by guardians provided in the Government Bill to be requisite, or generally desired. Your Committee trust that the clauses which relate to highway management and control will be relegated to and discussed with the Highways Bill, to which they naturally belong. As thus rearranged and viewed collectively, the present proposals of the Government in the matter of highways resemble in many particulars those put forward in 1876. Your Committee view with satisfaction the proposal to extend the area of charge for important thoroughfares; but would recommend that the whole, instead of only one-half, of the cost of main roads should be borne by the entire area represented on the County Board. They fail to find sufficient justification for the date (1874) which it is proposed to fix for the conversion of dis-turnpiked roads into main roads, and would, if any period at all must be named, give preference to the year 1870, which was proposed in the former Bill. They question the sufficiency of the very limited powers for reimposing tolls in exceptional cases as a remedy for the pressure on the rate-payers in the matter of road repair; and they regret that the Bill does not make urban districts contributory towards the maintenance of main roads, which are largely devoted to inter-urban traffic. In the absence of such proposals, or of relief by indirect local

taxes, or of the power of exceptionally assessing on a graded scale certain specially road-using businesses (such as that noted with special approval in a former Government measure for Scotland), your Committee are unable to welcome the Highway Bill of 1878 as likely finally to settle some of the most difficult questions of road maintenance which have been so long agitated. They, however, believe the powers conferred on County Boards over defaulting highway authorities will be found to be of great practical utility, and they cordially approve of the disposition shown by this measure to promote the amalgamation of highway and sanitary authorities in rural as well as in urban districts. They trust it may be found practicable to extend these provisions, and ultimately to merge existing as well as future highway districts in the areas of the rural sanitary authorities. In reference to the future adoption of the Highways Acts, they are inclined to require the sanction of five members of the County Board, in place of only one, to the raising of the question. They believe extended facilities for the use of rural tramways on roads or roadsides would be desirable. As regards the clauses of the present Bill dealing with locomotives, your Committee would very strongly urge the necessity of distinguishing between the casual use of engines moving implements from place to place and the continuous use of roads by locomotives hauling heavy trains for ordinary trade purposes. Instances have come to the knowledge of your Committee of great hardships thus inflicted. In one case a road formerly costing £25 a mile has by traffic of this nature been raised to a yearly cost of £500 a mile, and this entirely for the benefit of a single mining property, rated at less than £100 a year, and contributing but 15s. to the increased cost of road repair. The distinction here noted as desirable between the damage inflicted by the two classes of locomotives might be enforced by requiring a higher scale of license duty in the latter case; the fees for the licenses to be in all instances credited to the county road fund rather than the county rate. Although the general business of the session has not yet far advanced, the attention of your Committee has been directed to the proposed imposition of new charges on the rates in the Training Ships and Schools Bill and the Blind and Deaf Mute Children (Education) Bill. The progress of these measures it will be therefore necessary again to watch. Since the issue of the Annual Report of your Committee in November last, they have received the following subscriptions, in addition to those acknowledged in their annual list:—

	£	s.	d.
The Lincolnshire Chamber (8th donation) .....	15	0	0
The Gloucestershire Chamber (9th donation) .....	10	0	0
The West Riding of Yorkshire Chamber .....	12	0	0
The Herefordshire Chamber (7th donation) .....	5	0	0
Richard Walmsley, Esq. ....	5	0	0

“ALBERT PELL, Chairman.”

On the motion of the hon. member, seconded by Mr. LAWRENCE, the Report was received and ordered to be printed and circulated.

The meeting then proceeded to consider the County Administration Bill, upon which there was the following on the agenda paper, Mr. PELL, M.P., explaining that although it was submitted by the Business Committee, they were not pledged to it, and that it was merely the result of the communications on the subject which had been received from a number of local Chambers.

Mr. EVERETT moved—“That this Council cordially approves of the County Administration Bill, and heartily thanks

Her Majesty's Government for promptly introducing so good a measure."

This resolution having been seconded, a discussion ensued as to the precise wording of it in connection with the question of introducing amendments, but it was ultimately adopted without any alteration.

Mr. PELL, M.P., then moved "That this Council suggests as an amendment to make the union so far as it is practicable the electoral area."

Mr. T. WILLSON having seconded this proposal,

Mr. KNIGHT, M.P., said he saw great objections to the Bill as brought in by his friend Mr. Selater-Booth. In the first place, he felt that if it were adopted in its present form one effect would be to put off the passing of a measure in the present session. He knew that the matter had been very much discussed in the Local Government Board. When Mr. Goschen brought forward his proposal in reference to that question, finding what great difficulty there would be in fitting the union to the area of the county, he was obliged, although he was a great centraliser, to adopt the petty sessional divisions, and Mr. Selater-Booth had done the same thing. Mr. Selater-Booth was not a centraliser by nature, but he had fallen to a great extent into the hands of the permanent staff, and it was a fear of such tendencies that led him (Mr. Knight) to oppose the establishment of the Local Government Board, which was one of the most centralising bodies in the country. One great object which they ought to keep in view in seeking an improved system of county administration was to secure a form of government which would be independent of London. It would be very easy to show from the statements of Mr. Chadwick and other founders of the new Poor-Law system, who were among the greatest centralisers that ever lived, that their intention in forming unions was to break up the county system, and to do away with all local government, the mode of proceeding being to place the whole of the management in the hands of unions which were to be under the control of a great central Board. As long as the Whigs were in office he and those who agreed with him in such matters opposed the full carrying out of that object; but when the Conservatives came into office they fell into the hands of the centralisers, and he was sorry to say that several measures of a centralising character had emanated from the present Government. When Mr. Selater-Booth was about to propose the Bill under consideration he (Mr. Knight) expected to find that everything would be put in the hands of the Government, and his reason for now approving of it was that it was a decentralising Bill, inasmuch as it did not leave everything to the unions, and therefore to the Local Government Board. It took the area of the petty sessional divisions, which had no authority over them in London. It was as a decentralising measure that he gave it his support. Had it been a measure for placing the unions in the hands of a Board in London he would have voted against it. It was very difficult to estimate the position of a poor-law guardian, one of the least independent positions in the world. The guardians could not order any one thing without being liable to be checked; and if they were to have for the counties a form of local government which would be subject to a Board in London they would be much worse off than they were before. If they were to have union areas the county boundaries would be so broken up that it would be impossible to pass the measure at all this session, and they would have to wait a year or two for the equalising of the union and the county boundaries

He had been twice Secretary of the Poor-Law Board, and while he was at the office the permanent staff had the greatest possible horror of a guardian being employed as a local officer, contending that he was an officer of the Board; and he liked this Bill, and would support it because it would make the guardian an independent man—a man sent from his parish to vote not as an officer of the Local Government Board, but as a representative of his parish. Anybody who had been working against centralisation as he had been doing a large portion of his life must feel the importance of adopting petty sessional divisions instead of the old Chadwickian plan of trying to abolish all local government. If the union area was adopted they would have to go through a long tedious process in order to meet money difficulties, and he hoped the advocates of decentralisation in that room would vote with him in support of Mr. Selater-Booth's Bill without amendment No. 1 for making the union area as far as practicable the electoral area. He now moved that No. 1 be left out.

Mr. STORER, M.P., seconded the amendment.

Captain CRAIGIE said as a decentraliser he took up the challenge which had just been thrown out. He felt great surprise at the picture which had just been drawn of a Poor-Law guardian as little better than a menial of a Board sitting in Whitehall. He had never met with such a description before, and he must say it had filled him with amazement. He felt very strongly on the question before the meeting, having devoted a great deal of time to the consideration of it. He had always earnestly advocated the establishment of a good system of county government as a buttress and a barrier against centralisation, and he wanted to see unions taken as a unit for county purposes, because he looked forward hopefully to the breaking up of centralisation, and he believed that that would hasten it. The Council had on more than one occasion passed a resolution affirming the expediency of bringing the sanitary laws, the Poor-Law, and highways under one management. That could not be done as matters now stood, because of the crossing of unions, but to make the union the electoral area would be to stimulate the putting in force the 25th Clause of Mr. Selater-Booth's Bill, which had for its object the rearranging of union areas in harmony with county boundaries. True, there were financial and other questions of a similar nature which would have to be settled; but did the hon. gentleman who had just spoken believe that such questions could be settled most rapidly by taking the petty sessional divisions as a unit? Would it not be the greatest stimulus to take in hand the difficult work that there was an area which would be continually bringing before the minds of people the inconveniences that resulted from the arrangements made in 1834? He did not believe there could be very great difficulty in making a rearrangement. Of the 650 unions in England 469 were complete unions within counties. No doubt 180 in some degree crossed the county boundary, but of that number over 60 crossed by only one or two parishes, over 80 by only three parishes, and 126 by less than 6 parishes; and he believed that the difficulty arising from crossing was not nearly so great as many supposed. He was not advocating anything impracticable, but he was advocating what would tend to foster a better administration of county business generally. He believed that the adoption of union areas would in the end do more towards abolishing centralisation than almost anything else that could be proposed at the present time.

Mr. TREADWELL said he had come to that room believing

all petty sessional divisions would not form as good electoral areas as unions, and what he had heard from Mr. Knight failed to convince him that he was wrong. He did not know his own petty sessional division, but he did know his own union. His petty sessional division had been changed twice or three times within the last few years and he did not now know how far it extended, while he did know the extent of his union. The hon. gentleman (Mr. Knight) said that with union areas the guardians would be under the control of the officers of the Local Government Board. If that was the case it must be a serious thing to be a guardian; but did the hon. gentleman mean to tell him that his vote as a guardian was affected by the Local Government Board (Hear, hear)? If he thought it were he would not be a guardian for one week longer (Hear, hear). He agreed with Captain Craigie that it would be quite as practicable to take the union area as the petty sessional division, and his experience tended to show that it would be more practicable.

Mr. GODBY (Nottinghamshire) thought it would be very difficult to bring unions into a suitable position for forming electoral areas. He had had a considerable amount of experience that bore on that question. For 25 years he had been a guardian in a union which was made up of 25 parishes out of Nottinghamshire, 26 out of Lincolnshire, and the borough of Newark with 8 guardians. Under this Bill, in which it was proposed to take petty sessional divisions, they would have three guardians elected members of the County Government Board in each division, and he believed that there were the same number of unions as of petty sessional divisions, so that if the union area were adopted having three members for each Union, they would have to split one man in every Union in order to elect three, Lincolnshire and Nottinghamshire being equally divided. Then, as regarded the formation of a Union which comprised 27,060 inhabitants, viz., 12,000 in the borough of Newark, 8,000 in Nottinghamshire, and 7,000 in Lincolnshire, he foresaw the greatest difficulty in making a convenient electoral area. There were, as they had just been told, 180 unions which overlapped, and any one who had a practical acquaintance with the matter must see that that fact involved the greatest difficulty in connection with the object of the motion before the Council. On the whole he believed petty sessional divisions would form the most compact and the best areas, and on that ground he would support the amendment. He admitted that union areas required reforming, but Captain Craigie's argument on that point reminded him of ladies who chose a bad husband in the hope of being enabled to improve him (laughter). Captain Craigie would make the union area the electoral one in order to bring about a reform of that kind of area. That would, indeed, be a slow process, and what was now proposed would, in fact, endanger the passing of the Bill.

Mr. T. DUCKHAM said he entirely agreed with the last speaker. In the county of Hereford, where he lived, out of 11 unions 8 were border unions. He was at a loss to know how Captain Craigie's ideas were to be carried out? How were they going to work the Poor-Law with a rearrangement of unions? Was it through the destruction of the present workhouses and the erection of others? He believed there would be found very serious difficulties in rearranging the unions throughout the country? Captain Craigie had told them that there were 180 unions which overlapped, and he could not see the desirableness of adopting areas which were incomplete, in order to carry out the views which that gentle-

man expressed, especially when there were areas which were all complete in themselves.

Mr. STOREY, M.P., observed that the case of Nottinghamshire was a rather crucial one, there being only one or two unions which were entirely within the county. The object of the Bill was to provide for an altogether new state of things, and what was contemplated would in many respects be a great revolution, and therefore he thought the Government were perfectly right in proposing a new area for county administration. He did not see why the Government were bound for electoral purposes to stick to union areas, which were originated for such very different objects. As regarded the reform of union areas, a long time must elapse before there could be an amalgamation, because there were such conflicting interests involved. He believed that what the Government now proposed would form the foundation of a better system of county management, and he thought the adoption of petty sessional divisions would do most to promote that object.

Mr. C. S. READ, M.P., said he entirely dissented from the conclusion of his hon. friend who had just sat down, and almost entirely from his hon. friend's reasons (laughter). They were told that they were going to have a revolution. What was that revolution but the revolution of taking the areas used by the Local Government Board and making them areas for electoral purposes? If there were a revolution it was of the minutest possible kind. Mr. Godby had mentioned the case of a Union including 25 parishes in one county and 26 in another. He (Mr. Read) would have thought it was perfectly possible for those 25 and 26 parishes to have each elected one man, and for one to have been sent to Lincoln and the other to Nottingham, the other representative, making up three, being given to the town of Newark. Putting out of consideration the urban element, would it not be much better for the rural guardians to elect two men than for the guardians of different Unions to go to the Petty Sessional Divisions and there elect members? He would put it to any one in that room whether they could be aware of the character or qualifications of any man for a seat at a County Board before they had worked with him. Having had some experience of official life, he must say that most officials were very averse to giving themselves much trouble; and hence it was natural that as regarded the electoral area under the Bill the Government officials should have considered the easiest course the best one. In the present case he felt sure that the easiest course was not the best. It was not the best course to begin the new system by setting up a new area instead of sticking to the old one and endeavouring to improve it. The great majority of the Chambers which had already reported on the subject were unanimously in favour of the Union area.

Baron DIMSDALE (Hertfordshire) said the question was fully discussed in his Chamber on the previous Wednesday, and no one seemed to be in favour of the Union area, while there was a general assent to the selection of Petty Sessional Divisions. He thought it was desirable that the Bill should be passed as speedily as possible. A good deal, perhaps, might be said in favour of the administration of county finances by the magistrates, but that system having been condemned the sooner a change was made the better, and unless Petty Sessional Divisions were adopted there must be considerable delay arising from the necessity of re-adjusting boundaries. The Union areas could not be adopted without revolutionary changes, and wishing to see the Bill become law as soon as possible he was in favour of the proposal of the Government.

Mr. WHITAKER WILSON deprecated the time of the Council being occupied with details. The Bill was a good one, and he for one cordially thanked the Government for introducing it, and whether they had Union areas or Petty Sessional Divisions there would be the same number of representatives.

Mr. CARPENTER (Herefordshire) said his Chamber was unanimously in favour of petty sessional division. He wished to enter his strong protest against the assumption that farmers were not qualified to take part in the administration of county business, five-and-twenty years of observation having led him to the conclusion that they were as well fitted to do so as magistrates.

Mr. LEXWOOD thought that, having regard to the pressure of Government business, the Council would do well to support the petty sessional division arrangement for the present, as a contrary course would be a great obstacle in the way of legislation. The matter was of detail, and it should be borne in mind that, after all, it was the guardians who would select the man, and he believed they would select the best man in petty sessional divisions. The area of Unions might hereafter be made coincident with that of counties.

Mr. WOODWARD (Worcestershire) doubted whether the majority of Chambers were in favour of petty sessional divisions. However ancient such divisions might be they were not known except as areas for the administration of justice (Hear, hear), and it seemed to him that if they were to adopt Union areas the difficulties which had been referred to might be got over; while the result would be to render the Guardians much more powerful than they would be under the Bill. Surely, if Boards of Guardians had the administration of sanitary matters, education, and the Poor-law system they must be very powerful, and when their power was concentrated in County Boards they would be found quite capable of coping with a Central Board in London.

Mr. T. WILLSON said he must vote in favour of union areas in preference to petty sessional divisions. Although he had had considerable experience in his own district, he did not know the boundaries of his petty sessional division, neither did he know who were the most likely to be nominated as members of a County Board. Having been a guardian for five-and-thirty years, he did not agree with Mr. Knight, that guardians were a down-trodden set of people, who had no power to do anything. If they had good sense on their side they could always beat a Local Government Board as well as any other body (laughter).

Mr. BELL (Newcastle) thought that if the discussion had proved anything, it had proved the evils of the present complication of areas, and it appeared to him that by adopting petty sessional divisions the Government would be taking a step in the direction of fresh complications. Whichever system was adopted there must be confusion, but of two evils they must choose the least. If union areas were adopted there would be the evil of having 180 areas overlapping, while if petty sessional divisions were adopted there would be great complications in every county.

The CHAIRMAN said, before putting the question, he wished to make one or two remarks. It seemed to him that the difference of opinion as had been expressed that day what they had to expect in another place. The question had been very earnestly debated; and besides the movers and seconders there were seven speakers for the motion, and the same number for the amendment. When that was the case, let them consider what was likely to be the difference of opinion and

the amount of time occupied in a similar discussion elsewhere. He really did not think the point was worth so much discussion; for whichever area might be determined upon, the boards of guardians would be the electing medium, and would be almost sure to choose the most intelligent men of their class. Another reason for preferring the petty sessions area was that it had been deliberately selected by the Government, which had paid great attention to the subject, and that that decision was supported by Mr. Goschen representing the Opposition. By fettering the action of the Government, as they would by opposing one of the main features of the Bill, they would endanger the passing of it. Opponents of the object would take advantage of such divided counsels, a boundary commission would be appointed, and there would be a delay of two or three years. In fact, while fighting, as it were for a shadow, they would lose the substance. He had reason to believe that the question of area would not be regarded by the Government as finally settled if the Bill passed in that respect as it stood and he had also reason to believe with Mr. Selater-Booth that the passing of the proposal of union areas would endanger the passing of the Bill. There had not been such a general expression of opinion on the part of the local Chambers in favour of union areas as would be entitled to carry much weight. Reports on the subject had been received from 21 Chambers, and of these only 12 were for the union areas.

Mr. JAMES HOWARD said he must protest against the assumption that the Central Chamber of Agriculture was a political body. They were not united together for party politics, and it was dangerous to lay down the principle that that Chamber ought not to express its opinion either on the principle or the details of a Bill, because that might embarrass the Government in their efforts to get it passed (cheers).

The CHAIRMAN disclaimed having intended what was supposed; what he meant was that they should not embarrass the Government for their own sake.

Mr. J. HOWARD said he accepted the explanation, but failed to see the difference which it made. He thought that when they were assembled together as a deliberative body they ought to express an opinion on the principle of the details of Bills which affected agriculture. If they were to take into account collateral issues the object of joining the Chamber would be defeated.

In reply to Mr. C. S. Read,

The SECRETARY stated that 12 Chambers had thus far expressed their opinion in favour of union areas and one in favour of petty sessional divisions. For the union areas there were the Chambers of Shropshire, Gloucestershire, Lincolnshire, East Kent, Newbury, Somersetshire, Devon, Cornwall, Norfolk, Swindon, West Riding, and East Suffolk. The Nottinghamshire Chamber was in favour of petty sessional divisions.

The CHAIRMAN then put the question, when the numbers were—For the amendment 17, against it 24.

The original motion was then adopted.

Mr. EVERETT moved an amendment in the Bill, reducing the number of magistrates chosen by quarter session to one-third of the Board. He said unless the representative element formed a majority the Boards would fail to accomplish what he believed they all desired. Whether there was a majority of magistrates or of non-magistrates was immaterial, all that was necessary for the purpose being that they should sit there in a representative capacity. He hoped the Chamber would be unanimous in favour of that proposal.



Mr. C. S. READ, M.P., was happy to second the motion. One-third was the proportion of ex-officio members on all Boards appointed of late years—for example, the Sanitary Boards, the Valuation Boards, and the Education Boards. He agreed with Mr. Everett that it would not matter much how many magistrates sat on the Board if they were elected; indeed he would have no objection to the whole Board consisting of magistrates if that condition were fulfilled.

Mr. CALDECOTT remarked that the provision in the Bill, that in choosing magistrates to act on the Board the quarter sessions should "have regard as far as practicable to petty sessional divisions," seemed to him unnecessary, as they might rely upon it that the magistrates sitting in quarter sessions would select the best men belonging to their own body that they could find in the county.

Mr. STORER, M.P., said as regarded the remark of the mover, that he would not object to any number of magistrates sitting on the Board in a representative capacity, he considered that they would be there in a representative capacity under the Bill. [A MEMBER: "They would not represent the rate-payers."] They would be representatives of the magistrates, who were chiefly landowners, and would be just as much elected by them as the guardians would be elected by their brother guardians. The magistrates would have very little power if the motion were carried out. They were sure to be out-voted, as he had been when acting as an *ex-officio* member of a Board, and hence they would not be found to attend. He did not wish to propose any amendment, but he objected to the proposal.

Mr. LYWOOD supported the motion, and believed that if the magistrates formed only one-third of the whole they would still, by reason of their position, education, and capacity, have quite a preponderating influence (Hear, hear).

Professor WILLIS BUND denied that there was any antagonism between the magistrates and the ratepayers. Although there might be great objections to magistrates forming half the Board, it would be well to consider what effect their being reduced to one-third would be likely to have, considering what large powers would be entrusted to the Board.

Mr. C. S. READ, M.P.: The more representative the Board was the more likely would the Government be to trust it (cheers).

After some discussion the motion was agreed to.

Mr. ADKINS proposed an amendment in the Bill extending the term of office to three years, adding that he would be glad to see a provision to the effect that one-third of the members should retire annually.

Mr. LIPSCOMBE seconded the motion.

Mr. CLAY (the Treasurer) said that out of the 21 Chambers which had been reported from, 12 were in favour of 3 years, and 1 in favour of 5 years, while 8 had expressed no opinion.

The motion was then agreed to.

Mr. CALDECOTT moved an amendment in the Bill transferring the appointment and cost of coroners to the State, observing that he should be very glad if that were done, but was afraid it would not be.

Mr. LYWOOD seconded the motion, and it was agreed to.

Mr. T. WILLSON moved an amendment for eliminating the highway clauses and transferring them to the Highways Bill, remarking that without that it would be impossible to get the measure passed in the present session.

Captain Crugie seconded the motion.

Mr. J. HOWARD considered it absolutely necessary that the ship should be lightened in the manner proposed.

The motion was adopted, and this terminated the discussion on the County Administration Bill.

The next question on the agenda being the reception of the Report of the Cattle Diseases Committee, it was explained by the Chairman and Secretary that since the Report of the Joint Committee of the Chamber and the Farmers' Club was printed some alterations had been made in it, and a discussion ensued as to what course was best under the circumstances.

The CHAIRMAN remarked that the Bill had not yet passed through the House of Lords, and that there would be quite time enough to discuss the question without doing so on that occasion. Ultimately the following resolution was agreed to:—"That the Report of the Joint Committee of the Farmers' Club and the Central and Associated Chambers of Agriculture be printed and circulated by the Secretary to all the Local Chambers throughout the country, and that it be considered at the next Council meeting."

It was understood that the Contagious Diseases Animal Bill will be the first subject fixed for discussion at the next Council meeting.

On the motion of Mr. CLAY, seconded by Mr. T. DUCKHAM, a vote of thanks was given to the Chairman, and this terminated the proceedings.

**THE BRITISH OBELISK.**—It was hewn in the renowned quarries of Syene, at the extreme southern boundary of Egypt, and was thence floated down the stream of the Nile to Heliopolis, the City of the Sun. It was erected as one of a pair in front of the seat of learning wherein Moses received his education, and stood in that position for about 1,600 years. Shortly before the Christian era it was conveyed to Alexandria, where it has remained until the present time. Its age, therefore, may be computed at upwards of 3,000 years. At that early period, when other nations had not yet awakened into the dawn of civilisation, Egypt had made substantial progress in architecture and sculpture; and the British obelisk may be taken as an admirable example of their excellence. The hieroglyphs which adorn its surface inform us that it was erected by a powerful Pharaoh of the eighteenth dynasty, Thothmes III., and that 200 years later it was carved with the name of another illustrious Egyptian potentate, Rameses the Great. The sculptures of Thothmes occupy the central line of each face of the shaft from top to bottom, and those of Rameses the side lines; so that, at a glance, we are enabled to compare the art of sculpture at periods of two centuries apart. Heliopolis was the On of the Bible, and one of the cities of the Land of Goshen where Abraham sought refuge when driven by famine out of Canaan. It was at Heliopolis that Joseph endured his slavery and imprisonment, and was rewarded by the Pharaoh of his day with the hand of Asenath, the daughter of Potipherah, a priest and ruler of On. Here he received in his arms his aged father Jacob, and Jacob fell on his neck and wept with joy at the recovery of his long-lost and well-beloved son; whilst in the neighbourhood of Heliopolis is still shown the venerable sycamore tree, under which, according to traditional report, the Holy Family took shelter in their flight into Egypt.—*Cleopatra's Needle, &c., by Erasmus Wilson, F.R.S.*

## THE NORFOLK SPRING SHOW OF AGRICULTURAL STALLIONS.

Some few weeks since it was proposed at a Committee Meeting of the Norfolk Agricultural Society that the exhibition of cart stallions should be held in the spring, before the travelling season commences, rather than in June, when the Society's annual show generally takes place, and it was hoped that by offering prizes of greater value, to be awarded only in the event of the prize-winners remaining for service in the county, that they would thus secure the services of the best horses, and supply a need which had long been seriously felt. A general meeting being summoned to debate the subject, the proposition was carried unanimously, and the first Spring Exhibition of Cart Stallions was held on Saturday last, March 9th, in Chapel Field, Norwich. The judges were Mr. W. Thompson, of Thorpe, Colchester, and Mr. J. H. Plowright, of Pinchbeck, Lincolnshire.

In the class for horses of four years old and upwards, there were 17 entries, and 16 put in an appearance. Mr. Wilkins' (Tiptree Heath, Essex), Honest John by Welcher's Honest Tom, was the absentee. The special prize of £60, and the Society's prize, of £20 deservedly went to Mr. Thomas Murfet, for his bay horse, Major, by Welcher's Honest Tom; he is a magnificent horse, with a beautiful head and crest, grand shoulders, wide chest, and well sprung ribs. He has wide, good quarters, and possesses "the most important qualities necessary in a cart-horse, viz., fine action and plenty of muscle and bone, combined with great power; flat legs covered below the knee with good, silky hair." Major belongs to a good old stock of blood, his dam's sire was Harpley's World's Wonder, and the mares got by him bred some of the best stock in Eastern England. It will be fortunate for Norfolk farmers if they can retain this horse in the county. The fee charged by Mr. Murfet for his use places him within the reach of all, as £3 3s., including groom's fee, cannot be called an exorbitant demand. We were glad to notice that many farmers were exerting themselves to secure his services for their mares. The second honours fell to Mr. Anthony Hammond's

brown horse, Lion, a general favourite. He is a compact, powerful, active horse, and beautifully bred (by Heart of Oak). He has good head, crest, shoulders, and ribs; his weak points are that he is rather deficient in his hind-quarters, and although he has good feet, he has rather nipped, weak hocks; however, he well deserved the prize awarded him. The third prize fell to Mr. H. Stanley, of Bury St. Edmund's, for his horse Champion. The Reserve card was given to Mr. J. J. Palmer, of Snetterton, for Monarch, an old Norfolk favourite; although a good mover he lacks the appearance of a stallion. Mr. Wm. How, of Tottington, received a commendation for his dark chesnut Prince Imperial, a pretty horse, but rather low in his back, and somewhat small. Mr. Martin, of Highfield House, Littleport, also received a Commendation card for Hector, by Hercules, a short-legged, compact, powerful horse, with plenty of bone. The three-year-old class had nine entries; only six, however, made their appearance in the ring. Mr. Charles Marsters, of Saddlebow, was, as usual, invincible in his class; the special prize of £40, and the Society's prize of £12, fell to his celebrated Topsman, a winner of many first prizes last year. He is a grand horse, quite a show animal, good mover, plenty of fashion, and sufficient bone and substance to satisfy all judges. A further description of this grand and well-known horse is needless. Suffice it to say, his services are secured for the county of Norfolk. The second prize fell to Mr. James Case for Tomboy, of Testerton, a grandson of Welcher's Honest Tom. This is a very compact, powerful horse, with finely-arched ribs, good shoulders, loin, and arms. He has fine action, and we must congratulate his owner on his well-deserved success.

On the whole, the show must be considered a success, and the members of the Norfolk Society may congratulate themselves that they have done what lies in their power to encourage the breeding of improved cart horses, which ought and, in fact, must be looked to as a certain source of income to the British farmer of the present day.

## BIRMINGHAM SHORTHORN SHOW AND SALE.

The tenth great annual exhibition and sale of pedigree Shorthorn Cattle, held in Bingley Hall, under the auspices of the Birmingham Agricultural Exhibition Society, commenced on March 6th, and will, there is every reason to anticipate, prove as successful as any of its predecessors. The entries did not present so large an aggregate as last year; but the general quality of the stock was good, the bulls exceeding ten and exceptionally meritorious. Among the herds represented were not exceeding twenty months old, those exceeding fifteen and not exceeding twenty months old, and the bull calves being those of the Duke of Northumberland, Earl Beauchamp, Earl of Coventry, Earl Spencer, Lord Leigh, Lord Polwarth, Lord

Moreton, Lord Braybrooke, Baron von Schröder, Sir Georg Jenkinson, Bart., M.P., Sir Robert Peel, Bart., M.P., Sir G. R. Phillips, Bart., Sir Richard Sutton, Bart., Rev. R. B. Kennard, Rev. H. Beckwith, Rev. J. J. D. Jefferson, Rev. E. C. Perry, Rev. H. O. Wilson, Colonel Kingscote, M.P., Colonel Loyd-Lindsay, M.P., Major Webb, Captain Haydock, Captain Mytton, Mr. H. Alsopp, M.P., Mr. A. Brassey, M.P., and Mr. H. J. Sheldon. The last-named gentleman was the winner of the extra prize of £20 for the best bull in four classes, with Duke of Charming Land 7th, red with a little white, calved January 8th, 1877. This is a compact, level animal, of excellent quality, his sire being Grand Duke 23rd,

and dam Charming Duchess 5th. At eleven o'clock Mr. J. B. Lythall proceeded with the sale of the cows, heifers, and bulls in the first six classes, all of which were disposed of at satisfactory prices, two of the bulls in Class 6, bred by Mr. Sheldon, realising 115 guineas each.

## LIST OF PRIZES.

JUDGES:—Mr. Stiles Rich, Fearnall Heath, Worcester, and Mr. James Upson, Witham, Essex, for Classes 1 to 6; Mr. Charles Howard, Bedford, and Mr. William Sanday, Ratcliffe-upon-Trent, Nottingham, for Classes 7 to 10.

**Cows or Heifers** exceeding three years old.—First prize, £10 W. Bliss, Chipping Norton (Secret); second, £5, W. Tidy, Middleton, Tamworth (Blue Belle); h. com. and reserve, H. Lovatt, Bushbury, Wolverhampton (Lavinia); com., F. Lythall, Offchurch, Leamington (Lucy 7th); Sir R. Peel, Drayton Manor, Tanworth (Lady Eleanor 3rd).

**Heifers**, exceeding two and not exceeding three years old.—First prize, £10, W. G. Garne, Broadmoor, Northleach (Netta 3rd); second, £5, Rev. R. B. Kennard, Marnhull, Blandford (Cygnets 2nd); h. com. and reserve, W. Arkell, jun., Matherop, Fairford (Damsel 7th); com., H. Parker, Wickwar (Lady, Butterfly).

**Heifers**, exceeding one and not exceeding two years old.—Prize £10, G. J. Day, Norwich (Trifolium 10th). H. com. and reserve, J. Briscoe, Hill Croome, Worcester (Bessie).

**Heifer Calf** exceeding six and not exceeding twelve months old.—Prize, £5, Horsley and Son, Rugeley (Pink). H. com. and reserve, G. J. Day (Harebell 2nd).

**Bulls** exceeding thirty-six months old.—First prize, £10, T. M. Hopkins, Worcester (Duke of St. John's); second, £5 Mrs. Mace, Northleach (Lord Fitzclarence 5th). H. com. and reserve, G. J. Day (Young Robert Peel).

**Bulls** exceeding twenty and not exceeding thirty-six months old.—First prize, £10, E. Grey, Eastham, Cheshire (Stockwell); second, £5, Messrs. Horsley (St. Peter). H. com. and reserve, Lord Braybrooke, Saffron Walden (Tablet). Com. J. Whyte, Darlington, (Scotland's Farewell).

**Bulls** exceeding ten and not exceeding twenty months old.—First prize, £50, and extra prize of £20 as best bull in Classes 7, 8, 9, or 10, H. J. Sheldon, Brailes House, Warwickshire (Duke of Charming Land 7th); second, £20, W. G. Garne (Emperor); third, £10, H. J. Sheldon (Petarch). H. com. and reserve, Rev. J. J. Dunnington Jefferson, York (Gazette). H. com., W. Faulkner, Northampton (Frederick); E. Cazalet, Shipbourne, Kent (Lord Vane); E. Lythall, Leamington (Pilot). Com.: J. Roberts, Gloucestershire (Oxonian Sweetheart); T. H. Bland, Market Harborough (Baron Lightburn).

**Bulls** exceeding fifteen and not exceeding twenty months old.—First prize, £20, J. G. Attwater, Salisbury (Amos) Second, £10, Col. R. Loyd-Lindsay, Wantage (Revan). Third £5, H. J. Sheldon (Earl of Fawsley 7th). H. Com. and Reserve, Rev. R. B. Kennard (Crown Prince). H. Com.: R. Phipps, Wootton (Abbot of St. Albans). E. Freeman, Chil ton (Bonny Swell). Com.: R. Frost, Chester (Garrett); S. L. Horton, Shifnal (The Abbot); G. Garne, Chipping Norton (Prince of Geneva 5th); Sir G. R. Phillips, Shipston-on-Stour (Political); Mrs. M. A. Severne (Lord Walter); J. D. Allen, Salisbury (Lord Illopetown); J. J. Bibby, Shrewsbury (Baron Hardwicke); T. Willis, jun., Bedale (Petition); G. Hewer, Northleach (Prince of Prussia); Mrs. Mace (Prince Consort); J. W. Larking, Hartfield (Silvo); C. Hobbs, Fairford (Mercury); W. G. Garne (Union Prince); Earl Beauchamp, Malvern (Ryland Duke); C. S. Pilgrim, Hinckley (Polemon).

**Bulls** exceeding twelve and not exceeding fifteen months old.—First prize, £20, J. Outhwaite, Catterick (Grand Duke 27th); second, £10, Rev. R. B. Kennard (Marquis of Blandford); third, £5, T. Harris, Bromsgrove (Hubert Paella). H. Com. and Reserve, Earl Beauchamp (Glen Gower). H. Com.: Earl Beauchamp, (Douglas); T. Pears, Lincoln (Revolver); T. Nash, Wolverhampton (Lord Dodridge). Com.: J. Whyte (Valentine Boy); Col. R. Loyd-Lindsay (Royalist); Mrs. Mace (Royal Felarence); Sir. G. S. Jenkinson, Fulfield (Royalist 3rd); Earl Beauchamp (Madresfield Duke); A. Soames, Bourn, Lincolnshire (Frederick the Great); R. B. Blyth, Reading (Osman); W. G. Garne (Frogmore Prince 2nd); M. Savidge, Chipping Norton (Master Merry); W. Linton, York (British Hope); T. Harris (Magnum Bonum); Earl Beauchamp (Young Sol).

**Bull Calves**, exceeding six and not exceeding twelve months old.—First prize, £20, E. Lythall (Plato). Second, £10, E. Lythall (Paragon). Third, £5, R. Wade, Market Harborough (Prodigal). H. Com. and Reserve: Earl Beauchamp (Earl of Leicester). H. Com.: G. T. Phillips, Newport, Salop (Prince Claro); Mrs. Mace (Baron Windrush); T. H. Bland (Duke of Goldsmith). Com.: W. J. Edmunds, Lechlade (17th Master Tregunter); J. Elwell, Castle Bromwich (Iron Duke); J. J. Bibby (Waterloo Chief); W. Faulkner (Fortune); W. Dent (General Manfred); Major Webb, Tamworth (Lord Lightbourne 5th); Earl Spencer, Northamptonshire (2nd Duke of Venice); H. Allsopp, Worcester (Grand Patriot 4th); T. Hands, Coventry (Canley Cesarewitch 11th); Lord Polwarth, St. Boswells (Grand Vizier); I. J. Banks, Kendal (Duke of Certainty); R. Hemming, Bromsgrove (Albion); R. H. Masfen, Wolverhampton (Bruno); Sir R. Sutton, Bart. (Prince Ruby); G. T. Phillips (Claro Duke); A. Robotham, Tamworth (Royal Duke); Lord Moreton (Prince of Whitfield 2nd); T. Hands (Canley Cesarewitch 13th); H. Allsopp (Grand Patriot 5th); H. A. Brassey, Aylesford (Baron Bright Eyes 2nd).—*Midland Counties Herald.*

ALLEGED ORIGIN OF THE LETTER STAMP.—The origin of the stamp had a tinge of romance in it. It was thirty-seven years ago that Rowland Hill, while crossing a district in the north of England, arrived at the door of an inn where a postman had stopped to deliver a letter. A young girl came out to receive it, she turned it over and over in her hand and asked the price of postage. This was a large sum, and evidently the girl was poor, for the postman demanded a shilling. She sighed sadly, and said the letter was from her brother, but that she had no money; and so she returned the letter to the postman. Touched with pity, Mr. Hill paid the postage and gave the letter to the girl, who seemed very much embarrassed. Scarcely had the postman turned his back when the young innkeeper's daughter confessed that it was a trick between her and her brother. Some signs on the envelope told her all she wanted to know, but the letter contained no writing "We are both poor," she added, "so we invented this mode of correspondence without paying for our letters." The traveller, continuing his road, asked himself if a system giving place to such frauds was not a vicious one. Before sunset Rowland Hill had planned to organise the postal service on a new basis—with what success is known to the world.—*Western Farm Journal.*

## STUDBOOK ASSOCIATION FOR SHIRE-BRED HORSES.

After the discussion on Mr. F. Street's paper on "The Breeding, Rearing, and Management of Cart Horses," at the Farmers' Club, on March 4, a number of gentlemen formed themselves into a meeting to discuss the desirability of establishing a stud-book for shire-bred horses. Mr. John Brown, chairman of the Club, presided, and requested Mr. F. Street to introduce the subject. Mr. Street said that there was a general feeling amongst the breeders of shire-horses, and others interested in the improvement of the breed, that there should be a registry of pedigrees, as in the cases of the Clydesdales and Suffolks. He desired, therefore to take advantage of the present opportunity for forming an Association to carry out that object. As to the place for the headquarters of the proposed Association, some had proposed Cambridge or Peterborough, but he thought London would be more suitable. He proposed the following resolution, which was seconded by Mr. J. K. Fowler, supported by Capt. Heaton, and unanimously agreed to: "That it is desirable to form an Association for the establishment of a StudBook "for Shire-bred Horses."

The following gentlemen were then chosen as a Committee, with power to add to their number:—

Mr. J. Brown, Chairman of the Farmers' Club; Mr. James Howard, Bedford; Mr. C. S. Read, M.P., Honingham, Norfolk; Mr. Pickering Phipps, M.P., Northampton; Hon. E. Coke, Derby; Capt. Heaton, Worsley, Manchester; Major Dashwood, Kirtlington, Oxford; Rev. L. Wood, Singleton, Lancashire; Mr. Charles Howard, Biddenham, Bedford; Mr. Finlay Dun, Hanover Square, London; Mr. R. Leeds, Castleacre, Norfolk; Mr. J. Duckham, Ross, Herefordshire; Mr. J. K. Fowler, Aylesbury; Mr. W. E. Bear, Thorpe, Essex; Mr. Joseph Martin, Littleport, Cambs; Mr. J. F. Crowther, Mirfield, Yorkshire; Mr. Lewin Cartis, Chatteris, Cambs; Mr. J. Linton, Westwick Hall, Cambs; Mr. C. Masters, Saddlebow, King's Lynn; Mr. T. Rose, Melton Magna, Norfolk; Mr. George Street, Maulden, Beds; Mr. F. Street, Sommersham Park, St. Ives.

It was decided to request the Right Hon. the Earl of Ellesmere to become President of the Association. Mr. F. Street was requested to act as Hon. Sec. The first meeting of the Committee was arranged to be held on the 1st inst.

## THE CONTAGIOUS DISEASES (ANIMALS) BILL.

TO THE EDITOR OF THE MARK LANE EXPRESS.

STR,—Having recently attempted to deal with the subject of contagious cattle diseases from a broad social point of view, I shall esteem it a favour to be allowed space in your Journal for a consideration of the proposed Contagious Diseases (Animals) Bill from a purely agricultural standpoint, which I trust will not be ill-timed, nor considered to be out of place.

In introducing the measure, it will be remembered that the Duke of Richmond attributed the failure of the Act of 1869 to three distinct causes:—namely, the impossibility of preventing the admission and dissemination of foreign diseases by port inspection, the absence of uniformity in the action of local authorities, and the want of effective power vested in the Privy Council. The Bill now before the House of Lords proposes to give full and complete power to the Privy Council to deal with contagious cattle diseases inland, and to slaughter all foreign fat stock at the ports of landing. Since the cattle plague era of 1865-6 farmers have contended for slaughter of foreign stock at the ports of landing; and within the last two years the success which has attended the adaptation of refrigeration to the transit of dead meat has warranted a demand for the total prohibition of foreign live stock.

The Duke of Richmond fully admitted the reasonableness and correctness of this latter demand, but tells us plainly that public opinion is not ripe for such a change. In the face of the fact that trade organisations have

hitherto effectively influenced public opinion against slaughter at the port of landing, it is impossible to deny that the Duke is justified in proposing such a measure as he has reason to believe to be practicable, rather than one which, though theoretically and logically unassailable, would have no chance of becoming law in the present state of public feeling. Therefore, the main feature of the measure must be regarded as being based on political possibilities, and not on the logical sequence which scientific knowledge and common sense must derive from the history of contagious diseases of animals in this country. Slaughter at the ports of landing, as compared with port inspection and inland distribution, is an advantage which must be admitted by all, and cannot fail to prove of immense benefit to the agricultural industry of the United Kingdom. A practicable Bill in the hand is better than a "logical" one in the bush.

Second only in importance to the main feature of the Bill is the code of rules and regulations by which existing diseases are to be combated. From a careful perusal of the Bill I am unable to discover that the restrictions are likely to prove vexatious or oppressive to the producer's industry. If foreign stock were prohibited, and foreign diseases thus prevented from landing, then measures of a more drastic nature would be admissible; but inasmuch as these diseases are still to be brought here, the inland restrictions appear to me to be quite commensurate with

such an imperfect solution of the difficulty. They go far enough in providing for a cordon to be drawn around every centre of infection, constituting infected districts in lieu of infected places under the old régime; but they do not go too far in the direction of stopping markets and interfering with ordinary traffic. The framers of the Bill have not committed the error of going beyond the circumstances of the case by proposing home rules which would correspond to total prohibition, whilst only providing for slaughter at the ports of landing; and this commends itself to me as a matter for which farmers have cause to be thankful if they take into consideration the tone and spirit of Mr. Forster's amendment to the 38th Clause of the Report of the Cattle Plague Committee. If a half measure is unavoidable, as I believe it unfortunately is, then it is at least a consolation to know that it is consistent in itself, and not a half-measure in one direction whilst a whole one in another. The Bill confers full and complete power on the Privy Council to do whatever is necessary, and to meet any emergency or contingency which may arise. I take it for granted that this *carte blanche* will not be used in any way contrary to the general tenour of the Bill, because the Duke of Richmond expressly stated that he had not availed himself of certain powers under the Act of 1869, they being in his opinion "outside the spirit of the Act." As far as I can discern, the intent and meaning of the proposed Bill is simply to isolate disease centres with the least possible interference with the conveniences of breeders, feeders, and traders. Clause 22 certainly gives an amount of discretionary power which, if exercised to the letter, would skid the wheels of the entire cattle traffic of the country; if, by an Order in Council, the seventh paragraph of this Clause—"as well with regard to the animals as with regard to the place where they are so found (diseased)"—were enforced to its present meaning the immediate result would be the closing of nearly every market of any consequence throughout the country. If I have read the Bill correctly such action as this would be quite outside its general purport. If an infected "district" included a market within its boundaries, that market would doubtless be suspended; but I cannot gather from the clauses of the Bill that the exposure of the animal affected with disease other than cattle plague would be construed into legitimate cause for suspending, or drawing a cordon around, a market. If that were to be so, London and all our large markets would be suspended, or cordoned, almost simultaneously with the passing of the Act. No doubt that would, under certain circumstances, be the right thing to do, but this is evidently not the right time to do it; it will be soon enough to submit to measures of that character when the last foreign living animal has been landed on our shores. It has been proposed to draw a cordon around London, which the Bill does not provide for; but as the London market differs from other large markets only in degree, it is difficult to understand why it should be subjected to restrictions differing in kind. A great advantage, how-

ever, would doubtless accrue if separate markets were provided for stores and dairy cows in our large towns.

The quarantine provided by the Bill cannot be defended from any point of view with which I am acquainted. It has reference to Dutch cows and pleuro-pneumonia; the cows do not serve any agricultural purpose, are not necessary to the welfare of the inhabitants of the metropolis, nor of any other town, certainly not to that of the general public, and the disease cannot be detected with any degree of certainty by the fourteen days' quarantine. The fifty-six days' subsequent supervision will probably afford the advantage of enabling the inspectors to find the imported disease with tolerable certainty; this is all that can be said for it. In making such a regulation the Government must be afraid of trade opposition, or unwilling to allow prohibition to form any part of their measure; it is impossible to suppose that the professional advisers of the Privy Council have sanctioned the principle of the enactment. The Privy Council is to be armed with power to deal with cattle plague should it make its appearance, and no one will object to that; but pleuro-pneumonia and foot-and-mouth disease are to be left to the action of local authorities. It is true that local authorities will have merely to carry out the rules and regulations of the central authority, but the use made by local authorities of the permissive powers vested in them by the Act of 1869 cannot be said to augur well for the way in which they are likely to carry out these rules. It is a consolation to know that they are compelled to appoint competent veterinary inspectors, and are responsible to—and liable to be superseded by—the central authority; but it would have been more satisfactory if the inspectors were to be appointed by the central authority and responsible to them alone. There must be a certain amount of discretionary power vested in those who have to carry out rules and regulations. The limits of the infected "district" is a case in point, and paragraph 2 of Clause 21 stipulates that a local authority may order the slaughter of cattle having been in contact with pleuro-pneumonia "if they think fit." When the conflicting interests and incompatible elements of which local authorities are sometimes made up are duly taken into consideration—together with the fact that scarcely any two adjoining local authorities have hitherto acted in unison—it will be seen to be quite within the bounds of probability that they may not always "think fit" to carry out the spirit of the Act, though bound to the letter thereof. I have no faith whatever in local authorities, in respect to cattle disease matters; there is too much division of opinion, too many conflicting interests, and too little practical knowledge of the question at issue. The central authority proposes to confine itself to giving orders and looking-on; I think it likely they would save themselves trouble by doing the work themselves.

Taking the Bill as a whole, I cannot see that it is anything but a gain to farmers; it is not perfect, nor all which might with reason be demanded, but as the Duke of Richmond declares it to be all he has power to offer, it

appears to me that it may be safely accepted as tentative and provisional. I regard it not so much as a "half-measure," and "step in the right direction," as it is being termed, but as an immense stride towards the ultimate total prohibition of foreign cattle at no distant date, and

the consequent emancipation of the country from the curse of foreign contagious diseases of animals.

I am, Sir, &c.,  
GEORGE T. TURNER.

## CARBOLIC ACID FOR SHEEP.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—On the 12th December last I received a letter from a young Scotchman, Mr. Charles Scott of Howford, Ettrick, Selkirk, who is a total stranger to me, giving me some interesting information respecting the use of carbolic acid as a remedy for "fever and straining" amongst ewes after bad lambing, and he asked me to give his treatment a trial and to report my experience respecting it.

I willingly undertook, at the proper time, to comply with this request, and I do not doubt that it will be interesting to many flockmasters to learn the result of my trial of this new remedy. (Here follows some correspondence, which we are obliged to omit, in which Mr. Scott tells how he successfully treated ewes with his remedy.)

Having an impression that for even severe cases a mixture of one part carbolic acid to two of oil, the quantity recommended, would be too strong a dressing to be used with safety, I consulted Mr. Corder, chemist, Norwich, who most kindly gave me the benefit of his advice, and we decided that a dressing for severe cases should be composed of one part of carbolic acid, to seven parts gallipoli oil, and for milder cases one part carbolic acid to fifteen parts oil.

The first case upon which the remedy was tried was that of a ewe, which lambed in the fold on a very wet, severe night, and she seemed to have caught cold before the shepherd could get her into a shelter pen.

The ewe was taken with violent straining, and was in great pain, and when I went to the shepherd I found that by mistake he had used the milder dressing of the two, which appeared to have little effect, for at that time the exterior of the vagina was fearfully enlarged and gangrene had commenced. I had the strong dressing applied and the effect was very remarkable. The poor ewe appeared to be soothed and relieved from pain, and the inflammation and swelling of the veins gradually subsided and eventually disappeared, and the ewe did well. It was an extreme case and both the shepherd and I thought nothing could save the life of the ewe, and we were both of us surprised and pleased at the unexpected result.

A second case was that of a shearling ewe, which had a wrong presentation, and considerable force had to be used to turn the lamb, and the shepherd thought the ewe could not get over it. However, some of the strong mixture was poured to in the uterus, and the ex-

ternal parts of the vagina were well dressed, and the ewe never fell off her food and did well.

The third case was that of a three-year-old ewe, which had two lambs, one of which was so placed that neither could be born without help, and the shepherd had very great difficulty in getting the lambs from the ewe, and he thought this case would be a good test for the carbolic acid dressing. The vagina was carefully washed with warm water and wiped dry, and then the strong mixture was applied pretty freely to the uterus as well as to the exterior of the vagina, which had been somewhat injured from the force used. The ewe appeared faint and exhausted for several hours, but on the following day took to her food and gradually recovered.

The ewes in the Merton home farm flock have been remarkably healthy, and up to this time I never remember a more successful lambing season, and the three cases I have mentioned above are the only opportunities I had of trying the carbolic acid dressing in extreme cases, but they were of a nature to satisfy me that the dressing can be used with great advantage, and this is also the opinion of the flock shepherd here, who is by no means a man to jump at conclusions, especially concerning a remedy of which he has had no previous experience.

The shepherd tells me that he has used the mixture in several cases where he thought there might be inflammation of the uterus arise, and he is strongly of opinion that it has in some instances prevented the disease. He considers it of importance (and I agree with him) that, after a bad lambing, the external parts of the vagina should be carefully washed with clean tepid water and wiped dry, before the mixture is applied.

On an off farm there have been two or three cases of bad lambing, and the carbolic acid and oil (strong mixture) was used with the best effect. The old shepherd on the farm appeared surprised to see the symptoms of straining so quickly subside.

My experience of the mixture has not been so full as may seem desirable, but having had so few bad cases I have up to this moment been unable to test it further. Feeling, however, from what I have seen of its effect in three bad cases, that I may safely recommend flockmaster, to give the mixture a trial, I am desirous of losing no time in making the above particulars known, so that the treatment may be tried during the present lambing season.

I would particularly urge upon all who may try the mixture to use only the very best carbolic acid, and would even recommend going to the expense of Calvert's, and to

shake the mixture thoroughly before using. Both these are important points to be observed.

I should like to say that although this treatment was unknown to myself as applied to ewes, it is, of course, possible that it may be already in use by others besides Mr. Scott, but in any case I feel much indebted to him for allowing his treatment to have a fair trial under my

own observation, and for his generosity in permitting me to make known to the public what seems to be so simple and effectual a remedy for such a fatal and destructive disease.

I am, Sir, &c.,

HENRY WOODS,

*Thetford, Norfolk, March 6.*

## F A T.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Popular delusions are so apt to spread that a word or two on the above subject may not be out of place.

The Chairman of the Dublin Tramway Company at the meeting held the other day, said "Only two of our horses died during the half-year, and one from fatty degeneration of the heart—a pretty good proof that the Company's horses were well used." (Hear, hear, and laughter).

If the chairman meant that the small mortality among the horses was a proof they were well used, he was quite possibly right, but if he meant that fatty degeneration of a horse's heart showed it had been well used he was quite possibly wrong. That the audience thus understood him is shown by their laughter. And it is too commonly supposed that fattening the animal fattens the heart. The true sense of fatty degeneration appears to be, giving the heart too much labour. Whether indolence deprives the heart of the assistance of muscular pressure on the veins of the body, or over-work, or excitement drives the heart at abnormal speed, the result may be the same. The strain on the heart is above what is natural, and the blood is forced beyond what nature (on an average) provided for into the blood vessels which nourish the substance of the heart. If this state of things is long continued the blood vessels may become gorged or otherwise injured and incapable of conveying the proper nutriment to repair the wasting tissues. Consequently unorganised substance gradually takes the place of organised tissues—*i.e.*, there is fat where there should be fibrine in the form of muscle. Thus we see it is quite possible for an animal to lay on a great stock of fat *outside* its framework of bones without overtaxing its heart, and without risk of fatty degeneration

of that organ. And it is quite possible for an animal to be very lean, and yet by overtaxing its heart, become liable to fatty degeneration.

The stimulating treatment often applied to so-called "weak" hearts, may often lay the foundation of fatty degeneration. The only rational treatment of such complaints seems to be to breathe such air and take such food as shall keep the heart as much as possible from giving one stroke per minute above the usual average. It then gets time to feed without running the risk of overcharging any of its nutritive channels, and at least economises the power it has.

Doctors say much about enriching the blood, but if in doing so they drive it into the wrong place it were better to leave it alone. Some people take stimulants instead of exercise. This, from what has been already said, must be a blunder. The stimulant spurs the heart to force the blood through the veins, thus increasing the strain upon it. But moderate exercise mechanically moves forward the blood in the veins, and thus *relieves* the strain on the heart. Whence it follows that in some cases of threatened syncope from failing circulation, it is much safer to use gentle upward friction of the limbs in horizontal posture than to administer brandy. The former is like opening the gate for the jaded nag, the other like digging the spur into the flank and forcing him to put his remaining strength to a high leap, and, it may be, a damaging tumble.

"Keep your heart with all diligence, for out of it are the issues of life," said a wise man to his fellow-men, and those who are humane will apply the maxim to all the animals under their charge.

I am, Sir, &c.,

C. L. B.

## RABBIT AND HARE "DISGUSTER."

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Feeling great sympathy for "A Sufferer," I beg to suggest that—if his farm is a light-land one, and I presume it is, because ground game will not hang about heavy soils so much as on light and warmer grounds—the following method will assist him very much, *viz.*, not to sow his wheat before the last week in January or the first week in February in each year for five years in succession. I have adopted this plan, and found it answer thoroughly

The worst crop produced six quarters per acre. I had nothing to lose by ground game during the winter months, and no risk as to the plant becoming what is termed root-fallen through the soil being removed away from the plant by the action of frost and wind. He should use Mr. J. Prout's patent broadcast seed-sower, and not a drill. I have always found broadcast sowing answer much better than drilling; the plant has more chance to tiller out,

and it prevents hares from running between the rows and biting through the straw, as they will do to a fearful extent in drilled crops. As soon as the young plants begin to make their appearance, engage a trustworthy man to sow over the wheat, barley, or oats once a week, very early in the morning, a small quantity of soot, mixed with a very little guano; such attention will rally the young plant into strength, and prevent the vermin from cropping it off through the two most trying months—March and April. The soot should be purchased in the winter months, when it can be bought cheaper, and so as to have a good stock in hand when it is required.

I quite agree with the remarks in your valuable journal that the most effective "disguster," as against the greatest agricultural curse, ground game, would be an Act of Parliament, giving the occupier an inalienable right to destroy hares and rabbits on his holding. I should much rejoice if such an Act could be procured; but I fear it will never be had, because farmers appear not to have sufficient strength of mind to combine, and are afraid of giving offence to their landlords. I speak from experience, having been acting as land agent on an estate nearly the whole of which is swarming with hares, rabbits, and keepers, so much so that I have resigned my position, because I would not attempt to cultivate the home farm against such vermin, and because the tenants are always acting in a sycophantic manner towards their landlord.

I am, Sir, &c.;

LAND AGENT.

**PRUDENT, NOT MEAN.**—Mr. Elijah Hitchcock was a Connecticut constable, whose character was under scrutiny. Deacon Solomon Rising was enquired of about him. "Deacon Solomon Rising," said the questioner, "do you think Mr. Hitchcock is a dishonest man?" (Very promptly), "Oh, no, sir; not by any means." "Well, do you think he is a mean man?" "Well, with regard to that," said the Deacon, a little more deliberately, "I may say that I don't really think he is a mean man; I've sometimes thought he was what you might call a keerful man—a prudent man so to speak. 'What do you mean by a prudent man?' Well, I mean this: that one time he had an execution for 4 dols. against the old Widow Witter back here, and he went up to her house and levied on a flock of ducks, and he chased them ducks, one at a time round the house pooty much all day, and every time he caught a duck he'd set right down and wring its neck, and charge mileage; an' his mileage mounted to more than the debt. Nothin' mean about it, as I know of, but I always thought, after that, Mr. Hitchcock was a very prudent man."—*Prairie Farmer.*

**FEMALE BEAUTY.**—An American paper says:—No two nations agree exactly with each other as to what constituted female beauty. The Moors estimate women by their weight, as we do beef cattle, and purchase them at so much a hundred. The favourites of the Chinese have deformed feet, black teeth, and long nails. A girl painted sky-blue, with a ring through her nose, is the acme of loveliness to a Tonga islander. The Venetians almost worship red hair: and so national tastes vary.

**A PRETENDED MIRACLE.**—A miracle is alleged to have been wrought at the village of Maunch Chunk in Pennsylvania. A lady, by name Miss Amelia Greth, has, it is asserted, been raised from the dead by Father Heinau, a German Catholic priest at Maunch Chunk. Miss Greth, according to her own account, was enabled, through a communication from her guardian angel, to predict her own death, from consumption, but the prediction was accompanied by the gratifying announcement that she would be restored to life by a miracle, would get up from her death-bed, attend mass, and return from church cured of all ailments. On the day predicted Miss Greth died accordingly, and her remains were viewed by 7,000 persons, who were permitted to pass through the room in which the corpse was lying. After Miss Greth had been dead for about an hour, Father Heinau, who had attended her in her last moments, announced amid the most profound silence that he was about to "call her." He then cried "Amelia!" and, there being no response, shouted her name again in a loud voice, upon which Miss Greth immediately came to life and responded "Father." The scene in the room, it is stated, was at that moment "indescribable." Cries of joy and weeping were heard on all sides. Miss Greth then asked for a shawl, and was accommodated with a sealskin jacket, which a lady who stood by the bedside took off and placed on her shoulders. She then walked alone and quite rapidly to church, followed by an immense concourse of people in a state of wild excitement. When she arrived at the church Father Heinau preached two sermons—one in German the other in English—and on the conclusion of the service Miss Greth returned to her room apparently strong and hearty. She has since been interviewed by several reporters; but, as she is not permitted to describe her sensations during the time she was dead, her revelations were confined chiefly to details as to her health, which seems to have been far from satisfactory.—*Pall Mall Gazette.*

#### PETITE.

Oh, you are like the cloudy speck  
That rises on the blue of May;  
So thin, so fine, the little fleck  
Is hardly worth a care, you say,  
My sweet?  
Yet cloudlets hide the sun, Petite.

Or you are like the rose in spring,  
That scarcely shows the rose's pink;  
So pale, so frail, the tender thing  
Is hardly worth a thought, you think,  
My sweet?  
Yet rose-buds have their thorns, Petite.

Or you are like the tempest's heart  
The swift and slender lightning gleam;  
So light, so slight, the tiny dart  
Is hardly worth a fear, you deem,  
My sweet?  
Yet little lightnings kill, Petite.

It is said that the members of the Sacred College in Conclave were allowed to receive letters and newspapers—an unheard-of innovation, and undoubtedly a concession to the spirit of the times.—*Coming Events.*



## AGRICULTURAL SOCIETIES.

## ROYAL.

MONTHLY COUNCIL, Wednesday, March 13th.—Present: Colonel Kingcote, C.B., M.P., President, in the chair; the Duke of Bedford, Earl Cathcart, the Earl of Feversham, Lord Chesham, Lord Skelmersdale, Lord Vernon, the Hon. W. Egerton, M.P., Sir A. K. Macdonald, Bart., Sir M. White Ridley, Bart., M.P., Sir Watkin W. Wynn, Bart., M.P., Mr. Arkwright, Mr. Aveling, Mr. Aylmer, Mr. Booth, Mr. Bowly, Mr. Cautrell, Mr. Chandos-Pole-Gell, Mr. Davies, Mr. Dent, Mr. Druce, Mr. Edmonds, Mr. Frankish, Mr. Brandreth Gibbs, Mr. Hemsley, Mr. Howard, Mr. Bowen Jones Mr. Leeds, Mr. McIntosh, Mr. Martin, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Russell, Mr. Sanday, Mr. Shuttleworth, Lieutenant-Colonel Turbervill, Mr. Jabez Turner, Mr. Wells, Mr. Whitehead, Mr. Wilson, Professor Brown, Professor Simonds, and Dr. Voelcker.

The following new members were elected:—

Bear, William E., of Thorpe, Colchester.  
 Bellamy, T. H., of Ross.  
 Benn, Thomas G., of High House, Matfen, Northumberland  
 Bookes, Thomas, of Sutton, Newport, Salop.  
 Brooks, John, of West Heath, Norfield, Worestershire.  
 Butler, John, of Tetbury.  
 Carr, Francis, of Heslington, York.  
 Clarke, John, of Broad Land, Nantwich.  
 Cooke, Walter II., of Ewenny Cottage, Bridgend.  
 Downard, John, of Tilstock, Whitelarch, Salop.  
 Eley, Henry, of Poyle Farm, Colnbrook, Slough.  
 Foulkes, John, of The Sycamore, Lymm, Warrington.  
 Gilbert, John Heathcote, of Ashton-on-Mersey, Sale, Cheshire.  
 Griffiths, Richard LL., of Merrion Court, Pembroke.  
 Hall, Henry, of Marchamley Wood, Hawkstone, Salop.  
 Heatley, John, of The Day House, Newport, Salop.  
 Hewitt, Wm. H., of Glanoney, Crickhowell.  
 Hickman, Thomas, of Leaton Lodge, Shrewsbury.  
 Holcroft, Vincent O., of St. Mary's College, Oscott, Birmingham.  
 Jelley, Henry, of Garwell Mills, Wansford.  
 King, G. F., of Elm Farm, Chewton, Keynsham, Bristol.  
 Lee, John, of Haighton Hall, Bangor Isoed, Wrexham.  
 Le Grand, Alfred, of 100, Bunhill Row, E.C.  
 Lewis, George, of Flimstone, Pembroke.  
 Lewis, James, of The Rest, Porthcawl, Bridgend.  
 Lister, Charles, of Darley Dale Abbey, Matlock.  
 Madders, Grayson, of Grosvenor Terrace, Richmond, Surrey.  
 May, John, of Farningham, Dartford.  
 Mayne, Joseph, of Catherine Lodge, Warrenpoint, Co. Down.  
 Mundy, Francis Noel, of Markeaton Hall, Derby.  
 Palmer, Alfred, of 8, Lancaster Place, Strand, W.C.  
 Phillips, James Edwin, of Britannia Foundry, Derby.  
 Friday, William, of Linton, Highnam, Gloucester.  
 Roadley, Gravenor S., of Partridge Hill, Bawtry.  
 Robson, Thomas, of Cundall Lodge, Boroughbridge, Yorks.  
 Scratton, John, of Court Lodge, Shorne, Gravesend.

Stacey, Harry, of Merstham, Red Hill  
 Sutcliffe, Robert, of 100, Bunhill Row, E.C.  
 Thomas, George, of Ely Farm, Ely, Cardiff.  
 Thomas, John, of Knightsen, Tenby.  
 Thompson, John, of Sandymount, Tipperary.  
 Tonge, Dinley F., of Wellington Foundry, Lincoln.  
 Topham, Robert, of Elson, Ellesmere, Salop.  
 Workman, J. B., of Southend, Up-ton-on-Severn, Worcester.

FINANCES.—MR. RANDELL (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 February 28 was £1,315 3s. 10d. and £3,000 on deposit.

This report was adopted.

JOURNAL.—MR. DENT (chairman) reported that Mr. Clarke had attended the *Journal* Committee to offer explanations as to his Memoir on Agriculture for the Paris Congress. Applications for exchange of publications with the *Journal* had been received, and inquiries ordered to be made in reference to them.

This report was adopted.

EDUCATION.—The Duke of BEDFORD reported the recommendation of the Committee that the usual examiners be invited to act at the ensuing senior examination.

This report was adopted.

IMPLEMENT.—MR. HEMSLEY (chairman) reported that the Committee had drawn up the following regulations respecting the trials of Dairy Apparatus selected for trial at Bristol on July 8th and following days:—

Class 1.—Milk cans: Facility of cleaning, facility of filling; ventilation, freedom from spilling, means of preventing motion in milk when travelling, and strength, are points which will be specially noted. The cans will be tested by being placed on a covered truck, and drawn along a rough circular railway by steam-power.

Classes 2 and 3.—Churns.—The milk and cream will be delivered at 8.30 a.m., and mixed at once in suitable vessels provided by the Society, and immediately afterwards delivered to the churns at whatever temperature it happens to be. Exhibitors must specify the quantity of milk or cream they will require for each churning when they make their entries. After the churns are filled, a sample will be taken in a cream gauge from each churn, and be reserved for future examination by the chemist of the Society. The exhibitors may churn at what temperature they please, but they are to provide their own means for altering the temperature of their milk or cream. Each churn is to have as much milk or cream issued to it as the exhibitor may have demanded in his particulars of entry. The weight of milk issued, and the temperature at which it is churned, together with the time taken in churning, will be noted. The cost of altering the temperature of the milk or cream will be considered, and the power necessary to work the churns will also be noted, but these points will not be made important features in the decisions. Each class of churns will

be tested on the same day from the same stock of milk or cream. The exhibitors are to bring their own butter-workers, and fit persons for preparing the butter ready for market. The relative merits of the churns will be decided with reference to the following considerations:—The condition in which the butter leaves the churn, its quality and quantity, the facility with which the churns can be cleaned, and the time which the churning occupies. The butter will be weighed and judged after being completed by the exhibitors, and, if necessary, analysed by the Society's chemist.

Classes 4 and 5.—Butter-workers: Freshly-churned butter will be provided by the Society to each exhibitor, in such quantities as he may require, and power for driving his exhibit will also be provided if required.\* The exhibitor is to state in his entry how much butter each machine will require. The points of merit will be—completeness of extraction of moisture, absence of hand-contact with the butter, freedom of machine from fouling, facility of cleaning, and power required.

Class 6.—Cheese tub: Facility mode of filling and cleaning and cost of heating, method of drawing off whey, economy of labour generally in putting in milk and getting out the curd.

Classes 7 and 8.—Curd knife and mill: Adaptability to their purpose, facility of cleaning.

Classes 9 and 10.—Cheese turning and cleaning apparatus: General adaptability to their purpose.

Class 11.—Automatic machine for preventing their ising of cream: Adaptability to its purpose.

Class 12.—Milk cooler: Time occupied in reducing the temperature a given number of degrees, and the cost of doing it.

Class 13.—Keeping milk at 40 degrees: Adaptability to the purpose, cost of apparatus, and expenses of working it.

Class 14.—Milking machine; The machines must be exhibited at the Bristol Show, where the judges will select such as appear to them worthy of further trial; these will be taken possession of by the Society's engineer, and tried during the six consecutive months of the spring and summer of 1870.

This Report was adopted.

CHEMICAL.

Mr. WELLS (chairman) reported the recommendation of the Committee that the usual grant to Dr. Voelcker for experiments be made. During the past year the following papers had been contributed by Dr. Voelcker to the *Journal of the Society*:—1. The Influence of Chemical Discoveries on the Progress of English Agriculture; 2. On the Chemical Properties and Manuring Value of Bats' Guano; 3. Quarterly Reports; 4. Annual Report. The Committee presented the following report on the subject of the establishment of a Laboratory on the Society's premises, and recommended that it be printed, and copies sent to Members of the Council, with the view of its being considered at the next Council meeting.

ESTIMATED COST OF THE ESTABLISHMENT AND WORKING OF A LABORATORY FOR THE ANALYSIS OF AGRICULTURAL MATERIALS AND PRODUCE.

1st.—As to Laboratory and Offices.

The following rooms would be required:—

1. Large Laboratory.
2. Balance Room.

3. Store Room for Chemicals and Apparatus.

4. Room for Water-Analysis.

5. Consultation or sitting-room for Director.

It is proposed to build a laboratory at the back of the Society's house in a simple manner, by covering in a portion of the yard with a span glass-roof. The present finance-room would be made available for the Consulting Chemist's office, and the Secretary's kitchen and other offices in the basement would be used for water-analysis and store-rooms. All the rooms must be supplied with water and gas. The following is an approximate estimate of the cost of fitting up the laboratory with benches for four analysts, and with the necessary shelves, cupboards, drawers, and apparatus:—

Additions to existing premises	... ..	£500
Carpenters', plumbers', and glaziers' work	... ..	120
Glass and porcelain vessels, &c.	... ..	53
Gas combustion-furnaces, water-bath, air-bath, steamer, distilled water apparatus, tubing, &c.	... ..	75
Air-pump, microscope, and physical apparatus, such as aspirators, Sprengel pump	... ..	60
Platinum dishes, crucibles, &c.	... ..	40
Three balances and sets of weights	... ..	45
Sundries, as printed forms, labels; and small pieces of apparatus, as files, cork-borers, &c.	... ..	25
Chemicals for one year	... ..	120
Bottles for reagents	... ..	60
Bottles for 1,200 samples	... ..	20
Rooms 2, 3, 4, and 5 need not be large. Shelving and furniture of the simplest character would suffice for them. The cost of these fittings ought not to exceed the sum of	... ..	120
It would be convenient to have a small set of books of reference in the Balance Room. About 60 volumes of works and periodicals relating to chemistry and analysis would suffice for a beginning. Such works as the following should be included:— <i>Jaeresbericht de Agrikultur Chemie</i> , 13 vols.; <i>Fresenius Qualitative and Quantitative Analysis</i> , 2 vols.; <i>Versuchs Stationen</i> , 24 vols., &c.		
The cost of such books would be about	... ..	30
	Grand Total	... .. £1,250

2nd.—As to the Staff of the Laboratory.

This should include:—

1. A Director or Chemist in Chief.
2. Senior Assistant.
3. Second Assistant.
4. Porter or Attendant.
5. Boy Messenger.

Duties and Salaries of above officers:—

1. The Director shall receive a fixed salary of £400 a year, together with one-half of the fees for analysis.

The Director's time will be occupied by the Society's work for at least three hours each day, and except under special circumstances he shall not undertake any other than the Society's duties at their laboratory. The Director will conduct all correspondence on questions of agricultural chemistry; he will plan and supervise all analyses; he will submit all analytical results to careful scrutiny, supplementing them by microscopic inquiries and special tests; and he will draw up in each case the final report on the quality of the material submitted to analysis.

\* Exhibitors who require power for driving competing machinery will have to provide driving pulleys in halves to fit a 2-inch shaft running at 100 revolutions per minute.

The other labours to be performed by the Director shall be the furnishing of

Annual reports.

Quarterly reports as to analyses made.

Special reports on new materials, and new chemical problems of agricultural interest.

Original researches in agricultural chemistry and improved methods of analysis.

Reports on experimental analyses in connection with the Woburn farm and experimental field.

On the whole, it may be concluded that the Society might conduct its analytical department for an initial outlay of about £1,130, together with a yearly expenditure of about £770. The details of this expenditure are here summarised:—

*Expenses.*

	Original outlay.	Annual.
Staff: Director .....	—	£400
Senior Assistant .....	—	140
Second Assistant .....	—	120
Servants .....	—	100
Laboratory and offices:		
Buildings .....	£500	—
Laboratory .....	480	140
Balance and other rooms .....	120	—
Books and stationery .....	30	10
Stamps .....	—	10
<b>Total .....</b>	<b>£1,130</b>	<b>£920</b>

From the above total annual expenditure of £920 must be deducted half the sum received each year as fees. The number of analyses made annually for members of the Society under the present scale of fees has averaged between 600 and 700; and even assuming as a basis of calculation that 800 analyses only would be made if the fees were reduced to an average of 7s. 6d. each, a sum of £150 would be available for the reduction of the annual cost to the Society as calculated above; this would leave £770 to be defrayed out of the general income of the Society.

*Proposed Alteration in Members' Privileges of Chemical Analysis.*

- No. 1.—An opinion of the genuineness and value of bone-dust or oilcake (each sample) ..... 5s.
- No. 2.—An estimate of the value (relatively to the average samples in the market) of sulphate and muriate of ammonia and of the nitrates of potash and soda..... 5s.
- No. 3.—An analysis of guano; showing the proportion of moisture, organic matter, sand, phosphate of lime, alkaline salts, and ammonia, and an estimate of its value ..... 10s.
- No. 4.—An analysis of mineral superphosphate of lime for soluble phosphates only, and an estimate of its value ..... 5s.
- No. 5.—An analysis of superphosphate of lime, showing the proportions of moisture, organic matter, sand, soluble and insoluble phosphates, sulphate of lime, and ammonia, and an estimate of its value... 10s.
- No. 6.—An analysis, showing the value of any ordinary artificial manure..... 10s.
- No. 7.—An analysis of limestone, showing the proportion of lime, 7s. 6d.; the proportion of magnesia, 10s.; the proportion of lime and magnesia..... 10s.

- No. 8.—An analysis of limestone or marls, showing the proportion of carbonate, phosphate and sulphate of lime, and magnesia, with sand and clay .. 10s.
- No. 9.—Partial analysis of a soil, including determinations of clay, sand, organic matter, and carbonate of lime..... 10s.
- No. 10.—Complete analysis of a soil ..... £3
- No. 11.—An analysis of oilcake or other substance used for feeding purposes, showing the proportion of moisture, oil, mineral matter, albuminous matter, and woody fibre, as well as of starch, gum, and sugar in the aggregate; and an estimate of its value as compared with pure linseed cake..... 10s.
- No. 12.—Analysis of any vegetable product ..... 10s.
- No. 13.—Analysis of animal products, refuse substances used for manure, &c..... from 10s. to £1
- No. 14.—Determination of the "hardness" of a sample of water before and after boiling ..... 5s.
- No. 15.—Analysis of water of land drainage, and of water used for irrigation ..... £1
- No. 16.—Analysis of water used for domestic purposes.....£1 10s.
- No. 17.—Determination of nitric acid in a sample of water ..... 10s.
- No. 18.—Personal consultation with the consulting chemist (except under special circumstances the Director will attend at the office from 11 to 2 but to prevent disappointment it is suggested that members desiring to hold a consultation with the Director should write to make an appointment) 5s.
- No. 19.—Consultation by letter ..... 5s.
- No. 20.—Consultation necessitating the writing of three or more letters..... 10s.

N.B.—The above scale of charges is not applicable to the case of persons commercially engaged in the manufacture or sale of any substance sent for analysis.

In reference to the appointment of a manager of the Crawley Farm and Experimental Field at Woburn, the Committee asked for the authority of the Council to make the appointment, subject to the concurrence of Mr. Lawes and Dr. Voelcker.

Mr. WELLS having presented this report, Lord VERNON called attention to the proposed large expenditure, and, while expressing his opinion that it was well worth incurring to secure the object desired, he questioned whether it was desirable to spend that amount of money on the premises which were at present occupied by the Society. In many respects these premises were very inconvenient, and therefore he thought it would be worth while to consider the question of a change. He gave various practical reasons for this proposal, and added that the Council might memorialise the Government with the view of obtaining premises or a grant for that purpose. He enumerated the learned Societies which were at present accommodated at Burlington House, and expressed his belief that the Royal Agricultural Society could make out as strong a case as any of them for Government assistance. He moved—  
 "That considering the general deficiency of accommodation for the purposes of the Society in their present house, a committee be appointed to consider the question."

Mr. PAIN having seconded the motion,

Mr. DENT expressed his preference for the present independence of the Society to a grant from the Government, whether in the shape of money or premises, which would virtually be a subvention, and might entail a surrender of their present independence. He admitted that the Society was at present badly housed, and that the question of a change was well worthy of consideration, but he preferred that it should be done by the Society without Government assistance, and he maintained that no Society, whether at home or abroad, had done so much for the public, even with Government aid, as the Royal Agricultural Society had done without it.

Mr. AVELING expressed a strong feeling in favour of Lord Vernon's motion. The effect of obtaining Government aid in the manner sought for would be to make the Society more useful to its members and to the public at large. The Government of the day did not hesitate to go to the Council if they wanted advice or assistance in any agricultural matter, and the agricultural interest was the greatest one in the country. At present the accommodation in the Society's house was very limited, and therefore the efficiency of the Society in its numerous operations could not but be impaired.

Mr. WHITEHEAD endorsed Mr. Aveling's views, and hoped that the matter would be referred to a committee. Independence would not be sacrificed in the case of this Society, for it certainly had not been in the case of the learned Societies to which reference had been made.

Mr. WELLS dilated upon the inadequate accommodation of the Society's house. He should like to see the Society possess a proper laboratory, an agricultural museum, and every other requisite for a great national institution; but unless some assistance were rendered by the Government he could not see that such a building could be obtained by the funds at present available to the Society.

Mr. RANDELL expressed himself in the same sense, and also urged that the means of the Society would be insufficient to carry out properly all its operations if they were compelled to sink their reserve fund in obtaining a suitable building. He saw no reason why the Society should not ask from the Government the same aid that was given to other Societies, but he would not, on that account, postpone the proposal of the Committee to make temporary provision for a laboratory on the Society's premises. The proposal of Lord Vernon simply meant to ask for means to do more than it could do at present for its members and for the advancement of English agriculture.

After a further conversation, in which the President, Lord Chesham, Earl Cathcart, Mr. Martin, the Hon. W. Egerton, M.P., and Mr. Jacob Wilson took part, Lord Vernon's proposal was carried unanimously.

The report of the Committee was then adopted.

On the nomination of Lord Vernon, the following

noblemen and gentlemen were appointed a House Extension Committee:—

The President.	Mr. Dent.
Earl of Lichfield.	Lieut.-Col. Turbervill.
Earl Cathcart.	Mr. Brandreth Gibbs.
Lord Vernon.	Mr. Randell.
Hon. W. Egerton, M.P.	Mr. Aveling.
Mr. Wells.	Mr. Whitehead.
Mr. Arkwright.	Mr. Jacob Wilson.

VETERINARY.—The Hon. W. EGERTON (chairman) reported that Mr. Duguid had presented the following report on the outbreak of anthrax in Lincolnshire:—

"On Monday, Feb. 18, 1878, I received information of a most extensive and rapidly fatal outbreak of splenic apoplexy in a herd of cattle belonging to Mr. W. N. Mason, Rigsby, Alford, Lincolnshire. So great and sudden was the mortality that 46 animals died in two days, and it was at first supposed that they had been poisoned.

"Mr. Gresswell, veterinary surgeon, Louth, was called on, and after a careful examination of the affected animals, and a *post mortem* of three that had just died, he pronounced the disease a severe form of splenic apoplexy. I examined portions of spleen and other organs sent me, and found the long *rod bacteria* characteristic of this malady in the blood obtained from them.

"It is seldom that we find more than a few animals of a herd succumb in such outbreaks; but in the present case only two animals survived out of a total of fifty that were in the portion of the buildings where the disease appeared. One of these, a yearling heifer, was affected and recovered; the other, a bull, had only been brought to the farm two days previous to the outbreak. The animals were of different ages. Two were fattening cows; twenty-two were cows in calf, or giving milk: one was a sucking calf; and the remainder were yearlings. The animals were all apparently well on the evening of Friday, Feb. 15, but on Saturday morning the herdsman found 1 cow lying dead, and 21 more died during the day, and by Monday morning 46 had succumbed; 1 more died on Monday, and the sucking calf on Tuesday, making a total mortality of 48 animals from the 16th to the 19th. In another portion of the buildings 26 heifers in calf have remained healthy. At the request of Dr. Sanderson I visited the farm, with a view of ascertaining, if possible, the cause of the outbreak, by inquiring into the feeding, water supply, and state of buildings. The farm is situated on the chalk hills and quite removed from the extensive marsh lands of the county. The farm buildings are in very good condition, and are situated on a slope, with a north-east exposure, the substratum being chalk. A brick wall divides the buildings into two; the upper portion is divided into four open yards in which 26 heifers in calf have been kept all the winter in perfect health; the lower portion consists of two open yards, in which the yearlings were kept, and a range of covered stalls, in which the older animals stood. In this lower portion the mortality occurred, and, as already stated, only 2 out of 50 animals survived.

"The water supply is the same throughout. The rainfall collected on a chalky road that runs through part of the

farm is stored in a pond, from which it is supplied by siphon and ball-taps to the whole of the buildings. The pond is fenced in so that no animal can get into it, and from the fact that it stands above the level of the yard there can be no drainage from them into it. The water deposits a considerable amount of fine chalky deposit, and contains organic matter, probably from the decomposition of vegetable matter, straw, &c., blown into it. An analysis of the water has not yet been made; there seems no grounds for suspecting this as the cause of the disease.

"Although the water supplied to all the animals was the same, the feeding in the upper yard was totally different from that where the malady appeared. The animals that are still healthy were fed on linseed and cotton cake (about 1½ lb. of each daily) and barley straw.

"The animals that became affected were fed on linseed and cotton cake in various proportions, the milch cows and the cows in calf about 3 lb. daily, and the yearlings about 3½ lb. The feeding beasts were receiving 5 lb. of cake daily, and about 3 lb. of a meal of ground rice, wheat, and barley. In addition to this the whole of the animals in the lower portion of the buildings were receiving brewers' grains and barley chaff.

"The grains were brought fresh from the brewery, and stored for a short time in old sugar casks. On the 14th February some fresh porter grains were fetched from the brewery. The lad who brought them stated they had a peculiar odour, which made him feel sick. The grains and chaff were mixed, and allowed to lie for twenty-four hours; the animals were fed with this mixture on Friday evening, and the mortality began on the following morning.

"Dr. Voelcker has analysed a sample of these grains, and found nothing poisonous in them. From the fact that only those animals fed with grains fell victims to the disease it seemed of the first importance to feed some more animals with them, and thus prove whether the grains were the direct cause. Two animals have been fed for ten days at the Brown Institution with some of the grains sent up by Mr. Mason, and they have continued in perfect health.

"I have further to report that on March 6 a bullock was found dead in another yard on the same farm, but at least half-a-mile from the scene of the former mortality. A *post mortem* examination made by Mr. Gresswell, who was again called in, showed that the cause of death was splenic apoplexy. This was one of a lot of 15 bullocks about two and a half years old, that had been fed for the past six weeks in open yards with 5 lb. daily of a mixture of equal parts of linseed and cotton cake and barley straw. Mr. Gresswell observing some premonitory symptoms in some of the others ordered a change of food, and instead of cake gave bran mashes, a few roots, and no straw, in addition to which he prescribed hyposulphite of soda medicinally.

"I visited the farm again on the 7th March, and Mr. Cope, the chief inspector of the Veterinary Department

of the Privy Council, arrived on the evening of the same day.

"On Friday, March 8th, the whole of the remaining 14 bullocks were examined, and 4 showed an internal temperature of 103 degrees or over. These were separated for closer observation.

"On Saturday the temperature had declined, and up to yesterday (March 11th) no further cases had occurred.

"In this instance only one animal died, and it is very doubtful whether this was a fresh outbreak or whether it was a continuation of the former due to some communication between the two yards. The same man had fed all the animals.

"The water supply to this yard was separate from the other; and as there seemed a slight possibility of drainage from the yard getting into the storage pond, water is now being carted from a well for the supply. It has long been known that in this disease *bacteria* are found in the blood, and recent experiments show that these pass through certain stages of existence when cultivated in some animal fluids. In connection with the present outbreaks, experiments are being conducted to ascertain if they are capable of multiplying in other than animal fluids, and if such prove to be the case a most useful and interesting field of observation is opened up in connection with the causes of such outbreaks."

Dr. VOELCKER stated that he had examined the grains and chaff which had been given to the animals in question, and had found no animal or vegetable poison, adding some further information in reference to the action of certain classes of food.

Mr. DENT expressed the hope that the Veterinary Committee would thoroughly investigate this case, which was one of those ravages of a disease which had so frequently baffled the efforts of veterinary surgeons to arrive at its cause.

Professor BROWN said that two distinct views were at present held on this subject. Dr. Gordon Sanderson, and other of the most advanced pathologists, held that in all cases it must have been caused by contagion from a previous outbreak, as certain organisms or their germs were always found in the blood of animals affected with splenic apoplexy. This view had never yet been properly tested in this country. If it were true that these organisms or their germs were essential to the production of the disease all questions connected with the food which had been given to the animals had no longer any importance; and it was perfectly true that cases of the disease had been known to occur under all the conditions contemplated by the holders of this view. On the other hand a large number of eminent practical veterinary surgeons held that the disease only occurred under peculiar conditions of soil and herbage, such as would be caused by the absence of drainage, by excessive stocking, by abnormalities of climate, and so forth; but the difficulty attending on this view was that the disease only occurred on those farms on certain occasions, and generally at very long intervals.

The report of the Committee was then adopted.

SELECTION.—Earl CATHCART reported the recommendation of the Committee that Mr. George Fleming, veterinary surgeon 2nd Life Guards, be elected an honorary member of the Society in recognition of his eminent services to veterinary science.

This report was adopted.

It was moved by Earl Cathcart, seconded by Lord Chesham, and carried unanimously, that Mr. Odams, of The Grange, Bishop Stortford, be elected a member of Council in the place of Mr. R. Hornsby, deceased.

It was moved by Earl Cathcart, seconded by Mr. Dent, and carried unanimously, that Mr. George Wise, of Woodcote, Warwick, be elected a member of Council in the place of Mr. T. Horley, jun., deceased.

The following letter was then read from Mr Stratton:—

The Duffryn, March 11th.

DEAR SIR,—As I cannot be in town this week I shall feel obliged if you will call the attention of the Bristol Committee to the new railway charges for cattle conveyed by passenger trains. Until recently cattle have been charged the same as horses, and two standings were always allowed without extra charges, if required, for a large animal, and anything above 9 yearling would require them. The new rate is 50 per cent. above the charge for a horse, and if two standings are used 50 per cent. above the charge for a pair of horses. As these charges are simply prohibitive, and must have a prejudicial effect on agricultural shows in general, I submit that it would be well for the Royal Agricultural Society to take the matter up, and endeavour to obtain their reduction.

Yours very truly,

R. STRATTON.

H. M. Jenkins, Esq.

In the discussion which followed, Mr. BOOTH stated that last year the railway companies refused entirely to carry cattle in horse-boxes, but upon the breeders expressing their willingness to pay the extra cost which the regulations of the Privy Council entailed upon them they made the regulations which Mr. Stratton complained of, and which were submitted to in preference to the prohibitory orders which had been previously issued.

Mr. DENT said that last year great difficulty was experienced by the Society in arranging for the conveyance of its own experimental animals (for the purpose of investigations into foot-and-mouth disease and pleuro-pneumonia) from Northumberland to London, and he consequently had an interview with the chairman and general manager of the North Eastern Railway Company; and although they conveyed the Society's experimental animals in horse-boxes in consideration of the national importance of the investigation, they then explained to him the great amount of loss which the railway companies experienced in consequence of the necessity of complying with the strict regulations of the Privy Council as to disinfection of horse-boxes which had been used for the carriage of cattle, and that nothing short of a very considerable increase of charge would enable them to carry cattle in horse-boxes in the face of these regulations.

On the motion of Mr. Jacob Wilson, seconded by Mr. Bowen Jones, a committee, consisting of the Stock Prizes and Implement Committees, was appointed to select judges of stock and implements for the Bristol Meeting.

A letter from his Royal Highness the Prince of Wales requesting the Council to nominate jurors for the Paris Exhibition was referred to the Judges' Committee just appointed.

A letter was received from the clerk to the Council enclosing a copy of the Contagious Diseases (Animals) Bill.

#### SHORT HORN.

A meeting of the Council of this Society was held at the Society's rooms, 12, Hanover-square, on Tuesday, the 12th inst. Present: Lord Skelmersdale, President of the Society (in the chair), The Earl of Bective, M.P., Sir Wilfrid Lawson, Bart., M.P., Colonel Kingcote, C.B., M.P., Mr. Hugh Aylmer, Mr. H. W. Beauford, Mr. T. C. Booth, Mr. Edward Bowly, Mr. Chandos-Pole-Gell, Mr. S. P. Foster, Mr. Charles Howard, Mr. David McIntosh, the Rev. T. Stanforth, Mr. G. Murton Tracy, and Mr. Jacob Wilson.

The following new members were elected:—

Atkinson, William, Barneside Hall, Kendal.  
Briscoe, John, Hill Croome, Severn Stoke, Worcestershire.  
Chamley, Thomas, Wareop House, Penrith.  
Curtis, William, Fernham, Faringdon, Berks.  
Kelsey, Henry, Crowhurst, East Grinstead.  
Mitchell, H. B., Leiniz Castle, Beaumaris.  
Mowbray and Stourton, Lord, Stourton, Knaresborough.  
Riddell, J. F., Grange House, Kilkenny.  
Ridley, Sir M. W., Bart., Blagdon, Cramlington.  
Stanford, Joseph, Haxted Mills, Lingfield, Edeubridge.

EDITING COMMITTEE.—Colonel KINGSCOTE reported that 4,550 entries had been received for Volume 24 of the "Herd Book," viz., 1,647 bulls and 2,203 cows, and that these numbers were 200 in excess of those entered in Volume 23.

The Committee also reported that they had had before them the pedigree of a bull entered in Volume 23, and they recommended that the same be re-entered in Volume 24, to correct two inaccuracies in the pedigree.

The Committee recommended that the pedigrees of two bulls bred in this country and exported to Australia be accepted for entry in Volume 24.

The Committee also recommended that in future volumes of the Herd Book the terms of membership, subscription, and to whom payable, &c., be inserted at the end of each volume.

The Committee further recommended that the tender of Messrs. Taylor and Francis, for reprinting Volume 15 of the Herd Book, 400 copies, be accepted.

The Committee wished to take the opinion of the Council on the desirability of owners of Shorthorns inserting in their sale catalogues the names of the breeders of animals not bred by them.

This report having been adopted, the Council took into consideration the recommendation of the Committee with regard to "owners of Shorthorns inserting in their sale catalogues the names of the breeders of animals not bred by them," and the Council were of opinion that it was desirable whenever practicable that the names of breeders, when other than the vendor, should be given in such catalogues.

GENERAL PURPOSES COMMITTEE. — Mr. HUGH AYLMER reported that the accounts for the month of February had been examined by Messrs. Quilter, Ball, and Co., and the Committee, and were found to be correct.

The Committee also reported that the Secretary's petty cash account had been examined and passed, and showed an expenditure of £12 3s. 3d. during the past month,

that the receipts for the same period had been £732 3s. the balance of the Society's current account at the banker's being £1,277 5s. 4d.

The Committee recommended that cheques be drawn for various accounts and salaries, amounting to £171 3s. 3d.

The Committee also recommended that the sum of £700 be placed on deposit.

The report was adopted.

On the motion of Mr. H. Chandos-Pole-Gell, seconded by Colonel Kingscote, C.B., M.P., Lord Polwarth, of Merton House, St. Boswells, N.B., was unanimously elected member of the Council in the room of Sir W. Stirling Maxwell, Bart., M.P., deceased.

On the motion of Colonel Kingscote, C.B., M.P., the Council adjourned until Tuesday, April 30th, at 3 p.m.

## CHAMBERS OF AGRICULTURE.

### CAMBRIDGESHIRE.

The County Government Bill was discussed by this Chamber at their last meeting, and the following resolution passed on the motion of Mr. O. C. Pell:—

"That the magisterial portion of the County Boards should be elected as the assessment committee was by the Boards of Guardians in union areas."

### DEVON AND CORNWALL.

At a meeting of this Chamber, held at Plymouth,

Mr. SNELL concluded a long speech by putting in the form of a resolution the points in which he thought the Bill might be amended. The first had reference to the proportion of representatives, and on this Mr. Snell moved that the proportion of magistrates to elected members should be one-third instead of one-half, and that the duration of the Boards should be three years instead of one.

Mr. PLYNN seconded the motion, and it was carried.

A resolution was also carried in favour of the union and not the petty sessional division being the electoral area.

Mr. SNELL next submitted a question with reference to the 19th Clause, to which he had drawn attention. The motion affirmed that elected members ought to have a voice in all matters brought before the court.

The motion was agreed to. A resolution was also carried recommending that the appointment and payment of coroners be transferred to the State.

On Wednesday last the Chamber again met to consider the Cattle Diseases Bill, when the following resolution was passed:—

1. "That this Chamber expresses its approval of the Government Bill on Cattle Diseases now before Parliament, and believes that farmers will willingly submit to the severe restrictions for the suppression of infection and contagious diseases among their own stock provided measures are at the same time taken to prevent the introduction of disease from abroad."

2. "That this Chamber, understanding that on the Contagious Diseases (Animals) Bill going into committee an amendment will be moved to make a distinction between scheduled and nonscheduled countries and to restrict, compulsory slaughter

to the former, considers that the risk of importing diseased animals will be greatly increased if all foreign animals intended for food are not slaughtered at the ports of landing. And this Chamber is also of opinion that a uniform plan for all countries is better calculated to promote a steadier trade, and thereby uniform prices.

### EAST SUFFOLK.

The Chamber at its last meeting discussed the County Government Bill. The following resolutions were carried:—

1. That this Chamber approves of the method of indirect election proposed by the Bill.

2. That the union should be the electoral area.

3. That the members of the Board should be elected for three years instead of one.

4. That in the opinion of this Chamber all matters connected with the appointment, cost, and payment of coroners should be transferred directly to the State.

5. That the Chamber approve of the main principles of the Bill, and generally of its leading provisions, subject to the modifications which had been approved of by this meeting.

### HEREFORDSHIRE.

At the last meeting of this Chamber, a motion generally approving of the principles of the County Government Bill was carried. The following resolution was also agreed to:—

"That in the opinion of the meeting it is expedient that all the clauses from 9 to 21 be expunged from the County Boards Bill. That it is inexpedient to divide the roads into two classes, ordinary and main roads, or to place any district roads under a central county board."

### HERTS.

At the last meeting of the Chamber the Contagious Diseases (Animals) Bill was discussed. Mr. Lattimore spoke approvingly of the Bill. Mr. Roberson criticised some of its provisions, taking particular exception to the insufficient period of quarantine.

Mr. ABEL SMITH said as to foreign animals imported for

store or breeding purposes the 14th schedule said they should be kept 14 days in the quarantine station, and after that taken to any place under a license, and there kept for 56 days, making 70 days altogether.

Mr. ROBERSON: That would not prevent the spread of disease over the country; they would go away with the germs of disease in them.

Mr. LATTIMORE proposed "That it appears to this Chamber desirable to follow the recommendation of the committee to slaughter all animals for the butcher at the port of debarkation in order to prevent the continuous periodical outbreaks of disease which past experience proves to be inseparable from the admission of live stock; and by this system only will the English graziers be reconciled to the severe restrictions entailed upon them by the operation of the proposed Bill."

Mr. BRANDRAM seconded the motion. Although no longer a breeder and grazier he concurred with what had come from his friends who had spoken. And, as a consumer, with a large family, he thought that some such measure as that before the country was desirable.

Mr. A. SMITH: What is your view on the time for quarantine?

Mr. BRANDRAM: I do not think any system of quarantine will give safety. If they are only 14 days in the quarantine ground I don't think 56 days' detention in another place afterwards gives much security to the country. They could be removed from the quarantine ground 50 miles in and then fall with the disease.

Mr. ROBERSON: And infect the whole of the country.

Mr. BRANDRAM: Let nothing alive come into the country. The benefit derived from our own home stock is far greater than that from foreign stock.

Mr. ABEL SMITH asked Mr. Brandram's views as to importation of animals for dairy or breeding purposes.

Mr. BRANDRAM: The dairy is a serious part of the question, which I am not able to go into.

In answer to Earl COWPER,

Mr. BRANDRAM said if disease broke out on a farm he would have quarantine; he did not think 56 days too much.

Mr. ROBERSON: What is the benefit of importing? We do not improve the breed.

Mr. LATTIMORE: I don't think Dutch cows improve our breeds very much; but they improve our supply of pleuro-pneumonia.

In reply to some remarks from Mr. HALSEY,

Mr. ROBERSON said he would not restrict the importation of animals for dairy and breeding purposes from the Channel Isles, but from the Continent. He attributed pleuro-pneumonia and cattle plague to the introduction of the Dutch cows. If they went into any dairy in London they would find that where Dutch cows were kept they were scarcely ever free from pleuro-pneumonia, which was the worst disease farmers had to contend with. Where they lost one from cattle plague he believed they lost a thousand from pleuro-pneumonia, and, as long as they allowed Dutch cows to come in they would never be free from disease in this country.

A resolution supporting the Bill was passed.

The County Government Bill was afterwards discussed.

#### LANCASHIRE.

A general meeting of the Lancashire Farmers' Club and Chamber of Agriculture was recently held at the

offices in Liverpool. Mr. Henry Neild (Worsley) presiding to consider the County Administration Bill now before Parliament.

The CHAIRMAN said that as the County Government Bill had passed the second reading by a majority of 178, it was evident that there was very great unanimity in Parliament with respect to it; and, taking into account the care which had been bestowed upon the subject by such men as Mr. Clarke Sewell Read, they might take it for granted that the matter had been brought into such a shape as would make it generally acceptable. The cardinal principle of the Bill was the retention of a great measure of self-government instead of putting them altogether under central management. For his own part he quite concurred in the three salient points of the Bill—the indirect method of election by which the representative elements of the Board were provided, the proportion determined on between the representatives of the magistrates and those of the rural guardians, and the electoral areas which were selected.

Mr. NORREYS (Manchester) moved and Mr. W. SCOTSON (Liverpool) seconded, a resolution to the effect that the union ought to be the electoral area, instead of the petty sessional divisions.

After a few remarks from the CHAIRMAN, who opposed the motion, it was agreed to unanimously.

Mr. NORREYS moved a resolution confirming the principle contained in the Bill that the elections to the County Boards should take place through the guardians, and not directly through the ratepayers; and also expressing the opinion that the magistrates should not exceed one-third of the Board, and should be elected at quarter sessions, and that the remaining two-thirds be elected by the Board of Guardians.

Mr. R. WEBSTER (Litherland) seconded the motion.

Mr. COOK (Liverpool) moved, and Mr. BIRCH (Sutton) seconded, an amendment providing that two-thirds of the Board should be elected from the guardians, or from persons qualified to be guardians.

On a division, the amendment was carried.

Mr. SCOTSON moved a resolution providing that the number of representatives of each union sent to the County Boards should be proportioned to the comparative rateable value of the unions. The Bill having been drawn on the assumption that the petty sessional divisions are to be the electoral areas no provision has been made in this respect.

The motion was seconded by Mr. NORREYS, and agreed to. It was also resolved that a copy of the resolutions should be forwarded to the executive of the Central Chamber of Agriculture.

The business concluded with the passing of the following resolution, moved by the CHAIRMAN and seconded by Mr. NORREYS:—

"That the thanks of this meeting of the Lancashire Farmers Club and Chamber of Agriculture be given to Her Majesty's Government for the prompt introduction of this important measure, and that the meeting, while cordially approving of the principle of the County Administration Bill, trusts that the amendments they have suggested may meet with the favourable consideration of the promoters of the Bill and that a good and satisfactory measure may be passed in the present session."



## L I N C O L N S H I R E .

Recently, a special meeting of the members of this Chamber was held at Lincoln, to consider the Contagious Diseases (Animals) Bill.

The following resolution was carried:—"That this Chamber having carefully considered the Contagious Diseases (Animals) Bill, fully and very strongly approves of the same, provided that clauses numbered 29, 30, and 31, and the fourth schedule referred to in Clause 30, be passed *in extenso*, otherwise the provisions of the Bill would be unacceptable to the Chamber, and would press unfairly upon the interest of the English farmer; that the thanks of the Chamber be communicated to her Majesty's Government for having so promptly brought in a Bill to carry into effect the recommendations of the Select Committee on Cattle Plague and Importation of Live Stock; and that the alterations agreed upon by the meeting be suggested for consideration."

## M O N M O U T H S H I R E .

At the annual meeting of this Chamber the report was received, and some other business was transacted. After the annual dinner the Chamber read a paper on "Highway Legislation," and the following resolution was passed after much discussion:—

"That the most satisfactory settlement to this Chamber of this subject will be by one-half of the expenses of all main roads of each county being paid out of Imperial taxes, the other moiety out of the county rate."

## N O R T H C H E S H I R E .

At a recent meeting of this Chamber the Cattle Diseases Bill was discussed.

Mr. CARSWELL proposed, Mr. KEOGH seconded, and it was unanimously agreed to, "That this Chamber cordially approves of the Contagious Diseases (Animals) Act, with the single exception that it is doubtful whether there was not an inconsistency in insisting on the slaughtering of fat stock at the port of debarkation, while allowing store stock to be moved into the country after fourteen days' quarantine."

## N O T T I N G H A M .

At the last meeting of this Chamber the County Government Bill was discussed, and the following resolutions were agreed to:—

1. "That this Chamber approves generally of the Bill; that it supports the mode of election suggested, but recommends that the magistrates elected at quarter sessions be only one-third of the whole Board. It also approves of the petty sessional division being the electoral area; but, in the opinion of this Chamber, Clause 19, referring to the powers of elective members, should be expunged."

2. "That the mode of election be by ballot."

## S O U T H D U R H A M A N D N O R T H Y O R K S H I R E .

Recently, a meeting of this Chamber was held at Darlington, to consider the County Government Bill, the Valuation Bill, and the Highway Bill.

The clauses of the first Bill were considered consecutively by the meeting. It was decided that three years ought to be the term for election instead of one year. The principle of one-third going out each year was also favoured. It was also decided that the elective members ought to be two-thirds to one-third *ex-officio*. There was a division of opinion

as to whether the union or petty sessional division should be the area. It was also held that the powers now vested in the rural sanitary authorities be transferred to the Highway Boards.

The Chamber briefly considered the Highway Bill and the Valuation Bill; afterwards Mr. WORDSWORTH, a large cattle dealer in the district, brought forward the subject of the Contagious Diseases of Cattle Bill, which was then generally approved by the meeting, and it was decided a petition should be sent to Parliament in favour of the Bill.

## W A R W I C K S H I R E .

At a recent meeting of this Chamber, the County Government Bill was discussed, and a resolution was passed in favour of two-thirds of the members of County Boards being elected by the ratepayers. A petition in favour of the Cattle Diseases Bill was adopted. The Highways Bill was afterwards discussed, but no resolution was passed.

## W O R C E S T E R S H I R E .

At the last meeting this Chamber discussed the County Government Bill, and passed this resolution:—

"That the Council agrees generally with the provisions of the Bill."

A motion was also agreed to in favour of the Cattle Disease Bill, as follows:—

"That this Council welcomes the introduction of the Contagious Diseases (Animals) Bill by the Lord President as an earnest endeavour to prevent the re-introduction of foreign diseases amongst our native flocks and herds, and while giving it their cordial and unanimous approval trusts it may speedily be passed into law."

## Y O R K .

At a recent meeting there was a numerously-attended meeting of the members held at the Queen Hotel, Micklegate, York, Mr. DUNN, Kelfield, the President, in the chair. The CHAIRMAN moved that the Chamber approved generally of the County Administration Bill, and tendered its thanks to the Government for introducing the measure, but suggested some alteration therein which would make the Bill more popular and efficient. That the County Board should consist of two-thirds elected representatives of the guardians and one-third representatives of the justices; that the union rather than the Petty Sessional Division should be the electoral area; that the members should be elected for three years instead of one.

Mr. LETT, Scumpton, seconded the motion, which was supported by Mr. WARE, of Skirpenbeck, and others, and was unanimously adopted.

Mr. COLEMAN, Riccall Hall, moved that the Chamber should petition the House of Commons, praying that their honourable House would pass the Cattle Plague Bill without making any material alterations in its principal features.

Mr. WARE seconded the motion, which was supported by Mr. J. Newton, York.

Mr. SMITH, Huggate, moved an amendment to the Bill that at the expiration of twenty-eight days, in case the cattle were healthy, that the cattle for the remaining twenty-eight days be removed by magistrates' license.

Mr. W. J. WARE seconded the amendment.

The CHAIRMAN considered that the Duke of Richmond would listen to any suggestions.

The amendment was negatived, and the petition to Parliament adopted, and signed by all present.

## LIVE STOCK NOTES.

We are, of course, amongst the multitude who make a pilgrimage to Birmingham to see how the new institution prospers. After a brief survey, we arrive at the conclusion, which others seem generally to share, that it is the best lot of young bulls ever yet exhibited for sale here. They are not so numerous, we are informed, but they are more even in character throughout. There is ample choice, and merit, as the sale proved, makes itself felt. It was not the best bred ones that showed the best. Obviously, breeders of the more expensive order are nervous of committing to the necessity of their being disposed of at twenty guineas any but the culls of their herds. It is surprising how we found the day through earnest buyers arriving at, or in contemplation of, the calves, whose pedigree showed well on paper. Notably an indifferent Kirklevington bull had a constant collection of visitors. This, at least, shows that breeders prefer, if they can obtain it, the best-accredited old blood. Mr. Sheldon, who ventured most, was again most successful. His Dukes of Charming Land (what a nice name it is!) were to the front again, as was not to be wondered at by those who have seen their ancestresses the Twin Duchesses, in the flesh at Brailes. Duke of Charming Land 5th is a noble animal, of immense growth, having a broad loin, and a very handsome front. He goes into Glamorganshire, to mate with a blood-red herd, all descended from a cow bred at Willesden by no less than Mr. Strafford himself. He made 115 guineas. His relative, just fourteen months old, Duke of Charming Land 7th, made 185 guineas, besides winning the prize in his class and the £50 champion cheque to boot. Mr. Sheldon's stock are remarkable for their tasteful heads. Last year the great artist auctioneer pointed our attention to one as being about perfection. Much of this pleasant character is due to the Fawsley stock, from which they spring. The combined neatness and style which Sir Charles Knightley managed to exhibit in the herd of his creation is a fact full of encouragement to the youthful breeder who may be possessed of taste and perseverance. His cattle were as remarkable at the pail as in the butcher's stall, and he managed to model them altogether out of material which he selected for himself. And to show how thoroughly he effected his task, those tribes dispersed in 1856 are unmistakable anywhere now, as the Guernsey and the Galloway, and never fail to exercise a decided influence upon the frame and properties of any stock whatever with which they may be crossed. A very stylish roan calf, the last upon the list of entries, of Mr. Harward's breeding, Lord Gwynne, by the 6th Baron Barrington, out of Polly Gwynne 7th attracted much admiration. Whither he went, and at what figure, remains to be seen. The judges were wonderfully impartial. They went altogether for shape and quality, and were quite regardless of colour. It was curious what a pre-

ponderance of the old "yellow-red" there was throughout this exhibition. "What colour would you like better?" remonstrates the veteran judge, Mr. Drewry. "What! not roan?" "No, certainly not." And the winners in several cases verged absolutely on the hue of the Galloway. In fact, there was scarcely a blue roan at all upon the scene. One there was of peculiarly dark dye, but the generality of roans were decidedly yellow or chestnut about the heads. This is remarkable, considering the aversion some entertain to the colour. Like murder, it will out. But it is difficult to understand how much more it has forced itself to the front of late years. Two seasons ago it was suggested in the columns of a contemporary that the season might have something to do with the increased development of this hue, and a fowl-breeder endorsed the idea by stating that it had been found almost impossible to breed *dark* Brahmas of late, that they persisted in coming of a lighter order than was aimed at. Is there something altered in the sunlight? as we are induced to ask often times when we hear of the heavier crops of old time; is our climate changed? by over drainage perhaps, or otherwise. Will some expert reply? Reading the catalogue backwards, out of *one hundred and twenty-six* calves under twelve months old, *fifty-four* were decidedly yellowish or yellow; whilst of *sixty-eight* "exceeding twelve and not exceeding fifteen months old" there were *forty-five* who could not have been painted without the artist's using a considerable proportion of yellow ochre or some kindred pigment in his compound. Mr. John Outhwaite's handsome winner, very suggestive of the best Warlaby form, and handling superbly, was in colour neither more nor less than a *dark chestnut brindie!* I wonder what deductions the wise will derive from these absolute facts!

The statement recently issued as to the growth of ergot on old and especially water grasses fills one with terror. It helps to account for about fifty cows on one farm a few years since all casting their calves; their ordinary pasture was of a marshy nature. By way of precaution and antidote some ran a goat amongst the herd, that animal being credited with a taste for this destructive fungus, others having a donkey under the same pretence. The worst experience of accidental food and its consequences one has ever met with is mentioned in "White's Farriery." For some disorder an old woman was induced to mix a spoonful or so of soil from a pet preacher's grave with her daily drink. Heavens, what an issue! Very shortly, not by the score only but in hundreds, with horrid sickness and torture accompanying, the poor creature was delivered in one form or another, egg, larva, or mated, keen-cutting adult, of a whole beetle horde! It had been her bad luck to swallow a nest in the earth! If, as this year is pretty commonly the case, you have feeding grounds covered with the dry stems of the past, choose a fine

March wind and sally out across with lighted torch in hand. As on the American prairie, the conflagration will rapidly spread, and the burning, no less than the resulting ashes, will help to forward a new sweet growth. We fired some seven acres of slope in a few hours most effectually the other night.

"I say, how Housman pitches into unfortunate Mr. C. Durham's bulls in Bell's," is a sentence from a Shorthorn breeder's letter which I have just received. I am away from home and cannot refer to either catalogue or Herd Book, as I shall do on my return. On the morning of the Birmingham sale Mr. Charles Durham, a young breeder, "awoke," as Lord Byron, "to find himself famous." And how? Why, inasmuch as he exhibited what the public pronounced to be the two worst specimens of bull-kind in the show. It is well to get celebrated anyhow, and early failures can be atoned for. "You shall hear me yet" was Mr. Disraeli's angry, but prophetic, rejoinder to a jeering House. But in this Birmingham affair there is a moral for us all. What triumphant capital was made on the Booth side against the Bates on the strength of the scrofula discussion, while took place a few months since in the columns of a contemporary. Well, here is a Mantalini bull in whose defective appearance the general no less than the critical public finds fairly much to condemn. What will the Booth side say of this? It is a pity that he ever fell in Mr. Durham's way, doing his best as a beginner. It would be curious to see how this in-bred *hidalgo* mated with heifers not too alien at root, and yet of fresher constitution, would answer. As a concentration of grand old blood he may be of exceeding value yet, if judiciously paired.

The other unworthy specimen exhibited by Mr. Durham was by the Duke of Connaught out of a Seraphina cow, bred by the late Mr. W. Woodward. He handled well, and had good hair, and that was all that could be said of him. Fair play to the Duke, I have seen *many* of his calves at Berkeley, Horton, Kimbolton, &c., and never, that I remember, inspected *any but a really good one*. For the Seraphinas, be it said that at Lord Sudeley's, Kingscote, and other places they were and are a very shapely tribe. But Mr. Woodward, as all know, was a fearless breeder. He would use *any animal that pleased his eye*, regardless of strain. The dam of this bull-calf was by a home-bred bull of Mr. Woodward's, the Drummer, a fine upstanding, dark-red animal, his dam, Delilah, a grand cow, having in her veins, mixed with other, much of the best Warlaby blood; his sire, I think, was bred at Holker; his granddam, Seraphic, was by Marmaduke 2d, bred by Lord Penrhyn, and got by the famous Marmaduke out of Wetherell's Moss Rose, also a famous animal. This sad development in the Birmingham bull-calf must be due to the meeting of incongruous elements somewhere. In these several instances that I have named, excellent specimens of the Shorthorn breed as they individually were, there is *much* diversity of combined strains. Marmaduke 2d was a

fine roan bull, a little high over the tail, and that was all. It must be remembered that last year comment was excited by the appearance of a bull-calf whose dam was of one of our most fashionable Bates tribes, as was also his sire. For some occult reason he himself was a sad "misfit." By these results one is induced more than ever to advocate the old plan of successful breeders, viz., not to go too far a-field for a cross, and to keep in your manufacture as closely as you can to your originally-selected materials, having a bright look-out for any symptom of constitutional weakness. Upon the record of those who successfully adopted this course we have, amongst others in old times, the familiar names of Bakewell, Collings, Wright, Coates, Mason, Berry, Bates, Booth, &c. It requires a good pilot to steer through the shoals; but is not Shorthorn breeding altogether a matter as much of danger as delight? I shall gladly peruse what others have thought upon this subject.

VIGIL, March 16.

WHAT IS LIGHT?—if you put your hand into a basin of water and move it backwards and forwards you will see a number of little water waves move up to and strike against the sides of the basin. If your hand represents the sun, and the water the æther, then the little waves will represent the waves of light, and the sides of the basin against which the waves strike, the eye. So light is made up of little waves which are produced by the trembling of the sun, and which rush through the æther from the sun in all directions. Now, if we look at the waves of the sea after a storm we all know that they are much larger, and so we ought not to be at all surprised to find that the waves of light are of different sizes; and just as a big water wave will give a heavier blow to the sea-wall or cliff, so a large wave of light will strike our eyes with greater force, and will make the body (as the sun or a candle) appear brighter. But there is something else to be seen at the seaside besides the greater height of the waves after a storm. You will find that the waves are at different distances apart on different days; and when men of science examined the waves of light they found that some of them were more than double the distance apart that others were. And the most remarkable thing is this—that the distance apart of the waves determines the colour of the light; and so if we know the distance we shall be able to say that the light is such a colour, and if we know the colour we are equally certain about the distance between each wave. The waves which are farthest apart when they strike our eyes are seen to be of the colour we call red; next come orange rays, then yellow, then green, then blue, then indigo, and finally the ones that are the least distance apart are violet. Thus we see that the waves of light are quite similar to waves of water, and the height of the wave corresponds to the brightness, and the distance apart to the colour, of the light.—From "Why the Sky is Blue," in *Little Folks*.

STABLE MANAGEMENT.—(A discussion on Litter.) Nimrod One: "But horses look so wretched on sawdust particularly in winter." Nimrod Two: "Well, I keep this horse on it all the year round, and he does as well again." Nimrod Three: "Sawdust! Didn't know they'd eat! It must come cheap!"—*Punch*.

## V A R I O U S      N O T E S .

By G. A. H.

[Our correspondent, "G. A. H.," has sent us such a budget of letters on various topics that, to save space, we have put them in separate paragraphs, one after the other.—*Ed. Mark Lane Express.*]

WILL WINTER FATTENING PAY?—The following simple figures can be calculated out and checked with perfect ease by any man with a head on his shoulders and who has learnt the first four rules of arithmetic. 1. An acre of average grass land in the country (not near a large town) lets for 30s., or thereabouts, and the rates and taxes and tithe will be about 10s. more, or £2 in all.—2. If this acre of land be twice mown it will give about 2 tons of hay, and the cost of the mowing, making, and carting home will be about 15s. Therefore each acre will produce 2 tons of hay, costing £2 15s.—3. Cotton cake and maize can be bought and delivered on most farms for £8 per ton (half of each), or 8s. per cwt.—4. If I tie up a bullock 2½ years old, weighing 7 cwt. alive, and feed him for 160 days with 28lb. of hay and 7lb. of cake and corn daily, that bullock will weigh quite 11 cwt. at the end of the time.—5. The "increase" in weight of four hundredweight (448lb.) represents at least 70 per cent. of meat, or 314lb., and this at 8d. per pound would be worth £10 9s. 4d.—6. But the food will have cost: Hay, off one acre, £2 15s.; cake and corn, 7lb. daily for 160 days, making 10 cwt. at 8s., £4, making £6 15s. in all. To this we have to add 10s. for attendance and 20s. for bedding, as half a ton of straw is quite enough to bed down one bullock for 160 days, making the total "cost" £8 5s. of producing beef worth (at 8d. per lb.) £10 9s. 4d., showing a profit of £2 4s. 4d.—7. The whole of the dung would go back on to the acre of land, and as that dung represents not only the whole of the hay which came off it, but also 10 cwt. of cake and corn, and 10 cwt. of straw produced elsewhere, the land might be mown year after year with perfect safety.—8. I have not put down "market price" for anything except straw and cake and corn, which are all supposed to be brought from some other field than the field which supplies the hay, which is the real food for the bullock, and as the grass they produce goes on to the grass land it is only fair to charge them at market price. But, as to hay, there is no reason for putting any price whatever upon it, because it is all consumed at home, and the manure from it goes back to the land which grew it. Besides, 99 farmers out of every 100 are prohibited selling hay, and even if the restriction were removed it would be impossible for every farmer to sell his hay, and if they attempted it the market price would very soon fall to very little more than "cost" price.—9. I have not put down anything for interest or for risk, because each man can judge for himself whether the "prospective" profit of £2 4s. 4d. on each acre of grass land is enough to pay him for

his venture.—10. Bullocks fed on hay with cake and corn will require a large quantity of water, say about 8 gallons, and they will undoubtedly feed full fat in the time I have named, and weigh even more than the weight I have marked down. In conclusion, let me observe that I have put down "hay" as the feeding stuff simply because every one who knows anything about land knows how much hay he can get in ordinary years off ordinary land mown twice, and I have done this for simplicity of calculation. Two tons of hay represent the whole grass that grows on the land, as there is no stock on it in winter, and if the land will not produce that in two mowings on the average of years we may be quite sure that the rent and the tithe and the rates will not be £2 per acre, as agricultural land away from a town. And I think the experiment I have sketched out is a very severe test, as hay is usually considered the most expensive food you can give to cattle.

STRAW FOR BEDDING CATTLE.—I did not reply to the various criticisms in your paper of the 25th of February sooner, because you had too much of my "matter" to print; but I now take up my pen. The "Man of Mark Lane" says 20lb. per day "might" be enough to bed a bullock. I am afraid this is one of those "rough guesses" whose worthlessness Mr. Editor talks about. Why, a bullock is usually house-fed for from 5 to 6 months—suppose we say 168 days. Well, 168 × 20 = 5,040 pounds; so that a bullock would need 1½ tons of straw for bedding! But this straw is worth, at market price, 60s., and the manure it produces is worth about 18s., leaving a loss of 42s. as the cost of each bullock's bed when stall-fed in winter. "Prodigious!" as Dominic Sampson said. My allowance for bedding a bullock for 112 days was not 1 ton, as your contributor calls it, but 2 tons, and that I say is ample. It is 46½ lb. weekly for each beast, and quite as much as any good farmer would give for that purpose, nay more than many men would give who possess the knowledge that straw after it has passed through a beast gives very nearly as much manure as if trodden and rotted away in a straw-yard. But why does not the "Man of Mark Lane" himself make the experiment? He talks of being a practical man, and affects to have a very great contempt for the "happy-go-lucky" amateur farmers (amongst whom he ranks me); let us hear, then, what his own practice does. One or two weeks' trial will give him a bit of experience if he be, as he implies himself to be, a "practical" farmer. I have no beasts stall-feeding, or I would be glad to make the experiment for him.

ONE TON OF STRAW TRODDEN DOWN.—A very little consideration would tell your contributor that the quantity of manure made by one ton of straw depends entirely on the amount of straw put under each beast

each day. A large bullock, when fed in the usual way with roots, hay, straw, and cake, will void about 90lb. of excrement (including the urine) daily, and if I give each bullock, say, half a ton of straw in 160 days for bedding (which is 7lb. a day, and in a well-constructed house a very ample allowance), then the manure that ought to be found in my manure-pit would be—

$$(90 \times 160) + (7 \times 160) = 14,400 + 1,120, \text{ or } 15,520\text{lb.},$$

minus loss from evaporation and leakage.

If my manure-pit is watertight, and the floor of my cattle-house also water-tight, there ought to be no leakage, and if we allow 20 per cent. of the excrement to evaporate, say 2880lb., then my manure ought to be 15,520—2,880 = 12,640lb. or 112½ cwt., although only 10 cwt. of straw was used to bed the bullock. But if, instead of 7lb. of bedding each day I foolishly gave 21lb., then in 160 days I should have used 30 cwt. of straw for bedding, and my manure would be just 20 cwt. heavier, say 132½ cwt. instead of 112½ cwt. The results then are: 1. With 10 cwt. of straw for bedding, the bullock would leave 112½ cwt. of manure, or at the rate of 11 tons 5¼ cwt. for the ton of straw used. 2. With 30 cwt. of straw for bedding, the bullock would leave 132½ cwt. of manure, or at the rate of 1 tons 8½ cwt. for each ton of straw used. In fact the manure bears no fixed proportion to the straw used, but depends much more on the size of the animal and the quantity of food he consumes.

**MAXIMUM VALUE OF DUNG.**—The "Man of Mark Lane" may be a practical farmer, but he asks most unpractical questions. Are 12 tons of the best manure that was ever made under cover worth as much as 10 cwt. of the best guano for producing increased crops? Not one word here about cost of spreading the dung! Suppose the dung to be applied to a grass-field, and then fed off with bullocks and sheep, and suppose the guano applied to a field of mangels, all sold off the land and sent by water to London—what then? Or suppose both of them applied to a field of wheat divided by a straight furrow, the land on each side being exactly the same; tell me, "Man of Mark Lane," which half of the field you would prefer for the next two or three crops? Mr. Lawes never told us that the money value he put upon the manure value of various articles fed to stock were to be taken as "absolute" value. He only said that his experiments proved that certain substances supposed to have great manure value would be nearly all found in the manure, and he valued those substances at rates he could buy them for under certain known forms. He also told us that certain other substances would disappear almost wholly, and scarcely a trace of them would be found in the manure.

**ACCOUNTS OF STALL-FEEDING.**—Does "A Man of Mark Lane" seriously suppose that any genuine farmers who have to work for their living are going to send him a true account of "the expenses and returns of bullocks kept during the winter now nearly at an end?" Suppose the editor of some paper asked the factors of

Mark Lane each to send him the expenses and returns of the business they have done during the year 1877 now ended, would "A Man of Mark Lane" send in his returns? If there were any rich firm who had made a loss (although in a general way they make a profit), and who knew their credit would in no way be hurt, and who might probably wish to deter rivals from setting up to carry off some of their trade, such a firm might very possibly send him the returns. And even if farmers should send him the returns he asks for, of what value will they be unless we know whether the beasts were well bought or badly bought, well sold or badly sold? The money returns are of very little value for comparison; the weight going in and the weight going out, the quantity of food consumed and the quantity of bedding used, and a fair estimate of the saleable value of that food and bedding as it stood in the farmyard, would enable an intelligent farmer to form a fair opinion. With those facts before him, any intelligent farmer can calculate for himself whether stall-feeding pays or not. That wintering cattle in open straw-yards does not pay, every one who has paid any attention to the subject knows well.

**IS IT THE CORN CROP WHICH PAYS?**—I beg to remind "A Man of Mark Lane" that he has not answered my question, published on February 11, page 11, as to how farmers who grow no corn for sale, and yet fatten cattle in winter, pay their way. His mouth is no longer shut by an editorial decree, so I beg for an answer. It goes to the gist of the question.

**STEAM CULTIVATION.**—We learn from "Veritas" the quantity of work his tackle did in 1877. Now it is necessary, in order to estimate cost of work, to reduce all work to its "equivalent" in ploughing. Well, horses working a Coleman's cultivator will cultivate 2½ acres for 1 acre that they can plough. They will also harrow 10 acres for 1 which they can plough. I do not know what "Veritas" means by drill rolling and harrowing behind roller, and therefore cannot estimate it, but, as the amount is not large, we will assume horses to go over with the drill roller and harrow behind it twice as much land as they will plough. Well, then the work done in 1877 was as follows:—

Ploughed	347 acres,	equivalent to 347 ploughed.
Cultivated	237	" " 95
Harrowed	196	" " 20
Rolled, &c.	49	" " 25

Total ..... 487 acres.

That is to say, the whole of the work done was equivalent to 487 acres ploughed. But 1 pair of horses will plough ¼ of an acre a day, or say 7 acres in 8 days, therefore 1 pair of horses would have been 557 days doing this work. Now 1 pair of horses will work quite 300 days in a year, so that the quantity of actual work done by this steam tackle does not represent the work of 4 horses (two pairs), and yet "Veritas" gravely tells us that he has saved 8 horses by getting it. We must, in

fact, cut down the "supposed" horse capital and the "supposed" horse expenses to one-half, and even then we do not get a fair statement of the relative cost, because he has not, as I showed on Feb. 25, page 11, put down one penny for repairs for steam tackle, and only £26 for wear and tear on a capital of £690. If we suppose the £26 to represent actual outlay for repairs, and if we add 10 per cent. on steam capital for "depreciation," that would amount to £69 per annum, and then his accounts would stand thus:—

STEAM CAPITAL.		HORSE CAPITAL.	
As before.....	£690	One-half only...	£270
EXPENSES.		EXPENSES.	
As before.....	£150	One-half only...	£195
Depreciation .	69		
	---		---
Total.....	£219	Total.....	£195

And even then there is nothing allowed for the loss on the engineer, who will not do farm-work, and is in consequence idle for a large portion of his time.

### THE CATTLE DISEASES BILL.

A deputation from the Metropolitan Dairymen's Society had an interview with the Duke of Richmond and Gordon, at the Privy Council Office on Thursday, March 15th, on the Contagious Diseases (Animals) Bill. They were introduced by Mr. JOHN HOLMS, M.P.

Mr. STAPLETON said they owned very large herds of cattle, and had had great care and experience in the management of stock and practical knowledge of the diseases which they suffered; and they objected to the clause in the Bill which dealt with pleuro-pneumonia, which would press with undue severity upon stockowners, injure the trade, and vex and annoy a large body of respectable traders. That disease was a native one, and there were little hopes of ever finally stamping it out. Nor did they think the means of doing so proposed by the Bill would be effective. To stop, as it aimed at doing, the movement of cattle for 56 days would be ruinous to their business, and the Government should hesitate ere they imposed such a restriction. They could not admit that pleuro-pneumonia was contagious, like the foot-and-mouth disease, and by mere any fear of its spreading to other animals could be obviated. They asked that the present law should remain unaltered.

Mr. DEON objected to the limit of time for quarantine as the Bill suggested, and thought that 14 days would be sufficient to satisfy a cowkeeper, whether disease had disappeared or not.

Mr. J. WILFORD asked, with regard to the time that should expire for payment of compensation, that it should be accurately defined in the Bill, and not left to an undefined period. He asked that the "local authority" for executing the work laid down in the Bill should be clearly stated. They had always been under the Vestry Board for the district, but the Bill did not say whether that authority would remain or be substituted by the Board of Works.

The Duke of RICHMOND and GORDON replied that that should be seen to, as it wanted clearing up. With regard to the question of the authority, who should be appealed to as to the imposition of restrictions and regulations, the local authority would not be able to impose them without an order from the Privy Council. With respect to declaring a district infected, the local authority could not do that, they could only report the outbreak in a particular place. He did not share their views upon pleuro-pneumonia. He was much obliged to them for the points they had mentioned, which were well worthy of consideration, and should receive it; he however differed from Mr. Stapleton respecting the origin of pleuro-pneumonia, which was of foreign origin, and up to 35 years ago it was unknown in this country. He presumed that the less they imported from abroad and the greater the precautions

taken at home the less likely were they to have pleuro-pneumonia?

Mr. STAPLETON: Yes, that I believe.

The Duke of RICHMOND and GORDON: And that is a contagious disease?

Mr. STAPLETON replied that he never thought so, because it had never appeared in that form to him. He had had 50 cows herded together, and they had not all taken it.

The Duke of RICHMOND and GORDON: That might be applied to the case of persons as well as cattle herded together. Some will take it while others will not. Some of the arguments of the deputation had been very useful, calling attention to clauses that required alteration, which must always be the case in a Bill dealing with a subject of such magnitude.

The deputation thanked his Grace and retired.

Another deputation, from the Corporation of Liverpool, had an interview with the Duke of Richmond, to ask his Lordship to relax the regulations on the import of animals, and specially those coming from Spain and Portugal, America and Canada. Mr. TORR, M.P., having introduced the deputation, the MAYOR (Mr. Forwood) presented a memorial, praying that permission should be given to import foreign animals without requiring them to be slaughtered in all cases.

The Duke of RICHMOND, in reply, said—In the first place I could not agree in the prayer of the memorial that the Government should make such modifications in the provisions of the Bill as will enable the Privy Council, if they think fit, and subject to proper regulations, to give permission for the importation of foreign animals without requiring them in all cases to be slaughtered at the place of landing. The main feature of the Bill, the clause which I consider of more importance than any other, is that which compels animals from abroad to be slaughtered at the port of landing. The Mayor has alluded to American and Canadian cattle, in which countries he says no disease has been proved to exist. There may be something to be said for them; but I wish to speak at present of the countries of Europe. The Mayor said there would be no risk in allowing animals to be sent from Spain and Portugal into this country alive; but I am afraid from the evidence which we have received that there is a great risk of getting pleuro-pneumonia and foot-and-mouth disease, because they come from Portugal. The grounds upon which we have gone in drawing up this Bill are these: We propose to put the whole trade of producers at home under the very severest and most stringent regulations and restrictions; on the other hand we say to them, "We will not subject you to

the introduction of disease from foreign countries which we consider to be infected. We do not want to admit the disease into the country, and will take care that if we put you under such restrictions when it gets into the country that you shall not be subjected to the importation of disease from abroad." When I say "from abroad" I do not mean Ireland, and we trust that the regulations in Ireland will be made such as are shadowed out in this Bill. We never intended Ireland to be anything but a part of the United Kingdom, as most people now think it is at this moment. There is no question of the slaughtering of animals coming from Ireland, unless the Bill was to be altered in such a manner that there would be no isolation and no infected place agreed upon in Ireland. As regards Spain and Portugal we could not make an exception in their favour. Norway is the only country in Europe from

which we have had no disease, but the importation was small from Norway, and we did not think it worth while to make an exception even in Norway. Speaking on the question of Europe we felt that we must prevent disease coming into this country. As to excluding America and Canada, that is a question upon which I would rather not express an opinion, because it will come before the Select Committee to which the Bill is referred.

The deputation then withdrew.

A memorial has been drawn up by the Stalford Town Council, who are the owners and managers of one of the greatest cattle markets in the kingdom, addressed to the Privy Council and Parliament, protesting against that part of the Contagious Diseases (Animals) Bill which provides for the compulsory slaughter of healthy beasts at the port of landing.

### REPORT ON THE CONTAGIOUS DISEASES (ANIMALS) BILL.

The following is the First Report of the Joint Subcommittee of the Farmers' Club and the Council of the Central and Associated Chambers of Agriculture appointed to watch the progress of the Contagious Diseases (Animals) Bill, and to take such united action as may seem to them desirable:

In presenting their first Report, the Joint Committee express their satisfaction that the Contagious Diseases (Animals) Bill consolidates into one statute the various enactments hitherto applicable to different divisions of the United Kingdom. The laws wholly repealed are the Act of 1875, relating to Scotland, and eight Acts relating to Ireland—namely, two passed in 1848, one in 1853, one in 1866, one in 1870, one in 1872, one in 1874, and one in 1876. The Contagious Diseases (Animals) Act, 1869, is repealed, with two exceptions—namely, Sections 109 and 101, which made provisions for loans of certain local authorities, and three paragraphs of Section 28, with the Fifth Schedule—the effect being to continue to the Corporation of London the provisions made for the repayment of the money borrowed for the erection of Deptford Market, and perpetuating also the double tolls at Islington. Large portions of the Act 1869 are re-enacted; and the Bill—which is to come into operation on the 1st of January, 1879—will render the law uniform for the whole of the United Kingdom, Scotland and Ireland being placed on the same footing as England. In fact, the principal provisions of the Bill relating to the prevention of disease, the duties of the central and local authorities, and the importation of animals, are made applicable to all three divisions of the United Kingdom, with the addition of special enactments as to local authorities, recovery of penalties, &c., rendered necessary by the differences in the local administration of England, Scotland, and Ireland. Thus, the local authorities for England are, as at present—for counties, the justices in general or quarter sessions assembled, their fund being the county rate, and their clerk the clerk of the peace; for the city of London, the Corporation; for the rest of the Metropolis the Metropolitan Board of Works; for boroughs subject to the Municipal Corporations Act, the Town Council; for other boroughs the Commissioners or other body maintaining the police; and for Oxford the local board. These local authorities are to act by committees composed wholly of members of the local authority, or in part of rated occupiers.

And the police of each county, borough, town, and place, are to execute and enforce the Act. In Scotland, a body one-half consisting of not less than four nor more than fifteen of the Commissioners of Supply, nominated by those Commissioners to act on the county board for the purposes of the Act, and one-half consisting of elected owners and occupiers of land, their clerk being the clerk of supply, and their fund the local rate, together with the lord-lieutenant of the county, the convener, and the sheriff, constitute the local authority for each county. In burghs the authority is the magistrates in town council, the clerk is the town clerk, and the fund a local rate. In Ireland the local authorities are the boards of guardians, and the expenses are to be charged one-half on union funds and one-half on a General Cattle Diseases Fund assessed on all the unions.

The Committee recognise the great care with which the Bill has been drawn; and after fully considering the eighty-three clauses and seven schedules it contains, came to the conclusion that the following amendments are desirable:

In the Interpretation Clause (5), it appears to the Committee that as "disease" includes "glanders or farcy," the word "animals" should include "horses," as well as "cattle, sheep, goats, all other ruminating animals, and swine." And it is desirable that "disease" should include "mange of horses." "Veterinary" used with "inspector" is defined to mean "a member of the Royal College of Veterinary Surgeons;" but it seems to the Committee that this exclusive definition will not be adequate as applied to Scotland nor to some parts of England. The Committee observe that in Part IV., relating to Ireland, Clause 73 enacts that the powers and duties by Part II. conferred and imposed upon a veterinary inspector shall in Ireland be vested in and discharged by an inspector.

The Committee remark with satisfaction that, by Clauses 19 and 15, the suppression of cattle plague is entrusted to the Privy Council only, and that compensation for animals slaughtered on account of cattle plague is to be paid out of "money provided by Parliament."

In dealing with outbreaks of cattle plague, a declaration of an infected place is to be made by an inspector when it appears to him that cattle plague exists, or has existed, in that place within seven days. The Committee are of opinion that the period should be longer, and might be twenty-one days. With regard to the notice to be given by the inspector to

occupiers of lands and buildings any part whereof lies within one mile of the infected place, the Committee would prefer this being made compulsory, and would therefore omit the words, "unless, in the circumstances, this appears to him not to be expedient." By Clause 15 the Privy Council *must* cause to be slaughtered, not only all animals affected with cattle plague, but also all animals being, or having been, in contact with an affected animal; and they *may* slaughter all suspected animals, or all animals in an infected district.

Clause 15 limits the compensation for slaughtered animals affected with cattle plague to one-half the value, with a maximum payment of £20, and for suspected animals the full value, with a maximum of £10; but the Committee fail to see a reason for making any difference between the amount of compensation in cases of cattle plague paid out of money provided by Parliament and the compensation in cases of pleuro-pneumonia paid out of local rates; and consider that the payment for affected animals should be three-fourths the value, with a maximum of £30 in the one case as in the other (Clause 21).

It is an admirable feature of the Bill that, by Clauses 16 to 22, relating to pleuro-pneumonia and foot-and-mouth disease, it is made compulsory on local authorities to slaughter all cattle affected with pleuro-pneumonia, and power is given to them also to slaughter cattle which are or have been in contact, paying compensation out of the local rates.

To all places infected with pleuro-pneumonia and foot-and-mouth disease it is enacted that the rules of the Third Schedule shall be applied—namely, that cattle in the case of pleuro-pneumonia, and animals in the case of foot-and-mouth disease are not to be moved into or out of an infected place, except by Order of Council, and are not to be moved into, in, or out of an infected district except by licence under an Order of Council; and that no market, fair, or exhibition, or sale of cattle or of animals is to be held in an infected district except by licence of the Privy Council. This schedule the Committee regarded as one of the most important and valuable provisions of the Bill. In Clause 16 the periods of 28 days for pleuro-pneumonia and only 7 days for foot-and-mouth disease, do not appear consistent with the 56 days and 28 days respectively, adopted in Clause 20; and the Committee consider that it is desirable to make both clauses uniform by inserting the longer and sufficient periods in Clause 16. The Committee fail to apprehend the scope of the word "consequences" in Clause 22.

In Clause 24, relating to slaughter by Order of Privy Council for any disease other than cattle plague, the amount of compensation is left doubtful.

The Committee highly approve of Clause 26, which, in thirty-one sub-sections, enables the Privy Council to make orders for prohibiting and regulating the movement of animals, carcasses, fodder, dung, &c.; cleansing and disinfecting places, persons, and things; preventing the exposure of diseased or infected animals, regulating fairs and markets, the transport of animals by land and water, &c. And it appears to the Committee that a supervision of the Irish cattle trade and traffic by sea is embraced in these numerous and comprehensive provisions. In Sub-section xxii., insuring for animals carried by sea a proper supply of food and water during the passage and on landing, it would be well to insert the word "air." In Clause 28, Sub-section i., relating to the ventilation, drainage, and water supply of dairies and cow-sheds, the Committee deem it necessary that the words "in the occupation of cow-keepers or dairymen" should be struck out, and the follow-

ing words inserted:—"From which the milk is sold for consumption."

The serious and elaborate interference with the business operations of farmers and graziers enacted by the Bill, under penalties, and the burdensome regulations which it imposes upon the whole trade and traffi: in home animals, could not be submitted to unless effectual safeguards were erected against continual re-introductions of contagion from foreign countries. And accordingly the Committee cannot but thank her Majesty's Government for the provisions made in Clauses 29 to 31 and in the Fourth Schedule, with respect to the importation of foreign animals, although total prohibition of the importation of live animals would unquestionably have been a more safe and effectual provision.

By Clause 29 the Privy Council may from time to time prohibit the importation of animals from any foreign country in which the existence of cattle plague is to be apprehended; but the Committee desire to see added the words, "or in which other contagious disease is prevalent." Even under the Act of 1869 the Privy Council had power to prohibit unconditionally the landing of foreign animals at our ports.

By the Fourth Schedule foreign animals are to be landed only at a defined part of a port to be called a "foreign animals wharf," and none are to be moved alive out of the wharf except animals intended for dairy or breeding purposes, or for exhibition. These excepted animals are to be landed only at a defined part of a port to be called a "foreign animals' quarantine station." They must be placed in sheds or other receptacles, detained not less than fourteen days, removed after that period by licence and with a Privy Council veterinary inspector's certificate of freedom from disease, and to whatever district forwarded must not be moved out of or in that district for fifty-six days. The Committee consider that in Sub-section 4 the words "the local authority" should be inserted after the words "sheds or other receptacles prepared by," and before the words "the consignees or others."

The Committee call attention to the fact that the Fourth Schedule is headed "foreign animals," and that under this heading the Channel Islands and the Isle of Man are included unless excepted by Privy Council Orders from time to time. The Committee recommend that, for the purposes of the Act, the Channel Islands and the Isle of Man be treated as integral parts of the United Kingdom.

Clauses 32 to 43 relate to the powers, duties, and expense of local authorities, mainly re-enacting the provisions of the existing law.

Under Clause 45 inquisitorial though necessary powers are given to inspectors. In order to accord with Clause 10, the time specified in Sub-section 2 (a) should be twenty-one instead of seven days. And in Sub-section 4 it should be "the owner, occupier, or person in charge" by whom an inspector may be required to give his reasons for entering any land, building, place, vessel, or boat. Authority is properly given by Clause 48 to owners of animals or persons in charge to exclude strangers from an infected building or inclosure.

In the latter part of Clause 53, relating to a yearly return to be laid before Parliament, the Committee notice an ambiguity in the wording, which they consider should run thus:—"Showing the number of foreign animals landed and the number found diseased in that year, specifying the disease and the ports of exportation and landing, and the mode of disposal of all the animals." PICKERING PHIPPS,

Presiding Chairman.



## PROPOSED ROYAL AGRICULTURAL SHOW IN LONDON.

The Lord Mayor presided recently over a public meeting at the Saloon, Mansion House, convened "to promote the holding of a great Agricultural Exhibition in London in 1879, under the auspices of the Royal Agricultural Society of England." The attendance, which was very numerous, included the Duke of Richmond and Gordon, the Duke of Bedford, Earl Beective, Earl Cathcart, Earl Feversham, Lord Skelmersdale, Lord Vernon, Lord Wimmarleigh, Colonel Kingseote, C.B., M.P.; Mr. John Holms, M.P.; Mr. John Torr, M.P.; the Hon. George Waldegrave Leslie, Sir J. Heron-Maxwell, Sir John Bennett, Sir A. K. Macdonald, Alderman Sir Thomas Dakin, Alderman Sir Thomas White, Alderman Sir Charles Whetham, Mr. William Wells, Mr. Jacob Wilson, Mr. T. C. Booth, Mr. Brandreth Gibbs, Mr. John Thornton, Mr. F. C. Scott, Professor Simonds, and Mr. H. M. Jenkins (Secretary of the Society).

In opening the proceedings, the LORD MAYOR said he knew but little with regard to the arrangements and the management of the Exhibitions of the Royal Agricultural Society, but he felt that they had a great work in hand, and one of great benefit to the nation at large; and in consequence of the great importance of that work he had felt it his duty to allow the use of the Mansion House for that meeting. He had hoped that some one else would have presided, but it was thought best that he should occupy the chair, and he had the satisfaction of knowing that he was surrounded by a number of gentlemen who perfectly understood the matter they had met to consider, and he was confident that the issue would be best not only for the Society but for the interests they had in charge.

Alderman Sir THOMAS DAKIN moved the first resolution viz:—"That in the opinion of this meeting it is desirable to promote the holding of a great Agricultural Exhibition in London next year under the auspices of the Royal Agricultural Society of England." This resolution he felt sure would commend itself to all present. He had no doubt that the proposed Exhibition would prove a great success, from the very fact that the movement emanated from the Mansion House, for whatever was inaugurated there generally resulted successfully. But apart from that, it was impossible to consider the important services which the Royal Agricultural Society of England during the last forty years had rendered to agriculture, without wishing to aid the movement. The last London exhibition in connection with the Society was held in 1862, in Battersea Park, a place difficult of access; and another unfortunate circumstance was that it had to contend with a rival in the shape of the International Exhibition. Next year, however, there would be no such rivalry, and he looked forward to a most successful show.

Mr. JOHN HOLMS, M.P., seconded the resolution, and remarked that he regarded the proposal of great importance to the country, and he was very glad that the Lord Mayor had inaugurated it. He was, however, inclined to think that their position would be greatly improved by extending the title of the show, so as to call it not merely an Agricultural Exhibition, but an "Agricultural and Food Exhibition." By inviting all the earth to send samples of all kinds of food the Exhibition would be made far more interesting and profitable to the nation than by confining it to implements and live

stock. He submitted that England had yet much to learn in regard to the importation of live meat, and this matter was well worthy of attention in making arrangements for next year's show; while there was an increasingly large trade both in fish and fruit.

The Duke of RICHMOND and GORDON (who was received with loud cheers) seconded the resolution. He said: My Lord Mayor, My Lords, and Gentlemen,—intimately connected as I have been from my earliest days with the agriculture of this country and the agriculturists of the kingdom, I esteem it a very high honour to be permitted to make a few remarks on the subject-matter now under consideration. I have for many years been a member of the Council of the Royal Agricultural Society of England, and I think I may venture to claim for that Society that it has done a very great deal to promote agriculture in the United Kingdom (Hear, hear). Those who look back upon the various shows which have taken place in all parts of the Empire must have seen that our desire has been to point out to all classes in the kingdom, and in no one particular part of the kingdom, what can be done by means of energy and enterprise towards promoting the agricultural interests of the country. We recollect that in former years the late lamented Prince Consort took a deep interest in the workings of this Society; we recollect perfectly well that it was thought right and proper to hold a meeting of the Royal Agricultural Society of England in the Metropolis, and that, as has been remarked, the meeting took place in Battersea Park in 1862. I hope, from the faces I see around me, and from the remarks which have been made, that during next year an exhibition may take place under the auspices of the Royal Agricultural Society of England which may have even a greater importance than had the exhibition which took place at Battersea upon a former occasion. I quite agree with the gentleman who spoke last as to the importance of the dead meat trade in this country; but I will not on the present occasion follow him into the various speculations that he has offered on this subject. I have had and probably shall have, other opportunities, and in other places, for the utterance of any views that I may have on that subject; and I am afraid that if we were now to enter upon its discussion we might prolong this meeting to an hour which you, my Lord Mayor, might perhaps think somewhat unlaudable (Hear, hear). I have always considered that we, the agriculturists of the country, should see that we do not neglect the interests of all classes in the community. One great object ought to be to provide the vast consuming community of this country with the greatest amount and the best quality of food that could be produced. I believe that the Society that I have the honour to be a member of has that view, and is carrying it out to the best of its ability. Those who compare the present state of the stock in this country with the state of the stock some 30 or 40 years ago will see that the stock has improved in a large and more rapid degree than could have been anticipated. I think I should be unpardonable if I were to enter on anything like an agricultural lecture, however tempting this subject may be, especially when one finds oneself among so many agricultural friends; and I will, therefore, content myself with hoping that the resolution will command itself to the attention of the community, and that the year 1879 may produce an exhibition

which will show to the world that the United Kingdom is, behind no other civilised nation in its agriculture (loud applause).

The resolution was also supported by Sir CHARLES WHETHAM, who was introduced as the probable Lord Mayor of next year, after which it was put to the meeting and carried unanimously.

The Duke of BEDFORD moved:—

“That a Committee be formed to carry out the object of the previous resolution, to collect subscriptions, and to co-operate with the Council of the Royal Agricultural Society.”

The motion was seconded by Mr. W. A. GILBEY, supported by Mr. WILLIAM BOTLEY, and adopted.

The Hon. G. WALLEGRAVE LESLIE then moved:—

“That the following noblemen and gentlemen be appointed a London Agricultural Exhibition Committee, with power to add to their number, and to appoint an Executive Committee and such Sub-Committees and officers as may be deemed necessary:—The Lord Mayor, the Duke of Richmond and Gordon, the Duke of Bedford, the Duke of Buccleuch, the Duke of Westminster, Earl Cathcart, Lord Marston, Lord Skelmersdale, Lord Vernon, Lord Wimborne, Mr. John Holms, M.P., Colonel Kingscote, C.B., M.P., the Hon. G. Wallegrave Leslie, Sir Thomas White, Sir Charles Whetham, Sir Thomas Dakin, Sir J. Heron Maxwell, Sir John Bennett, Mr. William Wells, Mr. W. A. Gilbey, Mr. James Odams, Mr. T. C. Scott, Mr. P. Simpson, Mr. Pavy, and Mr. C. Gassiot.”

Lord SKELMERSDALE in seconding the resolution expressed his belief that the London Show would outvie the great successes which had been achieved at Manchester and at Liverpool.

The motion was then put and carried.

Sir J. HERON MAXWELL moved:—

“That in the opinion of this meeting it is desirable that the Exhibition should, if possible, be held in Hyde Park; and that the Committee now appointed, in conjunction with the Council of the Society, be requested to take the necessary steps with a view to obtain the sanction of his Royal Highness the Duke of Cambridge, as Ranger of Hyde Park, and the First Commissioner of Works.”

Mr. T. C. SCOTT seconded the motion, which was carried.

In proposing a vote of thanks to the Lord Mayor for presiding, Colonel KINGSCOTE, M.P., said he thought he might venture to say that if the movement was well begun, the Prince of Wales would accept the presidency of the Society for next year.

The motion was seconded by Lord WINMARLEIGH and carried with acclamation.

In acknowledging the vote, the Lord Mayor said that if the rooms of the Mansion House could be of use to the Exhibition Committee, he should be happy to make arrangements accordingly. The meeting then separated.

## “ F R E E L A N D ”

At the request of the Bolton Liberal Association, Mr. Arthur Arnold recently delivered an address upon “Free Land” in the Co-operative Hall. He said it was a matter which concerned the food of the people. There was not a pound of meat at the butchers shops, there was not a bit of bacon at the grocers’, there was not a loaf of bread at the bakers’, which was not indirectly taxed, of which the price was not made lighter than it would be if the soil of England were not held back from increased production by laws positive and permissive which have but one object and one defence, that they maintain a privileged class in a position of supremacy in the Legislature and upon the land. As for thrift, no people had ever shown thrift or carefulness who were divorced from the soil. Even our fellow subjects in Jersey, where land was free, when they had a pauper say he must be English or Irish. We want free land. It is a fact that 50,000,000 acres—nearly four-fifths of the United Kingdom—know no freeholder. These acres are settled; they are the patrimony of the landed gentry. The smallest estate in that immense area is not less than 1,600 acres. Take the 500 members of the House of Lords, who receive the rents of nearly one-fifth of the United Kingdom. They are not owners; they are only life-tenants, with small inducements and small power to improve the land. With very few exceptions their estates are settled, it may be, for 100 years, and are by that means practically withdrawn from all the advantages and accidents of ownership. To have free land we must insist that tenure shall be freehold. It must be forbidden to create life estates in land. It will be said why should not land be settled as well as money? Mr. Arnold said he would reply in the words of Mr. Lowe—because “land is a kind of property in which the public must, from its very nature, have a kind of dormant joint interest with the proprietor; and

because the public, now that it is to have the power, will not submit to be deprived of the benefits of that interest. Absolute property in land cannot exist. In the standard work upon the law of real property we find it stated that, “no man in law is the absolute owner of lands.” Mr. Arnold said his rule with regard to legislation touching property in land was to make sure that the legislation proposed would raise the pecuniary value of the landlord’s interest. That, he thought, was the surest way to judge whether the change would be for the public advantage. He had never met any one who doubted that if the power of settling land were abolished, and transfer by registration of title made simple and inexpensive, as it is in the Channel Islands, which have belonged to the Crown since the Conquest or by a better system in Australia, the result would be a large increase in the proprietary value. One reason why thoughtless opposition might be expected was because, not being owners, the most intelligent landlords are least concerned with the care of their estates. They prefer pleasure or statesmanship. As for the majority, they will oppose because, as Lord Beaconsfield has written of them in “Lothair,” “they live in the open air and they never read,” and because, as Mr. Mill said, “Great landlords have rarely studied anything.” We confront the greatest anomaly in the political world. With representation of an increasingly popular character, we are maintaining a mediæval land system. No one who is wise will defend primogeniture, entail, settlement, and our cumbersome law of transfer on the ground that it is necessary for the maintenance of the House of Lords that 50,000,000 acres, or nearly four-fifths of our country, should be held in mortmain; for that is what it amounts to. The nobility may count securely upon the good will of the people, but they must be careful not to identify the uses of a landed gentry with those abuses of law and custom

which have placed nearly four-fifths of the soil in this fettered and ownerless condition. The county franchise was most needed to make England free in regard to land tenure, to abolish primogeniture, to release the land from the disabilities or settlement, and to make transfer simple and secure. Our law of transfer is a protection to the landed gentry, a terror to the middle class, and an unknown and unintelligible mystery to the mass of the people. It is bad in every point, and by it the people of England have been turned away altogether from the land. In Australia the cost of a mortgage is 10s., and it

need be no more in England. The time occupied is 15 minutes. With a proper system of registration the price of land would rise and loans on land would be obtained at 34 per cent. Registration should be compulsory upon sale or transfer, and the period for investigation limited to 20 years. Indefeasible title, with pecuniary compensation for error, must be given where possible, and a fair holding title in the comparatively few cases which would be maturing to indefeasibility. We should then have free land, and Lord Derby's views about doubling the produce might be realised.

## THE TREATMENT OF EWES.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I receive many letters asking for further information as to the application of the carbolic acid and oil mixture for straining in ewes after lambing, which I regret, for want of time, I am unable to answer. I therefore think it better to ask you kindly to allow me to state, through your paper, that it is desirable to use the mixture about new-milk warm, and that it might be applied freely to the exterior of the vagina. The ewe should be placed in a position so that the mixture will pass on to the uterus, or a syringe may be used with advantage.

I have received the following satisfactory letter from Mr. Barton, of Threxton House, near Walton:—

“Upon reading your letter and extracts from Mr. Scott in Saturday's *Mercury*, I immediately procured carbolic acid and Gallipoli oil, and it was not long before it was required as a *very bad case of "straining"* occurred; the shepherd immediately applied the mixture as directed, and in strength *one-seventh*. That at once relieved the ewe, but straining returned after a few hours, and then another application of *one-fifth* strength had the desired effect. A third application was made after 10 or 12 hours with complete success, the ewe being this, Thursday morning, apparently quite recovered. I am sure flockmasters are much indebted to Mr. Scott for making the remedy known and to you for giving it so much publicity.”

Mr. W. H. Jillings, of the Nunnery Farm, Thetford, writes:—

“My experience of the carbolic acid and oil mixture has been most satisfactory. I have tried it in four cases, with the best results. One ewe had a dead lamb, and had been lying about for two or three days before I heard of your excellent remedy. After its application the change in the state of the ewe was marvellous. The following day she was up and feeding, and very soon recovered.”

Several gentlemen told me at Norwich to-day that they have tried the mixture most successfully.

I have every reason to believe that my own experience of the mixture is being confirmed by that of other persons.

I am, Sir, &c.,

HENRY WOODS.

Thetford, March 16,

SIR,—Will you allow me to say a few words in confirmation of the excellent advice of Mr. Wood's as to the use of carbolic acid in the lambing fold.

This terrible scourge amongst our breeding flocks, uterine inflammation, needs to be dealt with in a more rational and scientific manner, and we should hear less about the “bad luck” of breeders which, after all, is but a synonym for bad management. I am a firm believer in the “germ theory” of the disease, and consequently hold that this kind of inflammatory action is caused by the “germs” coming in contact with the tissues of the injured and excited womb from without, and hence the free use of carbolic acid in destroying the vitality of these putrefactive agents prevents the inflammatory action taking place.

How often a shepherd, by supreme ignorance, will inflict ease after ease in the flock. Perhaps within an hour after having skinned a ewe dead from this complaint he will assist another, and so convey into the womb the contagium, vigorously able to sow a fresh crop if it should find a seed-bed amongst the injured tissues. Never let the shepherd accoucher touch or go near an infected ewe. Let him keep his clothes and himself rigidly free from all risk of contagion, and where a ewe is sick of it, let her be removed from the rest of the flock at once.

After assistance has been given to the gravid uterus and the contents removed infect with a vaginal syringe a copious solution of carbolic acid, washing out the womb and parts. In extreme cases this may be repeated at intervals, taking care not to chill.

Two causes mostly operate to bring uterine inflammation about: first, injury to the walls of the womb secondly, portions of the placental membranes are broken up, or are left still adherent to its coats, and these by their decomposition cause great derangement of the tissues, and, in many cases, tend to inflammation.

As regards the first cause, care and skill in removing the fetus quickly, and without straining the parts, is the great aim. When, through the smallness of the pelvic arch, there is found a difficulty in expelling the fetus in the natural way, the operator should desist from further effort in this direction, and by carefully grasping the two hind-feet of the lamb, invert the fetus, gently turning the mother's body to assist the movement. It will be

found that the contents can be removed in this position, when all attempts in any other would prove fatal to both ewe and lamb.

As regards the second set of symptoms, removal of the

irritating membrane is necessary, to be followed up by the disinfecting process, until the disquieting action has subsided.

I am, Sir, &c.,

D. T.

## D A I R Y F A R M I N G .

We can only give some extracts from the above paper, read at a recent meeting of the Blandford Farmers' Club, by Mr. SUMMERS.

It has been said, on what is considered good authority, that it is impossible to unite good milkers with good feeders, and that the attempt will end in utter failure. "In proportion," says the expounder of this doctrine, "as we gain the one in the same proportion we lose the other; the more milk the less beef, and the more we pursue beef the less milk we get. In truth, they seem to be two different varieties of the same kind for very different uses, and, if so, they ought most certainly to be differently pursued by those who employ them. If the dairyman wants milk let him pursue the milking tribe; let him have both bull and cows of the best and greatest milking family he can find; on the contrary, he who wants feeding or grazing cattle let him procure a bull and cows of that sort which feed the quickest, wherever they are to be found. By pursuing too many objects at once we are apt to lose sight of the principal, and by aiming at too much we often lose all. Let us keep two distinct sorts, and we shall gain the prize in due time. I apprehend it has been too much owing to the mixing of breeds and improper crossings that has kept us so long from distinguishing the most valuable kinds." This, gentlemen, has a plausible ring with it, but it is contrary to my experience, for, however scarce those animals are which are good representatives of the combination of the good milker and good feeder in one, it is enough to know that they can be produced, and, as such, deserve the particular attention of dairy farmers. Such animals, I believe, are represented in a more marked degree in cross-breeds than in any pure-bred variety. It will be understood that the best dairy cow is the animal which produces the greatest weight of butter and cheese, and not the animal which produces the greatest quantity of milk. A very large flow of milk is generally of a character which would not pass the public analyst, on whose authority the milkmen are too often condemned. I agree with Professor Symonds that it does not follow as a matter of necessity that a cow which yields a large quantity of milk shall be the best cow for the dairy, for it frequently occurs that such milk has an increased proportion of water. There is a remark which often falls from a practical man—"quantity for cheese and quality for butter." What we want is these two things combined, as we see occasionally among Alderneys, and when present we can only attribute it to a peculiarity of the organism of the individual animal. This peculiarity, like many others, may, and indeed is very likely to, prove hereditary, and as such the calves of these animals should be selected for rearing. The goodness of milk for butter making is frequently judged of by its colour, preference being given to such as has a yellow hue. This, however, may be fallacious; for the colour often depends on other causes rather than on an augmentation of the proportion of butter. An Alderney is not unfrequently kept in a dairy in order to give a greater depth of colour to the butter. Her doing so is due to the

excess of yellow pigment which exists in her organism, and which is cast out with the secretion of milk in common with many other vital functions. She, indeed, may be a deficient butter-making animal, her milk not being rich in the amount of its oleaginous materials. This augmentation of yellow pigment belongs to the race; it is a peculiarity attaching to their organisation, and cannot be explained by the physiologist with any greater satisfaction than can the varied hues met with in man. The fact of its belonging to the race proves it to be hereditary, and its conveyance from parent to offspring is on a par with the transmission in like manner of the capability of giving either a large quantity, good quality, or both of milk. Then there is a considerable variation in the quantity and quality of milk given by cows of varying age. Although the amount of milk yielded by a heifer or other young animal may be considerable, it is not until they are four or five years old that the glands secrete the fullest quantity. At this period all the organs are in their most vigorous condition, and if not overtaxed may remain for several years without showing any marked signs of decay. Both the quantity and quality of old animals have suffered loss, the latter often more so than the former. And, again, the temperament plays a most important part in the production of milk. A cow of an irritable or nervous temperament is rarely a good milker. It is the quietly disposed, bland, and mild animal which fills the pail. The influence of mind over the secretion of milk is very remarkable, and ought to be strictly attended to by those who have the management of the dairy. As I have before observed, I have great faith in a cross between the Shorthorn and some other breed that is hardy and have a disposition to fatten, to produce a combination of the good milker and good feeder. I never confine myself to any particular description of cows, the chief consideration being hardiness of constitution, good milking qualities, and a disposition to lay on flesh and fat. With good milking qualities I include a large flow of rich milk with no inclination to give out in milking should any slight untoward circumstances occur. The latter disposition has much to do with the feeding. It is not the highest feeder which will keep the cow in milk during the season; it depends much on particular attention being paid to giving a regular supply of milk-producing food. From this necessity arises the great value of early spring feed and from early after-grass. To obviate any loss of condition or milk I give four pounds of cotton cake per day to each cow, beginning as soon as they have calved, and continuing it until they leave the stalls in May. If they have nothing but hay up to the month of May, or if they have no aftergrass ready for them in July or early in August, when the cowleaves are parched by the burning sun and drying winds, the loss of milk is considerable, and no after treatment will bring it up to its former quantity. There is a great variation in different dairies as to the time of calving, much depending on the price which the dairyman gives per cow. My cows are early, usually beginning near the 1st of January. The only objection I see to this is the greater

consumption of hay after the cows have calved. There would be a falling-off in the production of milk in April if I did not take the precaution to provide grass for spring feed, so that it may be ready for them to be turned into about the middle of March. This causes a greater flow of milk, and imparts a richness to the butter and cheese not usually found at this season of the year. They return to their stalls early in the afternoon to be fed on hay during the night, but the consumption is considerably diminished, and thus a great saving is effected. The rearing of calves and feeding of young stock is a considerable item in the balance sheet of many farmers. From this I am debarred by the prevalence of bronchitis (verruous)—locally termed "hisk"—on my farm. From some cause unknown to me, and, I believe, to the veterinary profession, all of my fields are productive of this troublesome disease to which calves are so subject. It invariably appeared among my calves in a form to warrant the term "enzootic," and sometimes carried off one or more of them, leaving others very enaciated, so that I gave up the contest. I battled with it for years, trying the preparations of every vet. and every quack nostrum in local use to no purpose, until at last I took it that "discretion was the better part of valour," and yielded to fate. I shall say very little about butter and butter making, it being, apparently, so simple an operation that nobody fears carrying it through with success. This is a grave error into which too many fall, and what is called butter has often little of that flavour left which is so pleasing to the palate. Dorsetshire is fast losing its good name for butter, and will never regain it until the butter is more carefully and properly washed, and much more of the water removed before being put into the firkin. Weight must be sacrificed for quality, or the latter cannot be obtained. Dorsetshire appears to be behind most other counties in the art of cheese making, and still further behind them in applying science to its manufacture. The Press has done much to awaken a spirit of inquiry, and the spirit of emulation has also done much where judiciously directed. Together it tends to remove dairy practice from an empirical process to a scientific art; but cheese making, as a science, is not quite understood. I cannot enter into any detailed explanation or description of the process of cheese making, or into its after treatment, as I do not understand the processes, and it would occupy too much precious time if I did, which has to be filled in by other matters that are of greater importance. I will incidentally remark, with Dr. Voelcker, that the interior character, and especially the bad flavour, of cheese owes its origin in many cases to a want of proper care in hauling the milk from which it has been made—from care not being bestowed upon noticing the temperature at which the milk is "set" or "run," as it is called in this county; from the temperature at which the curd, being a very delicate substance, is exposed; from the imperfect separation of the whey from the curd; from the curd being too sour before being separated from the whey; from breaking up the curd too rapidly and carelessly; from badly made rennet, which is too weak or has a disagreeable smell; from bad annatto being employed as a colouring matter; from too much or too little salt being used in curing it; or from many other causes which do not at present occur to my mind. Then, again, after cheese has left the press it is deteriorated in quality when it is placed in damp or badly ventilated rooms. If newly made it is spoiled by not turning it frequently enough, or by the temperature of the cheese room being too high or too low. A steady fermentation, which is essential to the pro-

per ripening of the cheese, can only be maintained in a room which is not subject to great fluctuations of temperature. From these few general remarks, gentlemen, you may understand how difficult and delicate are the processes which have to be gone through before a good cheese can be got ready for our tables, and how it is that not more than one dairyman in ten ever becomes a good cheesemaker. The maker of good cheese makes 30s. or 40s. per cow more than he who makes second quality; the former accumulates wealth, whereas the latter grumbles and becomes impoverished. The letting of dairies being almost the only system adopted by Dorsetshire farmers makes this matter stand very prominent for our consideration. Long as I have let dairies on the 1<sup>th</sup> of February I must avow there is a touch of imbecility in us farmers who do so, and perhaps there is nothing in which we have shown it so transparently of late years as in this. It throws the management of the whole dairy on our hands nearly three months previous to the new dairyman coming to reside in his new residence, the last six or seven weeks being a time of trouble and anxiety through the calving season having begun. But the stamping out of old customs and the introduction of new is a work of slow progress at all times; still the former date ought to and must be erased at once and for ever, and the first day of the year inserted in its place.

After some further remarks on the dairy-letting system, Mr. Summers said:

The only alternative left to us is to adopt the factory system which is so extensively patronised in Derbyshire and the surrounding counties. When this system was first introduced from America and carried out at the "Holms Factory," in Derbyshire, the site on which the factory stands was designated "Fools' Corner;" but this name and the prejudice which gave it birth have long since died out, and the factory system is now looked on with cordial approval. Mr. Morton said in 1875 that experience had satisfied the expectations of those who first introduced the factory system into England. Manufacture on the larger scale has in the case of milk, as in that of all other raw materials, been found more economical and more profitable. A manufactured article of higher average quality, because of more uniform excellence, and consequently of greater value, has been obtained. Where estates are not properly equipped it is held by those who unquestionably have the interests of dairy farmers at heart that this system is the best to adopt. The landlords would profit largely by it through the factory system relieving them of the duty of providing adequate accommodation on the farms; the tenants would profit by it through 7½d. to 7¾d. per gallon being paid for their milk, and the country would profit by it through a greater number of dairy cows being kept, consequent on the removal of the drudgery attending the manufacture of the produce. Again I ask the question—Why cannot dairymen be more liberal in their prices for milk? First, they have not the appliances, and rarely the skill, for making cheese of the best quality; secondly, the labour bill is much enhanced per cwt. through the small quantity dealt with; thirdly, their equipments are not such as tend to economise its manufacture; fourthly, the early and late made goods are of inferior quality from want of quantity and the best arrangements and contrivances. All these drawbacks fall ultimately, perhaps, on the shoulders of dairy-letting farmers, or, in the end, the landlords may have to bear their shares in diminished rents. The 10s. per cwt. extra paid for factory made cheese, with that of taking 2s. or 3s. per cwt. from the cost of it, are most important con-

siderations, both socially and agriculturally. Centralisation is the tendency of the age, yet I do not think this great industry will accumulate wholly in factories. But there are so many advantages connected with this system which I have not time to enumerate, that with my present view of it all I can see is that it tends to become fashionable, like many other things, and end in centralisation. You will observe, gentlemen, that there are many important points left untouched in this cursorily written paper, such as—The age of the bull best suited for the dairy; how many cows ought he to serve; at what

date ought the bull to be withdrawn from the dairy; at what age and under what conditions is it most profitable to take cows from the dairy, and at what time of the year; on the best methods of delivering a cow under various difficulties; on the fattening of calves; on the management and fattening of pigs; and many other topics which would supply material for a dozen papers. But I trust they will receive the attention of gentlemen who follow me in discussing this important subject of "Dairy Farming."

## FREE TRADE IN LAND.

### NO. IV.

After a long interval, Mr. Joseph Kay, of Fredley Docking, has contributed a fourth letter on the land question to *The Manchester Examiner*. It is dated Feb. 7th, and is as follows:—

In No. 1, published on the 20th of Dec. (*M. L. E.*, Jan. 7th), I tried to show the condition of things which the present Land Laws have produced; in No. 2, published on the 20th of Dec. (*M. L. E.* Jan. 21st), I attempted to dispose of certain common fallacies which beset the question of the Land Laws; and in No. 3, published on the 8th of Jan. (*M. L. E.*, Feb. 11th), I endeavoured to explain the laws which have brought about the condition of things described in No. 1.

In this and the following letter I propose to show what are some of the evil consequences of these laws as they now exist. But before I do so, I must beg to be permitted to notice two or three suggestions and queries, which the letters already published have evoked.

One gentleman, an eminent and well-known member of Parliament, inquires if I would suggest the doing away with marriage settlements of land? I answer, that inasmuch as it is by and in the marriage settlements that a great part, if not the greatest part, of the land of Great Britain and Ireland is tied up for many years, and so rendered incapable of being sold, or seized, or divided, however expedient it may be to do so; and inasmuch as without doing away with marriage settlements of land you cannot possibly have anything like free trade in land; and inasmuch as such marriage settlements of land have been done away with in all countries where free land has been introduced, I would certainly do away with marriage settlements of land, as I would with all other deeds or wills which render land incapable of being sold. I am quite certain that no equitable reform can possibly be, or that any has in any country been accomplished without doing away with such settlements. Then I am asked why I am opposed to the proposal to limit the amount of land which a man might hold, and also why a landowner should not be forced to sell all his estate, except a limited portion, on receiving proper notices from purchasers intending to buy? I answer, that if gentlemen who make these suggestions really think they are practicable, or reasonable, or desirable, nothing I could say or do would convince them to the contrary. They propose schemes which I have neither the time nor the inclination to fight. Life is too short for some sort of controversies. Then I am told that in a crowded rich country like this it is idle to dream of land ever selling in small estates to any great extent. I answer, let us get rid of the causes, which, as I showed in No. 1, have put 17,498,200 acres, or more than one half of England and Wales, into the hands of only 1,500 persons, which have given half of

the whole county of Northumberland to 26 persons, which have given 1,358,543 acres to one person, and which have given 4,449,457 acres of land to only twelve persons; and when we have done this we shall better see than at present what number of the citizens of the United Kingdom would obtain shares in the land. It is, at any rate, somewhat premature at present, under the existing most extraordinary circumstances, to talk of the large population and of the "limited quantity" of land, at any rate, without being so ridiculous as to expect every citizen to be a landowner, one is not a dreamer in supposing that a vast number of citizens might in this country, abroad, become landowners if these immense estates were divided.

Then a Bishop of the Church of England has objected to me that personal property can be tied up as long as land, and with as much mischievous results. I answer, first, that I do not think that it is wise or good that the law should allow personal property to be tied up for so great a number of years, as at present, after the testator's death, and that I would alter that law; but, secondly, I say that many of the evil consequences which result from tying up land by these deeds and wills, and which I am going to try and explain in this and the following letter, either do not result at all, or, any rate, do not result to nearly the same extent from tying up personal property; and thirdly, I say that personal property cannot be tied up in foreign countries to anything like the same extent to which it can be tied up in Great Britain and Ireland.

Now, let us consider some of the consequences of these deeds and wills which bind an estate for so many years:—

I. It is unquestionable, as I have already said, that they prevent many estates being sold, which would otherwise come into the market. I gave one instance of this in letter No. 2, in the case of Lord A's estate, of which I myself was trustee. The estate would undoubtedly have been sold at least 40 years ago, either in one or more lots, if it had not been for the deed which was made upon Lord A's marriage. I myself, with my own limited sphere of observation, know several other estates which would undoubtedly have been sold if it had not been for similar deeds or wills. Indeed there can be no doubt whatever that there are many estates in all parts of the country which are only kept out of the auction room by similar deeds and wills. They are overburdened with charges and mortgages. Everybody concerned would be a gainer by a sale. The land would pass from impoverished owners to men who would buy, because they had the desire and means to make good use of what they bought. Besides this, in many, many cases, where the owner was on the turf, or gambled as Lord A did, or was a mere age-and-thrift, or reckless manager, the land would be

sold. And the greater the number of the estates that thus came to the hammer, the less inflated would the price of land become, and the more necessary, in order to realize the best price, would it become to sell a man's estate in single farms, rather than in one lot. This is abundantly proved by the course of sales under the Encumbered Estates and Church Acts of Ireland, where, instead of the properties sold going solely to great owners or great capitalists, more than 1,000 small farms or plots have been sold to small farmers or capitalists. If any fair number of great estates in England and Scotland were to come into the market as in Ireland, men of business, shopkeepers, small farmers, and small village tradesmen would buy. Similar results have followed similar causes in all foreign countries where the feudal laws have been done away with.

The London *Times* of the 29th December, 1877, published a most remarkable piece of evidence of the truth of what I have just written, so remarkable that I am sure your readers will thank me for citing it *in extenso*, especially as Mr. Caird and other eminent men are eagerly asserting just now that if the great estates came into the market and were divided, no people but rich capitalists would buy. Your readers will bear in mind that this extract is taken from a paper which has always shown itself most hostile to "free trade in land."

Our Dublin correspondent writes under date December 28th:—

"Mr. Shaw Lefevre, M.P., has pursued his inquiries as to the operation of the clauses of the Church and Land Acts, which enable tenants to buy their holdings beyond the committee room of the House of Commons to the lands themselves, and has communicated the result of his observation to the "Journal of the Statistical Society." In the forthcoming number a paper will appear giving an account of visits paid to two glebes in the neighbourhood of Newry. One of these has been sold to the tenants, and the other is only now about to be offered for sale, some technical difficulties having caused delay. The lands which were sold consisted of 250 statute acres, on which there were 21 small farms, let at an average rent of £1 4s. per acre. All the tenants purchased these farms at about 2½ years' purchase of the rental. The district is purely agricultural and the land is light and undulating. He states the results of his inquiries in nine cases. The first bought 20 acres for £516, the whole of which he paid down. He had been an engineer in the merchant service for some years, then inherited a small farm of eight acres, and afterwards bought the tenant's interest in an adjoining one of 12 acres, for which he paid £350, or 30 times the rent. Since he bought the fee, he has built a range of superior farm buildings at a cost of £500, tiled the floor of the house, put up an excellent kitchen range, and drained and reclaimed some of the land. His testimony as to the other tenants is that they felt satisfaction in having become owners, but those who had to borrow the balance of the purchase money had a hard struggle. They got a loan of money at 5 per cent., and were paying it off by degrees. The next farm consisted of only 2½ acres, held at a rent of £2 15s., which was bought for £73, of which £39 had been paid down. In this case the money had to be borrowed from different persons, one of whom got £1 for a loan of £10 for ten months, and the buyer's sister 10s. for the loan of £11 for a year. He is a labourer, and his wife is a laundress. They are glad to have the land and expect that it will be free before they die. They never could save before, they say. The next tenant bought a farm of 5½ acres, for £164. He is 92 years of age, has nine sons and two daughters. Seven of the sons are at sea, and one of them gave the purchase money and a

further sum to erect additional farm buildings. The next farm containing 17 acres, which was held at a rent of £27, was bought by the tenant for £348, of which he paid down £226. The money had been saved at sea. Since the purchase he paid £87 for building material, and converted the thatched cottages into a two-storied slated house. He has seven children, too small to be any help, and lives altogether on the labour of the farm. The next tenant, an able seaman, had a farm of 10 acres, for which he gave £273, paying down £73, which he had borrowed from friends. His reason for paying was lest he should be turned out of the farm. No improvement has been made, but he hopes to pay off the debt. The next tenant was a widow, who had bought 9½ acres for £314; she paid down £79, of which £75 had been borrowed at 6 per cent., and all except £15 had been repaid. Last year she had a good bit of flax, which enabled her to pay off £10. She has two daughters and a boy 15 years old, and the whole family work on the farm and have no other means of support. She bought the land lest she should be thrown out and have to go lie behind a hedge. The house is thatched, clean, neat, and comfortable. The next farm contained 51 acres, which was bought for £1,583, which the tenant paid in full. He handed it over to his son to work, and lives himself on an adjoining property. The eighth tenant who was visited bought 15 acres for £422, and paid down £103, leaving the remainder on mortgage. He died soon, and left the farm to his widow in trust for his son, a lad of 15, who was at sea. The father, who was a Scotchman, had sold the Tenant-Right of a farm in Fermanagh for £600, and preferred to buy the small farm (renting a greater one. The house had been greatly improved. The last case was that of a farm of 18 acres, bought for £503, of which £168 had been paid down. The purchaser died, leaving the lands to his widow for life and then to his youngest son. She is laying by for him, and is well pleased with the purchase of the farm. Mr. Shaw Lefevre admits that it might be dangerous to draw conclusion from these limited cases, and one property, if they did not confirm the evidence laid before the committee. In every case great benefit had resulted from the purchase. It had been a spur to industry and thrift, and the increased industry and activity required to pay off the loan will, he thinks, establish a habit for the future. He remarks that many of the families were partly supported by contributions from members who were at sea, and that he had always contended that small landowners are not necessarily to be expected to derive the whole of their subsistence from the land. He felt confident that many of the older people he saw would in England be in the workhouse. Under the English system the whole of the nine small farms which he visited, containing 150 acres, would be thrown into one, and, instead of nine families, there would be one farmer's family superior in social position, but not superior in intelligence, to those whom he saw; and four or five families of labouring men, with a quarter of an acre for a garden, without any hope of bettering their condition, and with no prospect for their old age but the poorhouse. He visited a second glebe, which was still to be sold."

As I have said before, it is really ridiculous to assert that these deeds and wills do not keep great numbers of estates out of the market; but if they do not, if their object is not specially to effect this, what good are they? Is it to be supposed that the landowners tie their own hands, limit their powers over their own estates, and subject themselves and their successors to all the many inconveniences which necessarily at-

tend the limitation of their powers over their estates for no prospect or hope of advantage? Such a supposition is absurd. These deeds and wills are notoriously framed for the express purpose of preventing the great estates dividing or coming into the market. They do most successfully accomplish the end for which they are so framed. They very greatly diminish the number of sales of land that would otherwise take place. They thus raise the market price of land very considerably, and by this means make it more and more difficult for small capitalists or tradesmen to purchase.

2. But let us look at another consequence of these deeds and wills.

The son constantly knows that do what his father will, he (the son) is sure, under one of these deeds or wills, to succeed to the estate. The son is therefore, to a very great extent, rendered independent of his father. The parental control and authority are lessened just in those very cases in which they are most needed, and in which they ought to be increased rather than diminished.

As soon as the young man is 21 he finds himself surrounded by money lenders, who make it their special business to devote themselves to the wants of such heirs, and who are always on the look out for them. The father has no power to save the son from these harpies. He is deprived of a great check upon his son. If the father threatens to cut off the son's allowance, unless his misconduct is discontinued, the son can, and often does, in such a case, laugh in his father's face. The money-lenders are only too happy to relieve present wants, and to lead on to further loans. And in this way the heir often comes into the possession of his estate with such a weight of debts and liabilities around his neck that during the remainder of his life there is no owner who has either virtue or capital enough to manage the estate decently. In such a case would it not be an unalloyed good to all concerned if he could sell the land? Who is there who among his acquaintances or neighbours cannot recall many instances of this kind? If it were not for these deeds and wills, in all these cases a part or the whole of such an estate would come into the market.

3. These laws induce unprincipled or careless landowners to be tenfold more careless than they otherwise would be about the education of the child who is to succeed to the ownership of the estate. They know that however badly the child may be brought up, however extravagant, or reckless, or dissipated he may turn out, he cannot, no matter what may be his extravagance or folly, loose or lessen the estates or the social status of the family, but that the land will go undiminished to the next owner mentioned in the deed or will.

Not only does the knowledge that the estate must come to him, however he should behave, act most prejudicially on the child's character, but the knowledge that the child cannot get rid of it increases this evil by rendering the father more callous as to the proper training of his child than he would be if he knew that the future of the family estates and of the family status depended entirely on the character of the future owner. Many and many an heir is utterly demoralised by these causes. And then the country suffers in a double sense, for not only are the estate and the tenants neglected, but a man is put into the influential position of a landowner whose early education and habits have rendered him totally unfit to be entrusted with any influence whatever, and who never would have enjoyed any such influence if it had not been for these Land Laws, which I have attempted to describe. These laws in this way often set up in influential positions, as examples to society,

men of luxurious and idle habits, depraved tastes, and corrupted morals.

4. These laws keep in influential positions a large body of men, however unworthy of these positions they may be—men who have always known that they need not work, who have in consequence often grown up in ignorance and frivolity, who are so rich and in such influential positions as to enable them to exercise great influence on public affairs, and to make their own conduct and manners the standard for the thoughtless and weak-minded, who are supported and strengthened in their position by the state of the county franchise and the county magistracy, and who more than any other class foster habits of idleness, self-indulgence, and extravagance.

5. But I will try to explain another serious evil, which constantly results from tying up and charging these estates in the way I have described. In the majority of cases the owner does not come into possession of the land until he is past middle age. He is then generally married, and he has probably a family of children. He knows that he has no interest in the land beyond his own life. Sometimes he has a power of charging the estate to a small extent for younger children. If such a man really cares for the future of his family, look at the position in which he is placed. In nine cases out of ten he receives the property burdened with charges to his mother, his brothers, and sisters. He feels he ought to have something for his own younger children. Now, except in the cases of the larger estates, how can he hope to do this during the remainder of his life, and at the same time to spend in the improvement and proper maintenance of the estate, its buildings, farms, &c. His eldest son is to take the whole of the land. Every penny he spends upon the improvement of the estate is so much taken from what he could have saved for the younger children, and so much added to the eldest son's already unjust share. How often, under the pressure of these circumstances is not the unfortunate owner obliged to neglect either the estate or his children? Of course, the heavier the estate has been previously charged with debts the worse does such a case become. It is difficult to conceive a system more certain to repress any efforts for improvement, or to discourage any outlay of capital upon the land. Mr. Caird, C.B., F.R.S., who is strongly opposed to the system of small estates, writing in 1851, in his "Agricultural Survey of England," says: "Much of the land of England—a far greater proportion of it than is generally believed—is in the possession of tenants for life, so heavily burdened with settlement encumbrances that they have not the means of improving the land which they are obliged to hold. It would be a waste of time to dilate on the public and private disadvantages thus occasioned, for they are acknowledged by all who have studied the subject."

The same gentleman, on the 25th of September, 1877, at the meeting of the Social Science Congress at Aberdeen, in his address on "Economy and Trade," with especial reference to the condition and prospects of British Agriculture, said, "The evil that exists in the present land system is, not that we have great proprietors amongst us—for, as a rule, their estates are the most liberally managed, but it is because of the too common existence of the possession of land by persons so heavily encumbered by settlements and debts that they are incapable of doing justice either to their property or to themselves. For the sake of progress in the fuller development of our agricultural resources it is desirable that the land in such cases should pass into other hands. And the advantage of enlisting a large body of competitors for it, when exposed for



sale, induces the offering of estates, whenever practicable, in single farms, and thus tends in some degree to its subdivision."

In foreign countries, where the land is not put into such a position by deeds or wills that it cannot be sold—where, in fact, the land can always be sold whenever it is expedient for the owner to sell—an owner, if embarrassed by debts, or mortgages, or claims, would sell the whole or part of the estate, and, having paid off all his debts, would either devote himself to some other employment or business or would cultivate properly the portion of the estate remaining to him after the sale. These evils in Great Britain and Ireland can never be effectually remedied, or even seriously mitigated, as long as landowners are allowed by law to tie up the land by deed or will for long series of years after their own death. It is true that the Legislature has attempted to relieve landowners so circumstanced, but these measures have only been partial and most insufficient palliatives for a widespread evil.

6. This system tends very greatly to retard the progress of agricultural improvement.

Let any one who knows any large number of the landowners, or the "landed gentry," as they are popularly called, ask himself how many of their sons are ever taught scientific agriculture, or the details of estate management. Generally, when they come into possession of their estates, they know as little of either as they know of the details of a Manchester business. They generally understand hunting, shooting, fishing, billiards, athletic sports, perhaps in rare cases something of art. They know the points of a horse. They understand dogs, and all descriptions of game. But how many know anything whatever of scientific farming, of plantations, of orchards, or of scientific gardening? Let any one who knows much of them look around him and ask himself this question. When they come into their estates they are, so far as the details of estate management are concerned, entirely in the hands of their agents or stewards. The very ignorance of such landowners as I am describing makes them lean against changes and improvements. Their ancestors and predecessors have gone on in a certain way, why should not they? As they cannot estimate the value of reforms the very name of them is hateful to them. These reforms require study, thought, and mental exertion, to which they have not been trained.

I remember a singular instance of this. One of my intimate friends, a man who had been brought up in business, hard-working habits, came some years ago into the possession of a large estate, in a part of the country in which anything like scientific farming was utterly unknown, and in which the ordinary farming was of the lowest possible description. The land in that part of the country was a heavy clay soil. Drainage was unknown. The farms for miles around were more or less covered with rushes, and with the herbage springing up in soil charged with moisture. My friend sent for a scientific farmer, and said, "What must I do in order to reform this state of things?" Under this gentleman's advice, tileries were erected on the estate, drainage tiles were made, gangs of drainers were engaged, the estate in a few years was drained from end to end. The products of the estate were greatly increased, the herbage improved, the rushes disappeared, rents were raised, and willingly paid. But while this was being done, and until the results had become too plain and too remarkable to be denied, my friend was subjected to sneers, insult, and opposition of all kinds from the neighbour-

ing squires, who seemed to hate the interference with the old ways.

Is it then astonishing that in 1870 a committee of the House of Lords, consisting of four great landowners—the Duke of Richmond, the Marquis of Salisbury, the Earl of Derby, and Lord Egerton, of Tatton—reported that of the twenty million acres of land in the country requiring drainage only three millions had been drained, and that, taking into account also all other necessary improvements, only one-fifth of the land had been properly dealt with? Is it, therefore, surprising that Mr. Mechi, the eminent agriculturist, estimated that the land does not yield one-fifth of its proper production?

However intelligent the agent or steward of these landowners may be, the ignorance and idleness of the latter, joined often to their want of ready funds and to the heavy charges on their estates, oppose an insurmountable bar to anything like a proper development of the land. And even when the landowner is sufficiently intelligent to promote improvement, he is too often hindered by the state of the charges on his estate, by the knowledge that he will only possess it for his life, and by the necessity of providing for younger children during the short continuance of his possession. All this results from the deeds and wills I have described. Of course, I well know that there are happily many bright exceptions to the description I have endeavoured faithfully to draw—men who deeply feel their great responsibilities; who do all they can to fit themselves for the proper performance of their important duties; who remember that "property has its duties as well as its rights;" and who are the centres of kindness and intelligence in their influential stations. But these are exceptions, as compared to the general character of the class I have described. And whether I have described fairly or unfairly let each reader look around and consult his own personal experience. These bright exceptions, I contend, exist in spite of, and by no means as a consequence of, our present system of Land Laws.

But I must reserve the further consideration of the consequences of these deeds and wills until my next letter.

NOT A BAD JUDGE EITHER.—Kron Prinz Rudolf is, I hear, delighted with his visit to this country. He owns to being "a little mixed" as to the various factories, foundries, public buildings, and so forth, which he has been so mercilessly made to "do" during the last few weeks. But on one subject H.I.H. has a most clear and decided opinion, and that is as to the great beauty and charm of our English girls, who he declares beat all continental young women in looks, shape, and action. This from a Viennese may be well considered high praise; and I hear that the Prince, when making this statement, announced his intention of dancing "till four in the morning" at the two balls at which he will be present in London this week. His imperial mother has also been greatly enjoying herself in Northamptonshire, where, aided by a good pilot, she has done far better over the grass than last season. There is only one thing wanting to make Prince Rudolf completely happy, a day with what Mr. Bright once called in the House "the Pitchley." But that I am afraid is what he will not be allowed to have.—*World*.

## Miscellaneous.

**THE LOVERS' QUARREL.**—They had a quarrel one evening. He got angry and swore he'd leave her. Then she got vexed and told him he could do as he pleased. He left. The next night he came back again. He asked to see her alone. She readily complied. She was all of a tremor. Her heart went out to him in a gush of sympathetic love. She stood ready to throw both arms about his neck and cry for joy. There was not much colour in his face, and his voice was husky. He said: "I have been engaged to you six months, Matilda, and I tried in all that time to do what was right." He paused an instant to recover the voice which was faltering rapidly, while her trembling increased. "I know I have got a considerable temper, and that I do not control it always as I ought. But I have tried to be faithful to you, tried to do everything that I thought would tend to make you happy. And feeling this I have called to-night to see if you wouldn't be kind enough to give me a sort of testimonial to this effect, so that I could show it to any young lady that I might want to marry. It might help me." He looked at her anxiously. All the colour left her face in a flash. She made a great effort to swallow something which threatened to suffocate her. Then she spoke: "You get out of this house as quick as you can, you miserable wretch, or my father shall kick you out." He didn't dally with time. He left without the testimonial.

**WHAT IS AN AMATEUR GARDENER?**—For all general purposes the distinction between the amateur and the trader rests on the thin and scarcely perceptible line that separates love from money. We must permit the amateur to sell occasionally, just as we must permit the trader to cherish a little love for the matters he is commercially interested in. It may happen that an amateur tends constantly to become a trader, and the question at last arises, shall he be permitted any longer to compete as an amateur, or required to cast in his lot with the traders, from whom perhaps he is still separated by the fact that he has never entered the open market, and has never adopted measures for systematically obtaining business. In such a case it is difficult to draw the line, but there is a golden rule applicable to it, and it is that every man is entitled to the position he assumes for himself until it can be proved he has no right to it. The onus of proof is on those who object to the trading amateur, and until they can prove that he systematically orders his affairs to make a trade of the subjects of which he claims to be an amateur, the status of the man who is complained of remains untouched.—*The Gardeners' Chronicle*.

**COCKROACHES.**—A mixture of red lead, Indian meal, and molasses will be eagerly eaten by them and will soon exterminate them. Paris green, phosphorus, or arsenic are sometimes used, but are very dangerous. Borax, to which cockroaches have a great antipathy, will drive them away.

He had brought her the very things she wanted from the supper table to her safe retreat on the stairs, and she was moved to say, half laughingly: "You are a man after my own heart, Mr. B——!" "Just what I am after!" he answered quick as a flash, covering her with confusion.

**ACCIDENTS IN THE HUNTING-FIELD.**—Her Majesty's staghounds were out recently with the Master of the Hunt, the Earl of Hardwicke. The deer was released

on Mr. Graham's farm at Horton, and all went well for about half an hour, when Lord Hardwicke's horse, in galloping made a mistake at a fence and threw its rider, who fell heavily on his head. For some minutes Lord Hardwicke was unconscious. Upon his recovering himself Dr. D. Jones and Mr. Douglas, surgeon, of Hounslow, were by his side assisting him, and they carefully moved him into the brougham of a Mr. Watson, in which he was driven to Slough. There he was placed in a railway carriage of the Great Western Company, and he arrived at Paddington about 3.30. We regret to state that the symptoms indicate concussion of the spine, but Lord Hardwicke tried to make as light of the accident as possible. The Earl of Camperdown has had a narrow escape while hunting with the Bicester hounds. His horse falling at a fence, his lordship was thrown head foremost, but happily, escaped almost unhurt. The Earl of Hardwicke was on Friday reported to be doing well.

## HUMAN NATURE.

### A TRUE INCIDENT.

Two little children, five years old,  
Marie the gentle, Charlie the bold;  
Sweet and bright and quaintly wise,  
Angels both in their mother's eyes.

But you, if you follow my verse, shall see,  
That they were as human as human can be,  
And had not yet learned the maturer art  
Of hiding the "self" of the finite heart.

One day they found in their romp and play  
Two little rabbits soft and grey—  
Soft and grey, and just of a size,  
As like each other as your two eyes.

All day long the children made love  
To their dear little pets—their treasure-trove;  
They kissed and hugged them until the night  
Brought to the conies a glad respite.

Too much fondling doesn't agree  
With the rabbit nature, as we shall see,  
For ere the light of another day  
Had chased the shadows of night away

One little pet had gone to the shades,  
Or, let us hope, to perennial glades  
Brighter and softer than any below—  
A heaven where good little rabbits go.

The living and dead lay side by side,  
And still alike as before one died;  
And it chanced that the children came singly to view  
The pets they had dreamed of all the night through.

First came Charlie, and, with sad surprise,  
Beheld the dead with streaming eyes;  
Howe'er, consolingly he said,  
"Poor little Marie—her rabbit's dead!"

Later came Marie, and stood aghast;  
She kissed and caressed it, but at last  
Found voice to say, while her young heart bled,  
"I'm so sorry for Charlie—his rabbit's dead!"

—*Canada Globe*.

**CONSUMPTION OF CAPITAL.**—*The Economist* recently concluded a paper on the question, "Are we consuming our capital?" as follows:—"While there seems to us no proof that we are living out of our capital, it is yet obvious that accumulation does not go on in the country at the same rate as previously. So far as the increased importations, which have been so much discussed of late, have been paid for out of the capital set at liberty by the diversion of trade from one channel to another, we are not necessarily the worse off, if the imports have been employed in a manner which will be a source of future profit. So far as we are accumulating stocks of manufactured goods in the country for future use, a source of future profit may be merely accumulating unsold, waiting till a demand may, as it doubtless will, in course of time spring up. So far as our importations of articles of food enable us to support a large population engaged in preparing stocks of manufactured articles drawn from materials found within our own boundaries, this supply of food is the stay also of an industry which may also be classed as productive. So long as the country is merely fetching back in one shape or another the capital which it formerly exported, no injury is done to its permanent prosperity. But further it cannot safely go. There are limits in time to the largest accumulated resources, and there are other considerations besides mere movements of capital to be thought of. There may have been, and there probably was by a considerable increase, in the days of our recent prosperity, in the unproductive expenditure of the country, and this must lead to its ultimate impoverishment. There is the difference in the modes of life started or developed during the recent years of too abundant sunshine to be borne in mind. There has been much waste of capital in various ways. It is always unpleasant for people, when less well off than they have been, to come down to a lower scale of expenditure; but come down they must, if they would avoid ruin. The prodigality indulged in among the working classes during the time of high wages has been the theme of many a speech and many a statement. The reckless extravagance of those above them in station, who, suddenly enriched, thought there was, as the old saying has it, "no bottom to the money-bag," the sums lavished on costly buildings, on splendid establishments, on luxuries of every description—all these have to be written off the account, as so much wasted capital. Yet the business heart of the nation is still thoroughly sound. The evidence is strong in favour of this. The Clearing-house returns, the railway returns, the receipts of the Exchequer, all show that though the great wave of prosperity, which seemed as it would bear everything so rapidly onward with it a few years since, is stayed in its course, and has for the moment even receded, we may well hope to maintain our position by a timely economy. Retrenchment will undoubtedly have to be the order of the day, and when the cloud is removed it is to be hoped that the lessons of the past will not be forgotten."

**THIRTY CATTLE BURNED TO DEATH.**—Recently the steading of Kipps Farm in the parish of New Monkland, tenanted by Mr. John Dykes, was destroyed by fire, and thirty cattle were burned to death. About one o'clock the farmer was aroused by the alarm that the farm was on fire. There is no water near the farm, and the fire speedily made headway. From the straw-house it spread to the barn adjoining, and a new thrashing machine, together with all the barn implements, were completely destroyed. The stable was next

caught, and altogether five horses were got out; a fine filly, valued at £120, was burned to a cinder. The byre was also soon in a blaze, and twenty-eight cattle, including a bull, were destroyed without a single chance of saving them. An attempt was made about a month ago to poison some of the cattle on the farm.

## Obituary.

**DEATH OF MR. C. W. JOHNSON, F.R.S.**—We record with regret the death of Mr. Cuthbert W. Johnson, F.R.S., so long and well known as a writer on agricultural subjects, and for many years a frequent contributor to these columns. He died at his residence, Waldronhorst, near Croydon, on the 8th inst., in the 79th year of his age. *The Journal of Horticulture* gives the following notice of his life:—"Mr. Johnson was the eldest surviving son of William Johnson, Esq., of Widmore House, Bromley, in Kent, where he was born on the 28th September, 1799. He was also the brother of one of the editors of this journal, and was a barrister by profession, but he devoted himself so closely to the science and practice of agriculture that he at an early period became widely known as a reliable agricultural writer. In 1820 he published an "Essay on the Uses of Salt for Agricultural Purposes," and this was followed by "The Advantages of Railways to Agriculture" (1837), "On Liquid Manures" (1837), "On Fertilisers" (1839), "The Objects and History of the Thames Improvement Company" (1839), "On Gypsum as a Fertiliser" (1840), "On Saltpetre and Nitrate of Soda as Fertilisers" (1840), "On Increasing the Depth of Soils" (1840). In 1841, conjointly with Mr. Shaw, he began "The Farmers' Almanack," which was the first periodical of that kind, and which has existed uninterruptedly up to the present time. In 1842 he undertook "The Farmers' Encyclopedia," an extensive work of 1320 pages. Then followed "The Farmers' Medical Dictionary" (1845), "The English Rural Spelling Book" (1846), "Our House and Garden" (1867). Besides these there were "A Calendar for Young Farmers," "The Modern Dairyman," and other minor publications. Mr. Johnson held for many years the office of Chairman of the Croydon Local Board of Health, of which he was the original President, and on his retirement from that office in 1877 the Board presented him with a splendid piece of plate as a recognition of his services, on which was the following inscription: "Presented to Cuthbert William Johnson, Esq., F.R.S., by his fellow members of the Croydon Local Board of Health, in testimony of the valuable assistance in law and science rendered by him for upwards of a quarter of a century as their Chairman, and in memory of their high esteem and affectionate regard. 1877." Mr. Johnson was at the time of his death also a Director of the Royal Farmers' Insurance Company, and Chairman of the Trade and Rent Guarantee Company. Thus lived and thus died one of the best men. He was a willing and an assiduous worker, and his object was useful work, such as would benefit his country and the community. The kindness of his nature, his strict integrity, his firm friendship, and his high sense of honour will render him in the memories of all who had the benefit of his acquaintance.

## REVIEW OF THE CORN TRADE,

FROM *THE MARK LANE EXPRESS* FOR THE WEEK ENDING MARCH 25.

We have passed the Vernal Equinox after a continuance of weather that has been very favourable both for the growing Wheat and for spring-sowing. The return of winter which we are just now experiencing can hardly be of long duration, as the day is now longer than the night, and the sun's rays have a constantly increasing power. A large breadth of Spring Corn has been planted under the most favourable conditions, and the seasonable weather of the last few weeks has strengthened the Wheat-plant without unduly forcing it. A few frosts as early in the year as the end of March are not dangerous to agricultural produce, although they check the growth of early Peas, Winter Beans, and feeding crops; therefore, in spite of the present winterly weather, we have every reason to hope for a more prosperous season than we have had for the past three years. In many districts the sowing of Barley and Oats is nearly completed, and the little snow that fell on Sunday night and this morning has already pretty well disappeared. Another week of dry weather would see nearly the end of Spring-sowing. Some reaction in favour of higher prices has been noticeable in the Wheat trade during the past week, but the improvement has only in a few instances extended to home-grown grain, which has been marketed in very short quantity and somewhat defective condition. Foreign Wheat, of which the imports into London have been very moderate, has met an improved demand at an advance of 1s. per qr., chiefly on American descriptions, but there has been more business passing than of late in all varieties, and the tendency of prices has been in sellers' favour. There has also been some Continental demand, which has tended to advance values for cargoes off coast, and it is probable that France will require some 700,000 qrs. of fine Wheat for mixing purposes between this and harvest. Judging from the dulness of trade at the close of the week, it is doubtful whether Monday's advance will be maintained, as the arrivals of Wheat both from America and Russia during the next few months will be on too large a scale to admit of much enhancement of values. France will probably relieve us of some portion of the accumulated stocks in South Russia, but even allowing for this it is scarcely likely that an ordinary consumptive

demand will be sufficient to support present currencies, and the absence of anything tending to arouse political apprehensions renders speculation unlikely. Some attention is being directed to Indian Wheat, of which stocks in London have worked down to a comparatively narrow compass and some slight improvement in the value of Calcutta produce appears by no means improbable, as there is little or nothing to come forward until the new crop is secured. According to a recent advice the shipments from Calcutta for the first seven weeks of the present year were only 7,700 tons, or less than one quarter of the quantity sent during the corresponding time in 1877. Maize, although quiet, has been fairly steady, and both old and new corn have been in moderate request at late rates, but others sorts of feeding corn have been dull, and grinding Barley and inferior sorts of Oats have given way 1s. and 6d. per qr. respectively. With moderate arrivals at ports of call during the past week, the floating cargo trade for Wheat has ruled steady, and the demand for the Continent continues. Maize has advanced 3d. to 6d. per qr., while Barley has sold slowly at rather easier terms. The sales of English Wheat noted last week were 32,298 qrs., at 49s. 6d., against 44,717 qrs., at 51s. 3d. in the previous year. The London averages were 52s. 10d. on 1,299 qrs. The imports into the kingdom for the week ending March 16th were 921,297 cwts. Wheat, and 177,167 cwts. Flour. A stronger tone characterised the grain trade on Monday last, as the week's imports, although fair, were not excessive of any article, and as millers operated with less reserve the increased firmness noticeable at the close of the preceding week was well maintained. The arrivals of English Wheat amounted to 2,509 qrs., and the supply fresh up on factors' stands was again short, and, generally speaking, in defective condition. Holders demanded an advance of 1s. per qr., which buyers resisted, and sales could only be made at previous rates, at which the trade was by no means brisk. The total imports of foreign amounted to 41,483 qrs., of which quantity 20,383 qrs. were from American Atlantic ports, 9,100 qrs. from North Russia, 7,477 qrs. from Germany, and the remainder from Persia and the East Indies. An improved demand was experienced for all descriptions, and American sorts realised an advance

of fully 1s. per qr., while Russian and Indian varieties moved off steadily at the extreme quotations of the previous week. There was a full attendance, and a strong feeling at the close of the market. The week's exports were 6,082 qrs. against 4,945 qrs. in the preceding week. There were 3,418 qrs. of home-grown Barley, and 11,053 qrs. of foreign. Malting descriptions were held for previous prices, as there was rather more inquiry, but for grinding qualities a reduction of 1s. per qr. was necessary in order to effect sales. The imports of Maize were 11,663 qrs., and the trade ruled very firm for both old and new corn at an occasional advance of 3d. to 6d. per qr. There were 30,750 qrs. of Oats reported, and in spite of the moderate arrivals the trade proved disappointing, as the demand flagged, and prices ruled the turn in buyers' favour for all except the choicest parcels of old corn. On Wednesday there was a further arrival of 230 qrs. of English Wheat, and 20,200 qrs. of foreign. With a very limited attendance, a slow sale was experienced for both Wheat and feeding stuffs at Monday's prices. On Friday the return showed 840 qrs. of English Wheat and 27,540 qrs. of foreign. Although prices were nominally unaltered the trade was exceedingly dull both for Wheat and Spring Corn, quotations ruling the turn in buyers' favour. The imports of Flour into the United Kingdom for the week ending March 16th were 177,167 cwt., against 212,656 cwt. in the previous week. The receipts were 14,511 sacks of English, and 4,110 and sacks 8,497 barrels of foreign. There has been but little improvement in the demand, but in the limited amount of business passing the trade has ruled steady, and both sacks and barrels have supported previous currencies. The week's imports of Beans were 25,603 cwts., and of Peas 27,769 cwts., showing a decrease of 29,611 cwts. on the former and an increase of 7,086 cwts. on the latter. A quiet but steady business has been passing in both articles and prices have undergone no quotable alteration. The deliveries of Malt were 15,854 qrs., and the exports 199 qrs. The trade continues quiet, but in the limited amount of business done no further depression has occurred in values. The activity noticed in the agricultural seed trade last week has been steadily maintained, and prices of all the leading varieties have evinced an upward tendency by reason of the brisk demand. Stocks of Red Clover on spot have been steadily decreasing, and as imports have been on a very moderate scale an improvement of 1s. to 2s. per cwt. has been realised, while Trefoil has also advanced to a like extent. Spring Tares and feeding Linseed may also be noted

1s. per qr. dearer. Very little business has been done either in white Mustard or Canary Seed, for both of which articles there has been little or no inquiry, but fine Rape continues scarce and fully as dear. The offerings of grain at the provincial markets have been very moderate during the past week, and the general tone of the trade has been firm, although business has been far from active. Lower prices have been quoted for Wheat in a few instances, but these have been quite the exception, as previous currencies have as a rule been maintained. At Liverpool there has been an improved demand for spot Wheat, and at market on Tuesday holders realised an advance of 1d. to 2d. per cental on the depressed prices of the previous week. Flour was also in better request, although quotably unchanged. Feeding corn generally met a slow sale at about former prices, but quotations were a trifle easier for new Maize, of which the choicest parcels brought 26s. per qr. The week's imports were again heavy, and included 84,800 qrs. of Wheat and 49,000 qrs. of Maize. At Newcastle no change has occurred in values, and, as holders are very firm, business has been slow both for Wheat and feeding corn. At Peterborough and Wisbeach the markets have been poorly supplied, and the trade has ruled quiet but firm at fully last week's prices. At Edinburgh the supply of grain from the farmers has been fair, and Wheat and Oats have met an improved demand at an advance of 1s. per qr., while other articles have sold slowly at unaltered rates. At Leith a firmer feeling has animated the grain trade, and although business has not been very brisk sales have been practicable at rather higher currencies. The week's imports of all articles have been liberal, and at Wednesday's market the decline of 1s. per qr. which took place last week on Wheat was recovered. Barley met a dull sale at rather less money, but Beans were the turn dearer. At Glasgow the trade has been quiet but steady for Wheat at last week's full prices, and Flour has ruled dull at nominally late rates. Spring Corn has also been without change in value, and Maize has met a light retail demand at barely late rates. The arrivals from abroad have been large of barrel Flour, but moderate of Wheat and feeding stuffs. At Dublin the weather has been fine, and there has been increased animation in the grain trade, prices favouring sellers for both Wheat and Maize. At Cork business has ruled quiet, and the turn lower for Wheat, which millers have only purchased for their immediate wants. Maize, on the other hand, has been firm, with a good consumptive demand, and last week's prices have been fully supported.

The following are the Reports from Mark Lane during the past month :

MARK LANE, Monday Afternoon, March 4. — The arrivals during the past week have been : English Wheat, 2,295 qrs.; foreign, 39,018 qrs. Exports, 2,605 qrs. English Wheat was again in very short supply at market this morning, and most of the samples on offer were in poor condition. With a moderate attendance of millers the trade ruled slow, at a decline of 1s. to 2s. per qr. on English, and about 1s. per qr. on foreign, of which the arrivals were rather lighter than of late, but business was much depressed by the fine weather, and the peaceful political news. Country Flour, 17,086 sacks; foreign, 3,447 sacks and 9,747 barrels. The trade ruled dull both for sacks and barrels at barely last week's currencies. English Barley, 1,943 qrs.; Scotch, 953 qrs.; Irish, 100 qrs.; foreign, 9,984 qrs. Grinding descriptions were about 6d. per qr. cheaper, while malting sorts also gave way slightly. Malt, English, 14,332 qrs.; Scotch 942 qrs. Exports, 1,103 qrs. A dull sale at nominally late rates. Maize, 20,590 qrs. New corn was about 6d. per qr. lower on the week, but old ruled steady at last week's full rates. English Oats, 536 qrs.; foreign, 8,857 qrs. Exports, 511 qrs. The foreign arrivals being light a fair inquiry was experienced for all descriptions, at an advance of 3d. to 6d. per qr. English Beans, 391 qrs.; foreign, 5,817 qrs. In moderate request and unaltered in value. Linseed, 14,481 qrs. Exports, 87 qrs. A slow sale, at barely former prices.

MARK LANE, Monday Afternoon, March 11. — The arrivals during the past week have been : English Wheat, 2,552 qrs.; Scotch, 24 qrs.; foreign, 39,044 qrs. Exports, 4,945 qrs. The supply of English Wheat at market this morning was again short, and sales progressed slowly at a decline of 1s. to 2s. per qr. on the week; of foreign the arrivals were moderate, and with a scanty attendance of millers, a quiet consumptive demand was experienced at a similar reduction. Country Flour, 18,491 sacks; foreign, 5,420 sacks, and 9,363 brls. There was very little inquiry, and a concession of 6d. per burrel and 1s. per sack was necessary to effect sales. English Barley, 1,567 qrs.; Scotch, 363 qrs.; foreign, 2,958 qrs. Malting descriptions ruled slow at about late rates, while grinding was the turn in buyers' favour. English Malt, 18,058 qrs.; Scotch, 1,054 qrs. Exports, 1,210 qrs. A dull trade at about previous currencies. Maize, 14,964 qrs. Exports, 3,367 qrs. Old mixed American ex store was fully as dear, but new corn was about 6d. per qr. cheaper on the week. English Oats, 744 qrs.; Scotch, 25 qrs.; foreign, 30,548 qrs. Exports, 375 qrs. Swedes and fine qualities generally were unaltered in value, but low-class Russian varieties receded 3d. to 6d. per qr. English Beans, 290 qrs.; foreign, 887 qrs. In limited request, at about late rates. Linseed, 19,770 qrs. Exports, 458 qrs. Unaltered in value or demand.

MARK LANE, Monday Afternoon, March 18. — The arrivals during the past week have been : English Wheat, 2,509 qrs.; foreign, 41,483 qrs. Exports, 6,082 qrs. The supply of English Wheat fresh up to market this morning was light, and sales progressed slowly at about last Monday's prices; of foreign the arrivals were fair, and with a good attendance of millers an improved demand was experienced at an occasional advance of 1s. per qr., the improvement being noticeable chiefly upon American and Indian descriptions. Country Flour, 14,511 sacks; foreign, 4,110 sacks and 8,497 barrels. There was a rather better feeling in the trade, and last week's prices were maintained for both sacks and barrels. English Barley, 2,425 qrs.; Scotch, 955 qrs.; Irish, 38 qrs.; foreign, 11,053 qrs. Malting sorts were dull, and the turn lower, while grinding descriptions receded 1s. per qr. on the week. Malt, English, 15,287 qrs.; Scotch, 268 qrs.; Irish, 299 qrs. Exports, 199 qrs. A dull trade at about former quotations. Maize, 11,668 qrs. There was more inquiry for new corn at rather better prices, while old fully supported late rates. English Oats, 1,122 qrs.; Irish, 150 qrs.; foreign, 30,750 qrs. Exports, 722 qrs. The trade generally ruled steady, and an occasional advance of 3d. per qr. was obtainable on the choicest varieties. English Beans, 492 qrs. foreign, 14 qrs. A quiet but steady demand at unaltered currencies. Linseed, 6,384 qrs. Exports, 267 qrs. In better request, and 1s. per qr. dearer on the week.

MARK LANE, Monday Afternoon, March 25. — The arrivals during the past week have been : English Wheat, 2,232 qrs.; foreign, 33,119 qrs. Exports, 5,806 qrs. There was a very small supply of English Wheat at market this morning, and the few choice lots on offer moved off at last week's prices, while secondary parcels met with little attention. Of foreign the imports were very moderate, and with a good attendance of millers, a quiet consumptive demand was experienced at fully late rates. Country Flour, 15,996 sacks; foreign, 13,822 sacks, and 10,242 barrels. There was very little animation in the trade, but quotations were not lower for either sacks or barrels. English Barley, 1,924 qrs.; Scotch, 129 qrs.; foreign, 17,513 qrs. Malting descriptions ruled very dull, and grinding sorts were purchasable at a reduction of 6d. to 1s. per qr. Malt, English, 18,366 qrs.; Scotch, 400 qrs. Exports, 585 qrs. Values were unchanged, but there was only a very limited amount of business passing. Maize, 4,302 qrs. Both old and new corn were in better request at an advance of 3d. to 6d. per qr. on the week. English Oats, 775 qrs.; Scotch, 220 qrs.; Irish, 1,550 qrs.; foreign, 45,036 qrs. Exports, 13 qrs. The trade ruled quiet, but firm for all varieties at last week's currencies. English Beans, 375 qrs.; foreign, 13 qrs. In limited request, but unaltered in value. Linseed, 2,872 qrs. Exports, 514 qrs. A quiet demand at former prices.

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“For JOHN TINGEY, Esq.,  
“R. RENNEY.

“To Mr. Thomas Bigg.”  
Flockmasters would be well to beware of such preparations as “Non-poisonous Compositions;” it is only necessary to appeal to their good common sense and judgment to be thoroughly convinced that no “Non-poisonous” article can poison or destroy insect vermin, particularly such as the Tick, Lice, and Scab Parasites—creatures so tenacious of life. Such advertised preparations must be wholly useless or they are not what they are represented to be.

DIPPING APPLIARATUS..... £14, £5, £3, & £2





*A Coloured Heaving Ram*

# THE FARMER'S MAGAZINE.

MAY, 1878.

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## PLATE.

### A COTSWOLD YEARLING RAM.

THE PROPERTY OF JOHN GILLET, ESQ., OAKLANDS, CHARLBURY, OXON.

This descendant of an ancient line of ancestors famous for the length and fineness of their wool, hardy constitutions, and breeding qualities, is one of the celebrated Charlbury flock, and was declared the best Yearling Ram in a commended class at the Bath and West of England meeting at Bath, 1877. Mr. Gillett as a successful exhibitor of improved Cotswolds is almost as well known as the hills which the breed have had the run of for ages

past. Could we say more? Yes, we might fill a column with the prizes he has won; but wind up instead with a word for Messrs. Brown, Marham; Downham, Norfolk; R. Swanwick, Cirencester Gloucester; R. Jacobs, Burford, Oxon; J. J. Godwin, Deddington, Oxon; and J. J. Smith, of the same place, who are also well-known exhibitors of Cotswolds.

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## THE LAND AND THE PEOPLE.

(From the Echo.)

### V.--FROM BAD TO WORSE.

Poor as the farming of the country generally has been, compared with what it might profitably have become, there are various signs that it is going from bad to worse. I need not give the often-quoted statistics from the Agricultural Returns to show that during the past three years the number of our live stock has been gradually decreasing, and is now no greater than it was ten years ago; whilst within the same period the area of land devoted to corn crops has been also diminishing. The fact is one of considerable significance, as only one meaning can be attached to a decrease of corn-growing land on one hand, which implies a smaller production of corn, and an increase in pasture land, on the other, with a diminution, instead of an increase, in the production of meat. A correspondent of *The Times* recently called attention to some statistics relating to the yield of our corn crops, which, although not pretending to be exact, are valuable for comparing one year's return with those of other years. He pointed out that *The Mark Lane Express* has long given a return of the crops of each harvest as estimated by over four hundred correspondents, who report separately for wheat, barley, oats, beans, peas, roots, and potatoes, stating whether each crop in the writer's district is an average one, under average, or over average. These reports are made at the end of each year, after the greater portion of the corn crops have been thrashed; so that the practical men who supply the reports are able to form a fairly accurate estimate of the yield. Now the writer to

whose letter I am referring has taken these reports for the last ten years as the basis of his remarks, and he says:—

“Four hundred or more reports, then, are sent in each year after harvest as to the wheat crop, and the total number sent in for the last ten years is 4,577. Of these, 973 were over average, 1,112 average, and 2,492 under average. The barley crop returns for the ten years were 592 over average, 1855 average, and 2,003 under average; the oat crop returns being 540 over average, 1,746 average, 2,032 under average. These figures show at once that, in the judgment of these 400 observers, the crops for the last ten years have been under average, and that very considerably; for if not the number of reports over average would equal the number under average. Surely this is strong evidence that our crops are not what they used to be, and, unless the result can be laid to the charge of change of climate, it must be concluded that the fertility of the soil is decreasing.”

Now there is no doubt that the seasons of the last ten years have been, on the whole, less favourable than they were for the previous decade, but I think the returns themselves, when more closely observed, show that we cannot attribute the defective yield entirely to this cause. Referring to the tabular summaries published in *The Mark Lane Express*, of January 7th, 1878, I find that in the ten years ending with the year 1877 the over-average returns for the wheat crop only twice exceeded the under-average returns, namely, in 1868 and 1874.

For barley the over-average returns exceeded the under-average returns only once, in 1871; for oats only twice, in 1871 and 1872; for beans, not at all; and for peas, only once, in 1871. Remarking on these very discouraging results, a writer in the journal in which they are recorded observed:—"I see that in commenting on the returns for the year 1865 *The North Lane Express* said:—"We have assumed the average of this country (England) to be—wheat, 3½ quarters; barley, 5 quarters; oats, 6 quarters; peas [and beans, 4 quarters each? Surely these are not very high averages; but if time shows that our climate has permanently changed for the worse in respect to the growth of corn, they may have to be put lower." I fear that this lowering will have to take place, but not solely because the climate has "changed for the worse." The results shown above are too bad to be attributed entirely to bad seasons, although the greater number of the years in the last decade have been notoriously unfavourable to the growth of corn crops. A season that suits some crops does not suit other crops, and for that very reason there should have been more over-average returns of one crop or another than we find that there were. It is an ominous fact that there was only one over-average return for peas, and not one for beans, since nothing is a better criterion of the condition of land than the yield of pulse crops over a series of years. These crops are not usually forced by artificial manures, which, indeed, have but little effect upon them. Very commonly they are not manured for at all, and to grow luxuriantly, therefore, they require land in "good heart." Some agriculturists attribute the decrease of the bean crop to draining; but we know that only a comparatively small proportion of the land is properly drained. On the other hand, wet seasons are favourable to beans, and wet seasons have chiefly prevailed during the ten years under review. After careful consideration, then, I have come to the conclusion—in which I know that many practical farmers share—that English agriculture is declining.

What are the reasons for this decline? About twenty years ago British agriculture was making great strides, farms were greatly in demand, and rents were high. Since then the mechanical appliances used for the cultivation of the soil have been vastly improved, rents have not greatly advanced, and the prices of agricultural produce, as a whole, are higher, taking an average of several years, than they ever were for any lengthened period. It is true that wages have advanced, taxes are higher, and the cost of living is greater; but these advances have been incidental to all trades and productive industries, and not to agriculture only. The decrease in the number of live stock is chiefly accounted for by the loss, and the fear of loss occasioned by the prevalence of cattle disease; but capital withdrawn from meat-production might have been expected to flow to the production of corn. I fear that it has been partly lost and partly withdrawn from farming. It is generally admitted that farmers have, as a body, lost money during the past few years, and it is therefore probable that a considerable proportion of agricultural capital has actually been lost. But I believe that some has also been withdrawn and devoted to other channels of investment. At any rate if agriculture had been a hopeful pursuit, lost capital would have been replaced by fresh investment. It is known, however, that many farmers who have saved money have preferred to invest it in foreign securities rather than in the land, and that they have shown an increased disposition to train their sons for other pursuits than that of farming.

Now modern farming, in order to be successful, requires more capital, instead of less, and farming is such an attractive pursuit that there can be no doubt that capital would flow freely to the land if there were no special disadvantages in that mode of investment. When times were less hard than they are now men gave high rents for land, knowing that there was but little prospect of accumulating fortunes by farming, but content if they could live comfortably by it, educating their families fairly, and setting their sons up in business. But when a few successive bad crops, losses by cattle disease, and in many districts the devastation of game, had made farmers poorer, the desire for taking land began to diminish. When the labour disturbances became prevalent a climax was put upon the discomfiture of the class—not so much on account of the rise in wages as on that of the fear of strikes and the unhappiness of co-operating with discontented and rebellious workmen. The farmers had been accustomed to have it all their own way with their labourers. They had allowed their landlords to squeeze out of them whatever margin of profit remained beyond the minimum that they were content to do with, rather than give up a business that they loved—in most cases, indeed, the only one they were fitted to carry on—and their men had to do without their fair share of the increased products of the soil. The rise of the farm labourers came none too soon, and, if the masters on the one hand, and the union leaders on the other, had behaved in a more conciliatory spirit, little but good to either class would have resulted. But bad feeling was excited, and strikes and lock-outs took place. Farmers discharged their men, or the latter left them, land got foul from the want of labour, and its already poor condition became poorer still. More pasture was laid down, with a diminished return as a result. What do we see now? Why, more farms to let than there have been at any previous time within the last thirty years; rents diminished on a vast number of estates from twenty to fifty per cent.; a large proportion of the farmers either ruined or next door to ruin; and the land in a miserably poor and neglected condition.

What are the remedies of this deplorable state of British agriculture—once the finest in the world? How can capital be attracted to the impoverished soil? How can farming again become what it once was—the happiest pursuit of the capitalist, large or small? How can the land be made to support a happy and prosperous peasantry? And how can it be made to produce bread and meat in greater abundance to feed the people, and surplus wealth to stimulate the flagging interests of trade and manufacturing production? I say, simply by the exercise of the power which the people have to reform the laws and customs relating to the land, which, at the best of times, have depressed agricultural prosperity and retarded agricultural progress, and which now, after a period of uncommonly severe reverses, have caused a crisis that is felt more or less by every inhabitant in the country, from the richest to the poorest. What those reforms are, and how they can be brought to pass, it will be my object in future articles to show.

A FREE FARMER.

**BUTTER TREE.**—The butter tree of South-east Africa (*Combretum butyraceum*, Caruel) yields a fatty substance, called by the Kaffirs "Chequito." It is largely used by them as an admixture to their food, and also exported. It contains about one-fourth olein and three-fourths margaric. This butter-like fat is extracted from the fruit, and is of an aromatic flavour.—*Journal of Applied Science.*



## THE FLESH OF DISEASED ANIMALS AS FOOD.

Perhaps there is no more important question connected with sanitary or economic science than that relating to the flesh of diseased animals as an article of food. Its importance has been recognised from the earliest times, and the use of such flesh has often been the subject of domestic legislation; but it was only at a comparatively recent period that it began to receive marked attention, and it must be acknowledged that it is now a matter of the greatest moment. It has become so from the fact that animal food is now more necessary than ever for the sustenance of civilized man—that it is consumed in far larger quantity than even less than a century ago, and that diseases among food-yielding animals are either on the increase or the progress of veterinary science has enabled us to discover them when and where they were previously not suspected.

With the increasing demand for animal food has its market value become enhanced—its price being double, or even treble, what it was within the memory of the present generation. Any cause, therefore, which diminishes to a notable amount the quantity of this food, must receive, or at least deserves, careful consideration, as it is not only an individual, but a national loss, in a pecuniary point of view; while it may, more or less, deprive the poorer labouring classes of a most essential portion of their aliment. In this respect, those diseases which render the flesh of affected animals dangerous or unfit for food, or lessen its nutritive qualities, should command public attention, and receive more than ordinary notice from the sanitarian and social economist.

In those countries in which veterinary science has been most successfully and profitably cultivated, this subject has long been carefully considered, and we find that wise precautions have been adopted to safeguard the public; while the carrying out of measures devised with this object has been entrusted to those who, from their special knowledge and training, can alone be deemed competent for this task—that is, veterinary surgeons.

In this country we have not yet reached so desirable a stage of civilisation; and our peculiarly insular notions—even in our own profession—as to the scope of veterinary science and the functions of its students, almost forbid us to hope that it will be reached before many years have elapsed and a new order of things inaugurated. Until within a few years ago medical men were supposed, by those who controlled the veterinary profession in England, to be more capable of acting as teachers or examiners than its own graduates, and to be the fit representatives of the profession at Veterinary Congresses, the head of the Government Veterinary Department, and, indeed, to be the rulers, governors, tutors, and arbiters of the destiny of veterinary surgeons. After a long struggle, the profession has gradually emancipated itself from the somewhat humiliating state of dependence and pupilage imposed upon it by some of its own members, and it has begun to claim a right to independent existence, from a well founded consciousness of its fitness and worthiness to govern itself and manage its own affairs. But it has still to struggle against the narrow-minded influence of those who would fain prevent it attaining its legitimate place and performing its legitimate functions.

With regard to the propriety of giving an opinion respecting the flesh of diseased animals as food, veterinary surgeons

are now told that they are not called upon to usurp the functions of the meat-inspector, but are bound to oppose the idea that consumption of diseased meat is sanctioned by sanitary laws. Now, we entirely demur to the notion that veterinary surgeons are not to usurp the functions of meat-inspectors—for if properly educated they are the only persons who can be entrusted with this most responsible and important duty, and this fact has been recognised in every European country, save and except our own. Sanitary laws are—or at any rate should be—founded, not on hypotheses or surmises, but on facts, observations, and the teaching of enlightened experience; and if these show that the flesh of animals which have suffered from a particular disease has been, and can be, consumed with impunity, so far as the health of the consumers is concerned, then sanitarians are bound to say so, and to frame laws accordingly, no matter what theorists may say to the contrary. We have more than ample proof, both of an accidental and experimental kind, that certain maladies—as septikæmia, anthrax, and glanders—render the flesh, unless thoroughly cooked, very dangerous as food; while there is not a tittle of reliable evidence anywhere to be found that the flesh of animals which had been affected with foot-and-mouth disease, infectious pleuro-pneumonia, cattle plague, and some other febrile diseases has ever produced the slightest injury or inconvenience—direct or indirect, immediate or remote—to those who partook of it.

Considering the wide prevalence, at times, of one or all of these maladies, and the pecuniary value of the diseased animals, it is a question of no mean importance whether it is justifiable or necessary to condemn, as unfit for human food, the flesh of creatures suffering from them; and this question should not be decided on mere theoretical or sentimental assumptions, but on the teaching of everyday experience. We do not deny, and indeed we are ready to admit, that such flesh, if innocuous, may yet possess less nutritive value than that of healthy animals in good condition; but this is quite another matter. We know that certain diseased conditions, accompanied by fever, are artificially produced in animals in order to render their flesh more palatable, and nevertheless no harm results from its consumption. Sanitarians have no business to pander to prejudice, which is generally most unreasonable; and though prejudice is usually strongly opposed to the use of flesh of diseased animals as food, yet a distinction must be drawn between flesh which may be hurtful and that which is positively harmless, and the sale of which—at a reduced price, if need be—is an advantage to the community.

The subject of meat inspection comes specially within the domain of veterinary sanitary science, as we have for years pointed out and insisted upon. From their training and experience, veterinary surgeons should be far more competent to advise upon or give an opinion as to the nature and quality of flesh, and if diseased, the character of the disease, than other persons.

There can be no doubt whatever that an enormous quantity of diseased and dangerous meat is disposed of as food in this country, and almost without risk of detection, for it is only by chance that a seizure is now and again made. Quite recently an inquest was held in West Kent on the body of a butcher who died from blood-poisoning, through dressing

the carcase of an ox which had, there is every reason to believe, been affected with anthrax, and the carcase of which had been sold for food. This disease is not at all uncommon among cattle, and it is to be feared that many of the animals fall into the hands of the butchers. It is customary to kill animals which are suffering from grave disorders—among them septikæmia or parturient fever—and send their carcasses to the meat market. And even when the disease has not made the flesh dangerous, it may happen that it is rendered poisonous by the medicines administered before the animals were slaughtered. From the evidence which crops up at intervals, and, from what we hear casually, there is much to lead us to believe that an extensive trade is carried on in diseased meat.

It is somewhat remarkable that we rarely, if ever, hear of meat infested by worms being seized as unfit for food; and yet we know that animals in this country harbour to a considerable extent the germs of verminous diseases, which may produce serious disturbance in people who eat their flesh—we may mention tapeworm and trichinosis. To detect these germs in the bodies or carcasses of animals requires the special knowledge of the skilled veterinarian, whose province it is to study them and their effects in the creatures they primarily infest.

In conclusion, nothing in sanitary science more deserves the attention of a paternal government than this question of a healthy meat supply; while the institution of public slaughter-houses—especially in our towns and cities, which are a present the convenient and chief receptacles of diseased flesh—should be persistently demanded. In these alone the public can be assured as to the condition of the flesh they consume, the animals being inspected before and after slaughter by an expert; and our daily increasing knowledge of the diseases of animals, and their influence on flesh, could there and then be applied with the most beneficial results. In this direction veterinary science can confer benefits of no mean kind, and we shall continue to hope that we may see the day when veterinarians will be solely entrusted with the duty of protecting the health and interests of the community in the matter of meat inspection. It is, perhaps, as blameable to condemn all flesh from diseased animals as unfit for human aliment as it would be to allow all such flesh to be exposed for sale. Such, at any rate, would be the verdict arrived at by any one who cares to examine the scientific evidence which is now before us; and it is for veterinarians to prevent needless loss, whilst guarding against possible risk of inconvenience or danger to meat consumers.—*Veterinary Journal.*

EXPERIMENTS IN TURNIP GROWING.

We lately drew attention to Mr. Stephen Wilson's experiments on the influence exerted on the turnip crop by the size of the seeds from which it is grown. Mr. Wilson has also experimented on another point of no slight importance in the cultivation of this crop, viz., the distance to which the plants ought to be thinned out. These experiments were carried out by singling equal lengths of adjoining drills, so as to leave the best plants, as nearly as possible, at distances of respectively 12 inches, 9 inches, and 6 inches apart. The singling was done by hand, and the drills were not reduced by hoeing. Greystone globes and swedes were experimented on. The greystone globes were pulled and weighed on the 3rd December; the swedes on the 17th December. The average weight of the plants, including tops and tails, but with all the earth removed, was as follows:—

	Average Weight.	
	Greystone Globes.	Swedes.
12 inches apart.....	1.70 lb.	2.50 lb.
9 inches apart.....	1.42 lb.	1.95 lb.
6 inches apart.....	1.15 lb.	1.54 lb.

When the weight per acre is calculated from these figures, the result is the following:—

	Greystone Globes.		Swedes.	
	Tons.	Cwt.	Tons.	Cwt.
12 inches apart.....	14	.....	21	12
9 inches apart.....	16	7	22	9
6 inches apart.....	19	18	26	12

Where 6-inch intervals produce 100 pounds or tons of globes, 9-inch intervals, according to the above experiment, will produce only 82, and 12-inch intervals 74. In the case of swedes where 6-inch intervals produce 100 pounds or tons, 9-inch intervals produce 84, and 12-inch intervals 81.

"The general conclusion from these experiments," says Mr. Stephen Wilson, "is that intervals of about 6 inches between the plants will afford the heaviest crop of all kinds of turnips.

It is a fact, partly brought out by the writer's experiments on large and small seeds, that many seeds will produce only a small bulb, however much space they may be afforded. To give such plants 9 inches is a pure wasting of ground. It is to no purpose that chemistry puts manure at the root of a seed which is sterile in the property of bulbing: the botany of that seed, could it be fully read, would point out conditions in the problem not to be neutralised by any application of manure. More plants are wanted, not more manure." "Every farmer may find out for himself the proper interval to give the heaviest crop. If three or four tons per acre may be gained by leaving the plants six inches apart instead of nine inches, here is a large gain, not purchased at the price of expensive manure, but simply by a knowledge of the botany of the turnip. If the rent of the land lies between proper and improper singling, the subject ought to secure attention."

The conclusions at which Mr. Wilson has arrived are corroborated by the results of other experiments which have been made in Aberdeenshire. Mr. George Bruce, Keiz, experimented in 1872 on the leading varieties of yellow and white-fleshed turnips thinned at intervals of 12 and 10 inches, with the following results, the weights given being those of the bulbs only:—

Kind of turnip.	Weight per Imperial Acre.	
	12 inches apart.	10 inches apart.
Early field yellow ... ..	24 3	27 12
Orange jelly ... ..	19 2	25 17
Pomeranian white globe ... ..	29 1	31 12
Norfolk red globe ... ..	26 11	30 0
Greystone globe ... ..	32 3	33 13
Fosterton hybrid ... ..	23 19	27 13
Aberdeen bullock yellow ... ..	22 12	27 17
Tweeddale purple-top yellow	22 2	26 13
Oldmeldrum golden yellow	22 11	25 13

Here the advantage is uniformly on the side of the narrower

interval, the excess of weight varying from 30 cwt. to 6 $\frac{1}{2}$  tons per acre; an experiment made by Mr. Bruce the same year on swedes, however, gave discordant results. The intervals in this case were 12 and 14 inches, and the result was as follows:—

Kind of swede.	Weight per Imperial Acre	
	14 inches apart.	12 inches apart.
Kinaldie bronze-top ...	18 12	16 2
Skirling's purple-top ...	17 14	15 3
Sheppard's bronze-top ...	17 19	16 18
Green-top ...	15 1	16 2

Here, except in the last case, the advantage is on the side of the wider interval; it does not follow, however, though the weight of the crop is greater, that there is a larger quantity of dry nutritive matter. Large roots are well-known to contain more water than small roots; a case has even been investigated where one field yielded 20 tons of roots and another 40 tons, yet the 40 tons of the latter field contained no more dry matter than the 20 tons of the former, the excess of weight being water only.

In the experiments of the Aberdeenshire Agricultural Association the distance between each turnip was 10 $\frac{1}{2}$  inches, while the distance between each line of plants was 27 inches. "These are probably commendable distances in the field," says Mr Jamieson in his report, "where the land is ploughed up in drills, and thus between each drill there is an empty space; but in the plots, where the turnips are sown on the flat, no such empty space is left, and the earth between the lines is probably not sufficiently utilised. There being a few spare plots at Cluny, I caused one of them to be sown on the square system—i.e. the turnips about 16 $\frac{1}{2}$  inches separate in each direction; and the result was, that while the plots planted on the 27 x 10 $\frac{1}{2}$  inches system yielded on an average 19 tons per acre, and the highest was scarcely 25 tons per acre, the plot on the square yielded 27 tons 11 lb. (cwt ?) per acre."

We have here a new line of inquiry. The width of raised drills, varying from 26 to 28 inches, is fixed by considerations of convenience in cultivation by horse power; but it is doubtful, and deserves to be investigated, whether, at least in some soils, the available space is sufficiently occupied with plants. Experiments made in France on sugar beet show that it is possible by increasing the number of plants to increase the yield of sugar nearly 50 per cent., though the weight of roots is only inconsiderably augmented. In carrying out these experiments, a five-acre field was divided into five equal plots. On each of the plots furrows were run 17 inches apart, and sugar beets were planted in the rows at intervals of 10, 12, 14, 16, and 20 inches respectively in the several plots. The following table embraces the principal results which were obtained:—

Distance.	Yield per Acre.	Percentage of
Inches.	Tons. Cwt.	Sugar.
10	23 0	11.62
12	27 12	11.21
14	27 15	10.48
16	25 1	10.61
20	25 5	8.97

The yield of sugar with the plants 10 by 17 inches is thus to the yield with the plants 20 by 17 as 3 to 2 nearly, but the latter distance corresponds closely with that of plants 12 inches apart on drills 28 inches wide. Were turnips to follow the same rule as beet in this experiment, it would be possible to increase the yield of the crop in nutritive matter 50 per cent., by merely increasing the number of the plants. This

could be done by adopting the English system of sowing on the flat with narrow intervals, as, for example, 20 inches between the rows of plants. It is exceedingly probable that there are circumstances under which sowing on the flat would be found to be superior to sowing on raised drills. In dry seasons, for instance, when the total failure of the crop is threatened for want of the moisture necessary for the germination of the seeds, there is much less risk of such failure when sowing on the flat is practised than with raised drills, the soil being in the latter case much more exposed to the drying influence of the atmosphere.

The moral we would deduce from these experiments is that there is no futility in farming, that even in the culture of the most commonly-cultured plants there is room for investigation and improvement, and that improvements of great value may sometimes be composed by the humblest instrumentality. They show the importance of that attention to minute detail on which, in a great degree, success in farming depends, and they exhibit the importance of what is too little valued by many farmers—a close and regular plant of turnips; every blank in which represents the loss of so much ground on which labour and manure have been spent, and for which rent has been paid for a twelvemonth without any return.—*Aberdeen Free Press.*

**PRESERVING MEAT.**—At the Society of Arts, on Monday evening, Dr. B. Richardson, F.R.S., delivered the second of the course of Cantor lectures on "some researches on putrefactive changes and their results in relation to the preservation of animal substances." Having in the first lecture given an historical summary, he now proceeded to describe some of his original work. He had to bring forward a new theory, based on experiment, and he hoped a new progress would ensue. His work had passed through four stages, commencing with his attempts in 1850 as a teacher to preserve specimens for anatomical and pathological purposes. His later experiments on the preservation of animal substances for foods had been tested by sending preserved specimens to Rio and back several times, and had caused an outlay of about £1,000. When he commenced in 1850 he started with the popular theory, probably derived from Liebig, that decomposition was purely the result of oxidation. He still believed that when decomposition is once commenced, it is oxidation that continues it, though it cannot be said that it is oxidation alone that originates it. But his earlier attempts were solely experiments on the prevention of oxidation. For this purpose he tried the immersion of portions of meat in vessels charged with negative gases, in many cases with good results. In preserving meat for food the following characteristics must be maintained:—Colour, odour, chemical reaction, the water of the tissues, the consistency, the structure as seen by the microscope; and the colour and odour must be maintained after removal from the preserving vessel. The odour and natural taste and flavour must be preserved during cooking, and this has not yet been accomplished. The following must be avoided:—The odour of putrefaction, the odour of other taints, some of them, though new, not always unpleasant, and acid fermentation. After a long series of experiments, keeping these points in view, he had come to this suggestive inference:—It seemed that decomposition was first set up by the decomposition of the water of the tissues, and the way to approach the question of preventing decomposition is to consider the stoppage of the decomposition of water.

## CATTLE DISEASE AND THE MEAT SUPPLY.

The following is the principal portion of an admirable and convincing speech on the Cattle Diseases Bill delivered by Mr. Jacob Wilson, of Woodhorn, Morpeth, at Whitley, on Wednesday, April 10th :

I have seen thousands and tens of thousands of names to petitions in favour of this Bill and the contrary, and I venture to say there is not a legitimate consumer who ever petitioned against the Bill unless he had been instigated to it by a middleman. Now, really, when you hear the opponents of this Bill talk you would fancy that the whole of this country was supplied by foreign animals. Why, what do you think ? It simply is, that all that we ever get is 200,000 or 204,000 head of cattle per annum from abroad. If you calculate that, in comparison with the produce of this country, you will find that the percentage of cattle is only  $7\frac{1}{2}$  per cent. of our own home production ; and if you take cattle, sheep, and pigs, it is only  $4\frac{1}{2}$ . Do you think under these circumstances, there is any justice or consideration due to those men who stand up and say, " We will deprive you of this boon which the Government wish to give you ? " If Mr. Ridley stands here and demands your support on behalf of the Government on the ground of the Eastern Question, I stand here and demand your support on behalf of the Government on the ground of a Bill which has not had its equal in domestic economy in this country. We are told by many sorts of arguments, which I defy you to prove, that foreign cattle cannot be killed on this side of the water and carried about. We don't say to the foreigner " You shall not bring your cattle to this country." We say, " Bring all you possibly can, but don't bring us any disease." What is the fact ? They tell you you cannot treat this trade as you treat anything else. Well, now I take the town of Hull alone as an illustration of what is done in this trade, and I can tell you that in the port of Hull one-third of the cattle brought into that port was slaughtered in Hull and consumed there. Another one-third was sent to the Wakefield, Leeds, and other Yorkshire markets and consumed there ; and the other one-third was killed and sent to London. This dead meat trade is increasing in a way which you have a very small idea of apart from the question of the American meat supply. Take this northern line of railway, the North-Eastern and the Great Northern, and I tell you that last year the trade in dead meat had increased by 3,000 tons. In 1876 the amount of dead meat sent into King's Cross station on the Great Northern line was 18,000 tons ; in 1877 it was 21,000, and if it goes on at the present rate I don't know what it will be in 1878. But we are told further that it is quite an impossibility that you can send this meat through the length and breadth of the inland towns. Well, how do you reconcile that statement with this fact, that in the Metropolitan Market in London last year it amounted to 175 tons, equal to 700,000 head of cattle ; and if they can send this dead meat, equal to 700,000 head of cattle, from the provinces into London, surely we can manage 200,000 head of cattle which comes from abroad. Well, we are told also, that in the case of offal—that is a very important element which must not be overlooked. Well, we admit that. I can assure you that the arrangements are as perfect and complete with reference to the transit of offal as they are with regard to the transit of the animal itself. I was in Berwick on Saturday, and saw 1,100 carcasses of sheep hanging there, ready to be sent off to Lon-

don, and the offal of every sheep there went to Leeds and other towns in Yorkshire. There is only one misfortune connected with this Bill so far as it relates to this country, and at the present moment I am sorry to say, although I am not not ashamed of it, I have met with a considerable amount of abuse in consequence, and that is with regard to the neighbouring borough of Newcastle, where this Bill has met with some opposition. Now if you will trace this opposition, I think you will find that it comes from the pocket. It is a misfortune in one sense, that Newcastle has had to spend £35,000 upon a sanatorium. It is the greatest blessing to Newcastle in another sense, that it has spent £35,000. I have it from the best authority—that of the Privy Council—that there is no other town in the United Kingdom which has facility for the slaughter of dead meat equal to Newcastle ; and by spending £200,000 or £300,000 on the erection of wooden slaughter-houses, you will find that when the Bill passes, as I am sure it will pass, that Newcastle will be at the head of the rest of the towns in this respect, and will get all the benefit. We are told that American meat will not take here. Why ? Because it is said it came last summer and fell off in the autumn. But why did it fall off in the autumn ? It fell off because our own prices went down so that they had not been so low for some time. But as soon as ever, after Christmas, they began to rise we found the American meat coming in in greater quantities. In the first fortnight of 1878 we had no less than 10,000 quarters, equal to 4,000 head of cattle, imported from America, and that is still coming in every day. It has been said there is now no Bill, for it has been referred back to a select committee. The Bill has been referred back on one particular point, and that one point related to Ireland. It was only at the very last moment that Canada was tacked on to it ; but I can tell you, from having attended during the last three weeks every meeting in this select committee-room of the House of Lords, the principle of this bill has never once been touched upon. Speaking as I do in the presence of a large number of consumers, I do sincerely trust that you will drive away all feeling of jealousy on this subject, and look at it in a straightforward manner as a great national question ; and I believe the Government has a right to ask for your thanks for this Bill, which they expect and believe will be for your benefit.

At the Easter Quarter Sessions at Carlisle, recently, Captain JAMES, referring to the Contagious Diseases (Animals) Bill, said if it had been a measure for the protection of the farmers or of any special class interests he should have had nothing to do with it ; but as it seemed to him to be a Bill for the better provision of food for the people at large, it might be thought desirable to take some action upon it. Its object was to carry out the principle of stamping out cattle disease. It kept measures for cattle plague in the hands of the Government, but pleuro-pneumonia and other diseases were left with the local authority. Having had some experience of cattle plague in this country, he believed it would be a workable measure. To test the feeling of the Court, he moved that the chairman of quarter sessions be requested to put himself in communication with the other members for the county, with the view of obtaining their support to some such Bill as that now before Parliament, which the Court considered it desirable

should be passed; also, that a copy of this resolution be sent to the Privy Council.

Mr. JOHNSON seconded the motion. He believed that the Bill was in favour of the consumer quite as much as it was in favour of the producer.

Mr. ALLISON, as an amendment, moved that the court pass to the next business.

Mr. Allison's amendment, not being seconded, fell to the ground.

The CHIEF CONSTABLE said that in his report, submitted to Sessions last July, he showed, on the best authority, that the cost of foot-and-mouth disease alone in the two counties had been £301,101 in the preceding seven years. Mr. Allison had mentioned the disappearance of foot-and-mouth disease of recent months, but that was owing, not to the operation of the ordinary regulations, but to the stringent special measures which the Privy Council took when there was an outbreak of cattle plague in the neighbourhood of Hull about a year ago. Those measures were designed to arrest cattle plague, but they also stamped out foot-and-mouth disease. The Bill gave power to the local authority to take effective measures as soon as the disease appeared. He had had a great deal to do in carrying out cattle regulations in this county, and he believed that the general feeling of the farmers, and of all those interested in the protection of the community from the severe losses caused by those diseases, was that such measures should be adopted, however stringent, as might be necessary to restrain the spread of the diseases.

Captain James' motion was carried *nem. con.*

A meeting of delegates connected with the Lancashire and Yorkshire Union of the Foreign Cattle Trade Association was held at Leeds recently, when resolutions were passed strongly condemning the Duke of Richmond and Gordon's Contagious Diseases (Animals) Bill, and appointing representatives from the different districts to attend in London when the Bill comes before the House of Commons, in order to influence members of Parliament to do their utmost to secure the rejection of the measure. It was stated that if the Bill passed the price of meat would be increased 1d. to 1½d. per lb.

## CATTLE DISEASES AND MEAT PRICES

At the meeting of the Manchester Statistical Society, at the Memorial Hall, Albert Square, on the 10th April, Mr. H. Baker presiding,

Mr. JOHN HYDE read a paper on "Contagious Diseases of Cattle and their Influence on Meat Prices, with some remarks on the Government Bill." He said it was doubtful whether the country generally recognised the importance of the issues involved in the passing of the Government Bill, which, if passed in its present form, could scarcely fail to bring about a complete revolution in the meat trade of this country. The losses inflicted upon the country by the series of outbreaks of contagious diseases which had occurred since 1812 were computed at an average of £10,000,000 per annum. This appalling estimate he considered to be probably within the mark, but one-half of it represented a total loss of £180,000,000 within a single generation. These losses accounted for the present scarcity and consequent high prices of meat, and we could now understand what was stated by the distinguished economist, Mr. Cherbuliez, that during the period in which the price of corn had risen in Western Europe in the propor-

tion of 1 to 2, the price of meat had risen in the proportion of 1 to 10. He proceeded to make the following inquiries

1. Are rinderpest, foot-and-mouth disease, pleuro-pneumonia and sheep pox undoubtedly of foreign origin, or are they, or any of them, indigenous to these islands? 2. Presuming that they are of foreign origin, have they not obtained such a footing in the United Kingdom that they would continue to 'ravage our herds and flocks,' notwithstanding the prohibition of all further imports? 3. If they come only from abroad, could not a better system of inspection be devised, which would suffice to protect us from this introduction, and while admitting the cattle, keep out the plague? 4. If absolute prohibition of live cattle imports, or at least their slaughter at the ports of debarkation, be our only effectual safeguard, is there not still some danger that the remedy would be worse than the disease, or, in other words, would not either of such measures interfere so seriously with the meat supply as to raise its price in a greater degree than freedom from disease had reduced it? The diseases named, it was universally admitted, were originally introduced into this country from the continent of Europe, and whenever they broke out in these islands, after a period of intermission, they had almost always been distinctly traceable to foreign importations. The question as to whether they had not become naturalised in the country was a much more difficult one to answer. So far, at least, as rinderpest, foot-and-mouth disease, and sheep pox were concerned, he thought it must be admitted that to abolish live imports would be to pave the way to their complete and final extirpation. With regard to his next inquiry, it seemed impossible to deny that the present system of inspection was as perfect as it could well be made; but owing to the varying periods of incubation, many cases of disease must escape detection. As to the fourth inquiry, he could not think of the immense quantity of meat sent to London from the country every year, amounting last year to no less than 175,000 tons, without coming to the conclusion that means would be found for the proper regulation of the dead meat trade which, in the event of the Government Bill passing into law, would take the place of the present traffic in live cattle. In all probability we should soon see every important town provided with its public refrigerator. The erection of cold meat stores would not only remove all difficulty out of the way of the prohibition of live cattle imports and the movement of English cattle during an outbreak of disease, but it would give an immense impetus to the American dead meat trade. That trade had been a precarious one from the first, in consequence of the impossibility of the care exercised over the meat during its shipment and transit being continued after its arrival in this country. With a proper system of meat transport established in the country, Parliament would be able to give us a measure which in the course of a few years would probably free the country altogether from contagious diseases. He meant the absolute prohibition of live cattle imports from the Continent of Europe. So great were the meat-producing capabilities of the United States, that the annual surplus in that country already exceeded the whole quantity consumed in the United Kingdom. If the trade in American meat were encouraged, and facilitated in the way he had indicated, we should soon see a reduction in the price of meat, apart altogether from that which our stock-raisers would bring about when relieved from the burden which now oppressed them, and which was in fact a tax upon meat. This was surely an important question to a great community like that of Man-

chester and Salford, for to them every penny saved in the price of meat amounted to upwards of £250,000 per annum.

In the discussion which followed, the CHAIRMAN said he thought it required to be proved that the epidemics among

cattle were really the products of foreign importation. He believed that much of these contagious diseases might be as fairly charged to the want of proper situation, shelter, and care of cattle in this country.

### THE IMPORTATION OF LIVE STOCK.

Mr. Thos. C. Booth, of Warlaby has written as follows to *The Manchester Examiner*, in reply to Mr. Irwin of London. We have not a copy of the letter to which Mr. Booth replies or we would give it also. But Mr. Booth's letter is reprinted here, not as a part of a controversy, but as conveying facts and figures in a condensed and convincing form:—

"As Mr. John Irwin, in his letter published in the *Guardian* of the 10th inst, asks Mr. Ashworth and your readers to discredit my statements, I must ask you in all fairness to publish my reply. But first let me state that I have not seen the letter of Mr. Ashworth's to which he alludes, and do not know its contents.

"Now let us look at facts and figures that no assertion of Mr. John Irwin can gainsay. The stock of cattle and sheep in this country has been steadily decreasing since the outbreak of cattle plague in 1865. In the last four years there has been a reduction of 500,000 head of cattle and 2,000,000 sheep. It was proved before the Parliamentary Committee last year that this decrease is almost entirely due to the effect of disease in our flocks and herds. Whence do these diseases come? Again, I say, without fear of contradiction, that undoubted proof is given by the most eminent men before this Committee that these diseases are of foreign origin, and that their introduction into this country can be accounted for.

"A return obtained by Mr. Elliot proved that in three years preceding 31st March, 1877, 1,458 cargoes of live stock were found with disease on board out of a total of 12,308; and such being the case, it is fair to assume, knowing the period of incubation of pleuro-pneumonia and foot-and-mouth disease, that many animals escaped into the country undetected, and were the means of propagating disease. With such proof, can anyone doubt the desirability of stopping the importation of disease by slaughtering at the port of landing? I would answer that, to protect ourselves from disease, we have no other course open to us. And having done this, let me try to prove that we can stamp it out at home. Again I must put evidence against assertion. No assertion can disprove the fact—as proved in evidence before the committee—that under the effects of severe regulations during the visitation of cattle plague in 1865-7 foot-and-mouth disease almost disappeared. Again, it stands on record that in the autumn of 1876 that disease was making rapid strides. Professor Brown—no bad authority—told me that we should have the worst outbreak in 1877 that we had ever known. Cattle plague was imported in January of that year; nearly the whole country was put under strict regulations, and as it had been in 1865-7, so it was in 1877—the promised outbreak of foot-and-mouth disease was checked, and it almost disappeared. Again, as Mr. John Irwin is obliged to fly to one of his foreign friends for evidence, I also would refer to a foreign witness, Count Danneskiold-Samsoe, who stated that foot-and-mouth disease was stamped out in Denmark by restrictions and isolation.

"Now, sir, having proved that the cattle of this country are

year by year decreasing owing to diseases; having proved that these diseases are of foreign origin, and that we can stop them at the port of landing; and having proved that restrictions have on two occasions been the means of reducing disease in this country to a minimum, let us see how this Bill (which will, I contend, do all that I have proved above) will affect the future supply of meat to the consumers in this country. Now I will not follow Mr. John Irwin's one-sided assertions, but will again give facts. The stock of cattle in Great Britain and Ireland by the last return was 9,713,000 head, of which all parties agree that one-fourth goes into consumption every year. This gives 2,433, against Mr. John Irwin's 1,000,000; but mine are facts. In 1876 we imported 271,000 head; in 1877, 204,000 head; and these about 20 per cent. per head less in weight than our own cattle. Where is Mr. Irwin's 27 per cent. of foreign imports? But if we go further and include sheep and swine, the total foreign importation of live stock only amounts to 4½ per cent. of our home supply. Again, in 1876 we imported dead meat to the value of £462,947 sterling; in 1877 the value was £1,266,280 sterling. So that, although the importation of foreign cattle fell off, we were really the gainers by dead meat. Mr. Irwin would like to ignore the dead meat trade; but he cannot ignore the fact that during every week of this year we have seen enormous quantities brought from America to Liverpool and Glasgow, and that this 500 or 600 tons of meat per week must go to feed somebody.

"It may be quite true that a succession of bad years has been the means of reducing the stock of cattle in this country; and I hesitate not to say, that, whilst we have had losses from bad crops, we have also had greater losses from disease, and these losses have had the effect of decreasing the meat-producing power of the country. I do not suppose for one moment that anyone will believe that we cannot produce more beef than we are doing at present, or than we have done in the past. I think—again calling the evidence before the Committee of 1877 to my aid—there cannot be the slightest doubt that, with immunity from disease, we can very soon produce more than the small percentage of imports from abroad. But, although we can undoubtedly produce more at home than we are now doing, are we likely to lose our present imports, even if they be slaughtered at the port of landing? Mr. John Irwin does not say so; he knows as well as I do that the meat-producing countries of the North of Europe must send their cattle here, because they cannot consume them at home, and further, because they have no other customers for their surplus stock. Therefore, sir, I take it as proved that we can produce more meat in this country if we are free from disease, and also that we are not likely to lose the foreign imports for reasons just stated. Hence the consumer of meat must be a gainer by an increased supply, whilst the producer is also a gainer by immunity from disease and consequent increased power of production.

Mr. John Irwin has alluded to the Duke of Richmond's Bill as a "sop" to the agriculturists; perhaps I may be per-

mitted to tell your readers whence come all his disinterested endeavours on behalf of the consumers of meat. Mr. John Irwin is secretary to the Thames Haven Wharf Company. This company has been making large dividends out of the importation of foreign cattle. In 1876, 105,204 head of cattle, 182,627 sheep, and 235 swine were landed at their wharf. When this Bill comes into operation, unless they adapt them-

selves to altered circumstances, the whole of this trade will go to Deptford, and Mr. John Irwin's occupation will be gone. In conclusion let me ask your readers to contrast such "endeavours" with those of Mr. Edmund Ashworth—a man who for upwards of forty years has been one of the foremost in his country to promote the happiness and prosperity of his fellow men."

## CHAMBERS OF AGRICULTURE.

### BEDALE.

A special meeting of the Chamber was held recently at the Black Swan Hotel, Bedale; Captain Clarke President of the Chamber, occupied the chair, and there was a fair gathering of members. The meeting was held for the purpose of considering the Highway Bill now before Parliament. Mr. J. G. Robinson opened the discussion on the Bill. Having gone through the various clauses, pointing out their application, he said the main features of the Bill, of which he most cordially approved, pointed to the decreasing of local authorities and foredoomed Highway Boards. Boards of Guardians as now constituted were too often ruled by cliques, and any one attempting to interfere with the existing state of things is looked upon as an intruder, and rapped over the head whenever an opportunity offered; but by increasing the powers of Boards of Guardians as rural sanitary authorities a greater interest would be awakened in their proceedings. Instead of being regarded with indifference, new blood would be infused, and thus by getting good local government a strong barrier would be erected against the growing tendency towards centralisation, one main cause of which has been

local misgovernment and clashing of local authorities. One thing that he had against the Bill was that, like almost all local measures introduced by the present Administration, it was permissive in its character instead of being compulsory. Gentlemen who were members both of the Highway Board and Board of Guardians for their district (as happened last year) would be somewhat puzzled how to vote should the dissolution of the Highway Board come upon them when sitting as the Local Sanitary Authority, and would almost feel as if they were asked to cut their own throats. Let them have, if possible, uniform areas and the strongest and most thoroughly representative local authorities that they could possibly get. Let them excite, if possible, an intelligent interest amongst the ratepayers in all matters of local expenditure, and all measures relating to local self-government. Believing thoroughly in this, he welcomed the County Boards Bill and the Highways and Locomotive (Amendment) Bill of 1878 as a combined step in the right direction, and fervently hoped that, with a few necessary alterations, they would pass into law before the conclusion of the present session of Parliament.

## AGRICULTURAL SOCIETIES.

### NORTH-EAST OF IRELAND.

The monthly meeting of the Committee of this Association was recently held at the Secretary's office, Ulster Buildings, Belfast, Rev. Joseph Bradshaw, J.P., in the chair. The other members present were:—James Heron, J.P.; George Martin, J. A. Cochrane, David Patton, Robert Morrow, David Corbett, Robert Smyth, J.P.; Thomas Lindsay, John Phillips, Claude L. Capron, Alexander Robb, and William J. Davison, Esqrs.

The following gentlemen were proposed, seconded, and admitted as members of the Association, viz:—Thomas McAfee Carrysiekan, County Antrim; and Francis Robert McRoberts Ballyoran, County Down.

The Committee then proceeded to nominate judges for the approaching show. Forty-six gentlemen, from various parts of England and Scotland, as well as Ireland, were nominated for the various departments. Mr. John B. Dunlop, of Belfast, was unanimously re-elected veterinary surgeon.

The programme of the show, embracing the appointment of stewards of the several departments, was agreed to.

### HIGHLAND AND AGRICULTURAL.

The annual examination of candidates for the Society's veterinary certificate, which is open to the students of any veterinary school established under her Majesty's sign-manual, was recently held. The number of candidates who

entered their names were thirty-four. Of these, twenty-four had previously passed the minor or preliminary examination, six had formerly failed to pass that examination, and now presented themselves for examination, previous to going up for the practical and clinical. On Monday the students attended a practical examination of horses, cattle, and sheep, at Mr. Buist's auction mart (kindly put at the disposal of the Society for the occasion) and at the abattoirs. Each candidate had to satisfy the examiners that he was able to take the pulse, respiration, and temperature of the various animals, and to perform the necessary surgical operations. The concluding portion of the theoretical examinations were held on Tuesday and Wednesday.

The examinations resulted in the certificate being conferred on the following nineteen gentlemen:—John Bleuch, Thornley, Durham; Frank Bottomley, Oldham; Wm. Henry Bridge, Oldham; David Crabb, Paubride, Carnoustie; Joseph Darbyshire, Wigan; Thomas J. W. Dollar, London; John Thomas Gregory, London; John H. Kirk, Edinburgh; Edward Kitchin, Doncaster; John Malcolm, Woodside, Montrose; John G. Muir, Mauchline; John O'Riordan, Limerick; Henry E. Poole, Toronto; William S. Pringle, Newcastle-on-Tyne; Adam Stewright, Keith; J. Simpson Walker, Kendal; Patrick Walsh, Ballinrobe, Ireland; Geo. H. Watkins, Tredegar, Monmouth; Thomas P. Young, Edinburgh.

Practical Examination.—The following having obtained the best marks in the practical and clinical examinations on Monday were selected to compete for the gold medal given by the society for the best practical examination:—Frank Bottomley, T. J. W. Dollar, Edward Kitchen, and John Malcolm. The Examination took place at Mr. Cumming's, V.S., 83 Rose Street, on Wednesday afternoon, and after a thorough and painstaking trial, resulted as follows:—F. Bottomley obtained 25 marks out of a possible of 35; E. Kitchen and J. Malcolm, 23 marks each; T. J. W. Dollar, 22 marks. Mr. Bottomley was therefore awarded the medal.

GENERAL EXAMINATION.—The following is the result of the best general examination for the gold medal:—John Malcolm, 57 marks (medal); William Henry Bridge, 44 marks; John G. Muir, 43 marks; Edward Kitchen, 36 marks; T. J. W. Dollar, 30 marks.

At three o'clock the students and examiners, along with several gentlemen, assembled in the hall for the purpose of distributing the certificates, &c., to the successful students. Captain Tod of Howden occupied the chair. There were also present—Professors Williams and Walley; Mr. Baird, V.S., and Mr. Rutherford, V.S.

The CHAIRMAN, in the course of his remarks on presenting the medals, said he was sorry to observe in the Bill proposed recently by the Duke of Richmond and Gordon that it was made compulsory for veterinary inspectors to be members of the Royal College of Surgeons. He had taken the opportunity of pointing that out to the chairman of the local authority, and also to the directors of the Society; and he hoped that the wording of the clause would be altered before the Act became law; because if it was not, any person holding the certificate of the Highland Society would be incapable of acting as an inspector.

#### BOTLEY EASTER CATTLE SHOW.

The annual Easter show of fat and horned stock took place recently at Botley Cattle Market, and compared favourably with previous years, both in regard to entries and the quality of the stock exhibited, the competition in several classes being very keen, and the judges in some cases had a difficulty in deciding on the respective merits of the animals. The show of cross-bred and Down lambs was excellent, equal to those shown in the early history of the show by Mr. Blundell, a proof that the quality has not deteriorated, while that of Hampshire Down wether tegs were remarkably good, Mr. W. Owton taking first prize with a pen of ten, which one of the judges remarked were the best that could be shown, and a credit to any man. There was only one entry each in Classes 2 and 3, Mr. John Gater taking first prize for ten best fat wether sheep, and Mr. Jeffery for a similar number of fat ewes, the latter also taking first prize for fat horned ewes, as well as prizes in other classes. Mr. Walter Warner took first prize for the ten best fat lambs, and second for fat horned ewes. The first prize for the best boar and sow were awarded to Mr. W. Smith, Mr. W. Warner being second for the former, and Mr. F. Harris second in the latter. Mr. F. G. Dalgetty took first prize for the best fat ox or steer, and Mr. W. Warner carried off Mr. F. Compton's prize for the best fat

steer. The judges were Mr. J. Stubbs, West Tisted; Mr. J. Allsop, Wellow, near Romsey; and Mr. J. Salter, Winchester.

#### LIST OF PRIZES.

Ten fat lambs (excepting Downs), fed in the open field and no restrictions as to feeding.—First prize, £5, W. Warner; second, £2, W. Jeffery.

Ten best fat Down lambs, fallen since December 1st, 1877.—First prize, £4, W. J. Read; second, £2, W. Owton.

Ten fat wether sheep.—Prize, £3, J. Gater.

Ten best fat ewes.—Prize, £3 3s., W. Jeffery.

Ten best fat horned ewes, each having yearned and fattened a lamb the same season, and fed in the open field.—First prize, £2, W. Jeffery; second, £1, W. Warner.

Ten best fat down ewes, each having yearned and fattened a lamb since December 1st, 1877.—First prize, £2, Mr. Simpson; second, £1, W. J. Read.

A hunters' prize of £15 and £10 for the shepherd, to the tenant farmer within the district comprising the Hursley H.I.I., and Humbledon Hounds, best pen of fat wether tegs "Hampshire downs."—First prize, W. Owton; second, £3 Mr. G. Gray.

The best boar.—First prize, £1, W. Smith; second, 10s. W. Warner.

The best sow.—First prize, £1, W. Smith; second, 10s. F. Harris.

Best fat ox or steer.—First prize, £5, F. G. Dalgetty second, £2, W. H. Smith.

Best fat steer, calved since Jan. 1st.—First prize, £3 3s. W. Warner; second, £1, W. Owton.

Best fat heifer, calved before January 1st, 1876, never having produced a live calf.—Prize, £3, W. Smith.

Best fat heifer, calved since January 1st, 1876.—First prize, £2, H. Silvester.

Best fat cow.—Prize, £2, J. Gater.

Best Shorthorn or cross bred dairy cow or heifer, with her own calf by her side.—Prize, £2, J. Gater.

Best Channel Island Dairy Cow, with her own calf by her side.—Prize, C. Perrott.

Best fat calf, under four months old.—Prize, £1, W. Jeffery.

—Hampshire Advertiser.

#### BEDFORD STALLION SHOW.

The annual exhibition of cart stallions in connection with the Beds Agricultural Society took place on April 6th, in Mr. Harris's paddock, near the cattle market. His Grace the Duke of Bedford's prize of £20 was awarded to Mr. Thomas Stokes, of Caldecott, Rockingham, for Young Drayman, brown, five years, bred by exhibitor, who obtained for him first place in Class I at Northampton last week. The Society's prize of £5 was obtained by Mr. Geo. Horn, jun., Kempston, for Young Champion, black, nine years. Commended, Mr. R. Pell, Orthingbury, for Sheet Anchor, iron grey, three years. Also competed: Mr. G. Horn, sen., Clophill, Young Champion, 4 years; Mr. J. Bosworth, Marston, Baron Lincoln, five years; Mr. R. Ross, Thurleigh, Le Bou, two years ten months; Mr. J. Bandy, Clapham, Young Waxwork, 3 years; Mr. A. Achurch, Duloe, Huntingdonshire, Wonder, two years eleven months; Mr. Thos. Goff, Park Farm, Harold, Young Champion, six years (prize-winner at Northampton); Mr. J. Walker, Godlington, Nonpareil, four years. Extra Stock:



Mr. James Howard, Clapham Park, Columbus; the Duke of Bedford, Chancellor; Mr. E. Dudley, Chilton, Sandy, a bay, six years; Mr. J. Davis, Kempston, a grey, eight years; Mr. G. Horn, jun., Kempston, a black colt, two years, which Mr. Stafford sold by auction for £80; Mr. Macan, of Elston, exhibited Moorlands; and Mr. Field of Stratton, The Premier nag horses.

### TALGARTH STALLION SHOW.

The annual Exhibition of entire horses at Talgarth, held in connection with the Horse Breeders' Association, took place on Thursday, the 18th April (Fair day), when the following prizes were offered—a prize of £15 for the best thoroughbred stallion, calculated to produce weight-carrying hunters or carriage horses; £20 for the best stallion suited for getting agricultural or dray horses, with a second prize of £10 in the class; and a prize of £15 for the best cob or roadster stallion.

#### PRIZE LIST.

Thoroughbred stallion calculated to produce weight carrying hunters or carriage horses.—Prize, D. Earl, Mamdy, near Cardiff (Ladbroke).

Stallion for getting agricultural or dray horses.—First prize, Mr. Powell, Moor Court, near Leominster (Defiance); second, W. Dukes, jun., Hereford (Agriculturist 2nd).

Stallion calculated to produce weight-carrying cobs or roadsters.—Prize, R. Evans, Cefueal, Llangeitho (Alonzo the Brave).

### CARMARTHEN STALLION SHOW.

The annual show of entire horses in connection with the Carmarthenshire Agricultural Society was recently held at Carmarthen. The judges were:—

Captain Williams, Wallog, near Aberystwith; Mr. Burnhill, of Swansea; and Mr. Price, of West House, Bridgend.

#### PRIZE LIST.

Thorough-bred stud horse which, in the opinion of the judges, is best calculated to improve the breed of horses in the county.—First prize, £5, Castaway, Mr. J. Rees, Berthllwyd; second, £2 Dalnacardock, Mr. John Griffiths.

Stallion calculated for agricultural purposes.—First prize, £5 (divided), King Tom, Mr. David Davies, Porth, Llansawel; and Young Topsman, Mr. Broad, Carmarthen; second, £2, Margam, Mr. T. Thomas, Trefelyn. Remainder of the class commended.

Hackney stallion.—Prize, £3, Young Matchless, Mr. William Morgans, Fedw Bettws Leiki; highly commended, "Cardinal Tuff," Mr. J. Lloyd, Tynallyn.

**THE METEOROLOGICAL SOCIETY.**—The usual monthly meeting of this Society was recently held at the Institution of Civil Engineers, Mr. C Greaves, president, in the chair. The discussion on waterspouts and globular lightning was resumed and concluded, after which a paper was read:—"On the Application of Harmonic Analysis to the Reduction of Meteorological Observations, and on the General Methods of Meteorology," by the Hon. R. Abercromby, F.R.S. The following is an abstract of the paper:—"The meaning of harmonic analysis was first shown, in reference to average daily barometric pressure, by tracing the geometrical and physical significance of every step from the barogram till the tabulated results are combined in a harmonic series. It is then shown that, whether we regard this series simply as

an algebraic embodiment of a fact or as a series of harmonic components, as suggested by Sir W. Thomson, it is simply a method of averages, and our estimate of its value must depend upon an estimate of the use of averages at all in meteorology. It was then pointed out where averages are useful, and their failure to make meteorology a science was traced to three causes:—1. That the process of averaging eliminates the variable effects of cyclones and anti-cyclones, on which all weather from day to day depends; and on this was based some general remarks on the use of synoptic charts not only in explaining and forecasting weather, but in attacking such problems as the influence of changes of the distribution of land and water on climate, and the cyclic recurrence of rain or cold. 2. That deductions from averages only give the facts, and not the causes, of any periodic phenomena. The position of diurnal and other periodic variations in the general scheme of meteorology was then pointed out, and it was shown that their causes can only be discovered by careful study of meteorograms from day to day. 3. That in taking averages phenomena are often classed as identical which have really only one common property. For instance, rain in this country is associated with at least three different conditions of atmospheric disturbance, and it is necessary to discriminate between these kinds before meteorology can be a science."

**HEREFORD HERD BOOK SOCIETY.**—A meeting of Council was held at the Guildhall, Hereford, on Wednesday the 12th April, under the presidency of Mr. J. H. Arkwright. There were also present Messrs. J. Hill, H. Haywood, W. Stallard, W. Taylor, T. Duckham.—The Finance Committee reported that since the last Council meeting the Society had been duly registered; that the memorandum and articles of association, prospectus, rules, and regulations had been printed and ready for circulation; that a room had been secured at 20, East-street for the Society's registered office; and that the necessary fittings had been procured. The committee further reported that they had received subscriptions to the amount of £269 17s., namely from 42 life members, 25 annual members, and two entrances.—The Editing Committee reported that they had considered the proposal of Sir J. R. Bailey as to the addition to Rule 37 with respect to the pedigrees of animals to be entered in the Herd Book, and were unanimously of opinion that it is desirable to adopt it. They therefore recommended to the Council that the resolution be printed in a separate slip, and added to the list of rules. In the case of proposed entries where the cattle are presumably pure-bred and where satisfactory reason can be given for the want of the prescribed pedigree, it shall be left to the discretion of the Editing Committee to admit the entries without such pedigrees, in which case a note stating the reason of such short coming shall be affixed to the volume in which it occurs, which note shall be charged to the breeder who has made the entry as one additional entry. The committee propose to publish the 10th Vol. with as little delay as possible within the present year, and hope the members of the Council will use every effort to induce breeders to make their entries immediately. The committee have revised the entry forms in order to meet the resolution aforesaid, and they will be ready for circulation within a week.—The following members were elected:—Mr. G. Child, Court of Noke, Pembroke; Mr. J. Williams, Ball Farm, Dorstone, Hereford; Mr. J. P. Carwardine, Stockton Bury, Leominster, life members; and Mr. R. Bridgwater, Portliamel, Talgarth, Breconshire; Mr. T. Pavis, Claston, Dormington, Hereford, annual members,

## PROFESSOR BROWN ON THE MEAT SUPPLY.

The following is an extract from the annual Report of the Veterinary Department of the Privy Council for the year 1877, which has just been issued:—

“ Excluding from the calculation dairy cows and store stock, we may conclude that we lost altogether in 1877, from the operation of the Orders which were passed in consequence of cattle plague in Europe, and from causes which must have affected exporting countries quite irrespectively of any legislation which took place here, in round numbers above 70,000 cattle from the Continent. Importation of cattle and sheep from Ireland decreased in 1877, as compared with the imports of 1876, to the extent of nearly 17,000 cattle and over 56,000 sheep. The importation of swine increased by over 72,000. The total number of animals imported into Great Britain from all countries in 1877 were as follows:—From European countries we received 179,236 cattle, 848,315 sheep, 18,745 swine. From the United States and Canada 19,187 cattle, 23,395 sheep, 810 swine. From the Channel Islands we received 2,638 cattle, and 2 swine; and from other countries 5 cattle, 449 sheep, and 17 swine. From Ireland 649,441 cattle, 630,774 sheep, 585,427 swine. Making a total of 2,958,441 animals, against 3,226,948 in the previous year. The supply of fresh meat from the Continent could not have been sufficient to represent any considerable proportion of the deficiency of foreign live stock; in the first place, because the importation of fresh meat from Germany and Belgium was prohibited from the end of January to the middle of September, and next because it was not probable that any special arrangements would be made by exporters to meet what they naturally considered to be a merely temporary disturbance of the ordinary system of trade. Cattle traders on the Continent, as elsewhere, prefer conducting their business in their own way, and are not disposed to accommodate themselves to restrictions in such a way as to invite their continuance. It is admitted that the large consignments of fresh meat which we received from America saved us from considerable embarrassment, and prevented any inconvenience arising from the falling off in the supplies of foreign stock; but while the success which has attended the transport of meat from America places beyond all doubt the possibility of substituting a dead meat for a live meat trade, it has not yet led to any definite action on the part of the consignees to extend the system in this country. Meat which reached our ports in first-rate condition was dealt with as though it were an indestructible commodity, and as a natural result tons of food have been wasted, whereas a modicum of the care which was exercised in bringing the meat across the sea would have sufficed for its safe transit all over England. In connection with the prohibition of cattle from cattle plague countries and slaughter of imported live stock at the places of landing, I advised the employment of repressive measures in respect of contagious diseases of animals in this country, notwithstanding the assertion that those diseases would die out if not reintroduced. Pleuro-pneumonia and foot-and-mouth disease have existed in this kingdom for nearly forty years, and they are certain to continue quite irrespectively of fresh importation so long as diseased and infected animals are moved in all directions from one part of the kingdom to another and new generations of susceptible subjects are constantly being brought under the influence of the contagion. Epizootic

diseases naturally exhaust their force in isolated positions if no new subjects are introduced, but when a contagious affection is established it may be kept up by a constant supply of healthy susceptible animals without any fresh introduction of diseased ones, and in this way pleuro-pneumonia and foot-and-mouth disease must have been kept up during the time when foreign animals were not permitted to be landed in this country, and in the same way they may be continued for an indefinite period. The comparison which has been drawn between epizootic diseases and a fire may suffice for an *ad captandum* argument; but if the metaphor be analysed it will be found to illustrate with equal effect both sides of the question. A fire will die out when all the fuel is consumed, but it may be kept alight by the addition of fresh fuel, without the introduction of more fire, as certainly as by setting up an entirely new centre of combustion; if therefore it be determined to put the conflagration out, we must, at the same time that we forbid the bringing in of fresh fire to the fuel, stop the supply of fuel to the fire which now exists; in short, to abandon the metaphor, we must arrest the progress of epizootics, which have become naturalised here, by the stamping-out system, if we expect to gain any benefit from the slaughter of imported stock at the landing places.”

A SKETCH OF CONSTANTINOPLE.—Nature has given Constantinople the bluest and clearest sea that can be imagined, and vaulted over it the most exquisitely bright yet tender sun-fall of a delicious light that would be dazzling if it were not so soft. She has drawn the contour of the shores and hills as if with an artist's hand, the sweeping reaches of the Bosphorus, the graceful curve of the Golden Horn, the soft slopes of the olive clad heights behind Scutaria the sharp, bold outline of the rocky isles that rise from the surface of the Sea of Marmora; and far away on the south-eastern horizon she has raised into heaven the noble summit of the Mysian Olympus whose snows blush rose red under the morning sun. The sea seems to pervade everything: turn which way you will it meets you till you get confused among its winding arms. Its glittering bosom is covered with vessels of every size and style, from the long, dark, ugly ironclads, which the late Sultan bought from the Clyde and Tyne shipbuilders with borrowed money, to the sprightly feluccas and other odd little craft, rigged in a fashion our language has no name for. During the day its surface is seldom calm (for there is usually a breeze blowing, and when this breeze comes up from the S.W. and meets the strong current running down from the Black Sea, it raises in a moment short, sharp waves, a kind of chopping sea that makes the small boats vanish); the nights however are often still and serene, and then under the brilliant moon the city seems to lie engirt by a flood of molten silver.—*Macmillan's Magazine.*

CHESTNUTS.—The chestnut forms the chief food of the poor population of the central plateau of France and Corsica. The production in 1874 amounted to over 14,000,000 lb. In our last volume, at p. 39, we gave some details of the surface planted with chestnuts and the progressive yield. Improved by cultivation, rendered larger and regularly round by its solitary development in the involucre, it is known as the marron, of which there are a great number of varieties, which are obtained by grafting on the common chestnut.—*Journal of Applied Science.*

A domestic advertising for a place announces as a recommendation that she “dresses beautifully.”

## NOTES FROM A CORNISH FARMER.

The weather during the first quarter of the present year has, in an agricultural point of view, been all that could be desired; consequently field work is in a forward state and cattle food is abundant; nevertheless there is much sickness and disease amongst cattle and sheep, an unusual number of the former have died of "scour," and the latter of rot, resulting, no doubt, from the wet ungenial summer of '77 when through lack of sunshine and warmth agricultural produce generally was indifferent, and deficient in those properties so essential to the health of farm stock, especially young animals, in which tonic medicines would be of great service if administered in the early stages of disease—but these remedies are generally deferred until they are useless.

The frost and snow with which we have lately been visited is likely to prove beneficial, by checking vegetation. Wheat, which is generally looking well, had in some places become "winter proud." Nitrate of soda, although very expensive, is still being liberally applied to the wheat crop, and I would strongly recommend its being laid on in small quantities;  $\frac{1}{2}$  cwt. with 1 cwt. of salt is sufficient at a time. That quantity may frequently be applied three or four times to advantage, but large doses render the plant unhealthy, while the grain becomes coarse and indifferent. The extra expense of sowing the manure at different times is not to be compared with the advantages likely to result from the practice; one of paramount importance is, that you can regulate the quantity according to the season—a much larger quantity may be advantageously employed in dry than in wet seasons.

A great deal has lately appeared in your columns relative to the winter feeding of cattle, the value of root crops, straw, &c. These matters depend so much upon circumstances that it is absurd to lay down a hard and fast line. In the first place, if agriculturists generally were to send their straw and roots to market the price would become so low that it would scarcely be worth the expense of taking hither, as was the case with broccoli in the Penzance district early this season. Producers should, therefore be careful not to overstock markets. It may be profitable in Norfolk, Suffolk and other counties, (where soil and climate is so congenial to the growth of first-class malting barley, which fetches a higher price than wheat, especially as these districts are ill-adapted to the growth of grass, and the soil require the treading of sheep), to sacrifice green crops and consume a large quantity of corn and cake, besides for the sake of making manure, but farmers occupying land in the fickle, humid climate of Cornwall would, I am persuaded, find great difficulty in paying their high rents, rates &c., if they were to adopt that system, "He who feeds fat oxen should himself be fat," *i. e.*, should be in a position to lose money by the transaction, appears to be the opinion and experience of a number of your correspondents, and the lamentable fact is borne out by the painful circumstances to which you called attention in your last issue relative to the position

of Mr. Heath, who has for a long period been one of the highest—I woult say most successful—feeders in this kingdom. I have no faith in very high feeding, nor in giving much marketable grain or oil cake to cattle or sheep. Had nature intended them to consume such concentrated food she would not have supplied such a large paunch, but having profitably fattened a large quantity of cattle &c., during the last forty years I will briefly state my practice for the consideration of uninitiated unsuccessful feeders.

The first and most important step is to propagate well-bred animals, possessing abundance of lean flesh, which is indicative of health and constitution. I breed Herefords of the "first water," believing that breed to be calculated to produce the greatest quantity of good beef from the ordinary produce of a farm. My calves are suckled by their dams until about four months old; when weaned they are fed on grass, roots, and hay. They run in pastures or yards with open sheds from infancy, and are taught to work for their living, exercise and exposure being conducive to health in all young stock; never get any chaff or sliced root, for I am certain that cattle do best if permitted to masticate their own food, when gastric juices are supplied for digesting it. I never have roots cleaned with a knife, from a conviction that a certain quantity of earth tends to assist digestion. My swedes are cut up with a plough when the land is dry, chain harrowed, and in that state become soft by atmospheric influence; by adopting that plan much labour is saved, economy of labour being of infinite importance in the profitable fattening of stock. My mangels have the principal part of the earth knocked off previous to earing, and in that state they are given to cattle. I have a lot of young cows tied up that had calves taken from them last October; they have been fed on roots, straw, and hay in the manner described—never had any corn or cake in their lives—and they have long been fat enough to command the best price in any market.

I do not approve of house or winter fattening of steers. I have now a lot of *three-year-olds*, which for want of house accommodation, have been in open fields all the winter, fed with straw and roots on the grass; they are now in splendid condition, with their coats about them—calculated to pay twice as much for eating grass as delicate house-fed animals—and will I am persuaded be fat enough to command the top price in any market before harvest and pay me well for rearing and fattening, especially as we may not expect the highest price in hot seasons, unfavourable to foreign importation.

The treatment here described, and by which I make the rearing and fattening of stock profitable, would be ill-adapted to that pampered tribe of *Duchess* Shorthorns so well portrayed by Mr. Sotham a few weeks since in your columns. How true is the adage, "An ounce or practice is worth a hundredweight of theory."

April 12.

T. O.

## USE OF LIME IN AGRICULTURE.

Mr. J. FALCONER KING, in his Report on the analytical work of the year, has the following remarks on the use and abuse of lime:—

Lime, as is well known, is required directly by all cultivated plants as food, and therefore a soil which is totally devoid of lime is simply barren, and the obvious remedy by which to render such a soil fertile would be of course a dose of lime. Such a case as this, however, is extremely rare. Of all the suspicious soils which I have analysed I cannot recall one to mind which was proved to owe its barrenness to being completely devoid of lime.

In most cases, therefore, in which lime acts beneficially when applied to the soil, it does so either by supplying food to the crop indirectly, or by destroying some noxious constituent already existing in the soil.

The plant food which lime supplies indirectly may be divided into two classes, first, mineral or inorganic: and secondly, vegetable or inorganic.

The principal members of the first class seem to be silica and potash. These substances, however, it should be borne in mind, are not in any way contributed to the soil by the lime—they are merely changed by its action from their hard, stony, insoluble nature into a condition in which they are available to plants as food. These two substances, silica and potash, are found in greater or less proportion in almost all fertile soils, but in some soils they exist principally in an insoluble or locked-up condition, if I may use the expression, and are therefore of no use as plant food until they have been set free either by the action of lime or by some other suitable agent.

The principal member of the second or vegetable class of food materials which lime prepares for the use of plants is nitrogen. Now, this substance nitrogen, as is well known, is an indispensable and most valuable ingredient of plant food, and therefore any substance which can supply it to plants in a readily available form is an agent of very great utility. This office is performed, and performed very satisfactorily, by lime. The lime does not, indeed, add or contribute any nitrogen any more than it adds potash to soils, but it converts the nitrogen which, though it already exists in the soil, is present in a comparatively inert state, into a form in which it is easily assimilated by plants. In these different ways, therefore, may lime be used with great benefit, viz., on soils which contain a large quantity of undecomposed mineral matter, and on soils which contain an excess of vegetable matter.

Lime, however, is useful in another way, and that is by destroying substances hurtful to vegetation, such as, for example, certain compounds of iron and certain acids, which are alleged to be the cause of the peculiar evil known as sourness. A soil, it is well known, may contain all the ingredients necessary for supporting plant life and yet be unfertile in consequence of containing some deleterious or poisonous ingredient. Lime may act therefore very beneficially on some soils, not providing an increased supply of plant food, but merely by neutralising or destroying some such hurtful substances which may be present.

In all the instances I have mentioned, lime, we have seen, acts beneficially; and it now remains for me before concluding this short note to point out in a very few words how lime may act prejudicially—so act indeed, that its continued application may not only be useless, but actually be hurtful. It is an old idea that lime is a very exhausting substance, and that

its continued and extensive use must sooner or later greatly impoverish a soil, or even reduce it to perfect sterility. This idea is not altogether erroneous, but it is only true in a certain sense.

I don't mean, of course, to assert that a soil may not be over-limed. Such an occurrence, although not, I should think, by any means a common one, is not impossible. It can be done, and the immediate effect of over-liming is to cause a great diminution in the amount of the organic constituents of the soil, thereby rendering grain crops grown on it uncertain. When I say, however, that there need not be much fear of rendering a soil sterile by means of lime, I refer to the impossibility of destroying the natural or mineral constituents of a soil, such as potash, silica, phosphoric acid, sulphuric acid, &c. When lime is added to the soil, it does not eliminate or destroy these substances, it merely effects certain changes by bringing some of them into a more valuable condition, so that as long as we do not remove, by injudicious cropping, or by some similar method, these valuable constituents of plant food from our soils, we may apply lime as freely as is deemed necessary without incurring any danger of thereby rendering them sterile, at least of doing so by exhausting the mineral food elements. The principal evil to be apprehended from over-liming is too great a destruction of organic matter, which, as I have already pointed out, unsuits the soil for the growth of grain crops. It should also be borne in mind that lime almost always produces the most profitable and marked effect on new land, or on land which has not been fully exposed to the air, or on such land as is rich in organic remains, as, for example, on peaty or boggy land, and that it may be of very little use if applied alone to arable land which has just been cropped. The greatest mistake, though, which I have ever seen committed in connection with the employment of lime is that of mixing it with manure before application. In these days of enlightenment it is almost incredible that such an egregious error as this should be committed, and yet I myself have actually seen the perpetration of this species of absolutely inexcusable wastery. When farm-yard manure, at least after it has been kept for some time, is so treated with lime it is almost entirely destroyed, and the value of many other manures, by similar treatment, would be very much lessened. Lime should never be allowed to come in contact with the manure at all; and if it could be arranged conveniently these two substances should be applied to the land at different times.

As I have been frequently asked to give an opinion as to the value of waste products containing lime, such as the so-called gas-lime, and the refuse lime from paper works, it may be of some use if I state here that none of these substances are of any great value except for the lime which they contain; and I should say further that neither of these substances should on any account be used for agricultural purposes in their fresh state. Gas-lime, when it is newly made, contains certain compounds of sulphur, which are positively inimical to plant life, and much the same may be said of the waste lime from paper-mills, which, when it is new, is apt to contain some caustic soda, a substance which may seriously injure a plant, and even destroy entirely the vitality of seeds. By sufficient weathering, however, the noxious constituents of both of these substances may be rendered quite harmless, and either or both of them may then be safely used as a means of applying lime to the soil.

## Miscellaneous.

**SHELTERED DWELLINGS.**—The value of shelter is felt by the gardener at this time of the year but he is by no means peculiar in his appreciation of it. When the east wind is in season and the tender leaves and opening flowers are liable to the shrivelling that makes them look as if they had been burned we do not need any proof beyond our own feelings of the value of shelter, and yet, perhaps, when the weathercock veers round to the south, and mere existence becomes delightful, we may forget resolves that were made when the east wind was testing our endurance and, perhaps, finding us wanting. But the value of shelter is not appreciated as it should be, if we may compare what has been done with what remains to be done, for the gardener is not the only person whose interests are jeopardised by the dry March winds. The health of the community, without exception of age or sex, is in a great degree imperilled by the keen searching winds that prevail at this season of the year, and it is a matter of considerable importance to consider how far it is in our power to mitigate their injurious effects. It is well known that spring frosts make havoc of all the products of farm and garden. They spread blight in the wheatfield, they blacken the rising potato shaws and debilitate the plant for the season; they sweep the young fruit from the walls and the orchards, they kill the green braird in the seed-bed, and necessitate a second sowing when it is too late for the growth of a heavy crop; and they crush out of existence many trees and shrubs that a mild winter encourages to make early growth, and that in consequence become too tender to endure the assaults of spring frosts. On the health of man the effects of the east wind are sufficiently decisive. The young and vigorous rejoice in the clear bracing air and the brightness of earth and heaven, and do very well if reasonably cautious to avoid a chill after brisk exercise. But the weakly ones, of all ages and both sexes, suffer in various degrees while the easterly spring breezes blow; the asthmatical and consumptive add to the record of mortality or are tided over the bad time with difficulty and escape; in proportion to the advantages they enjoy in respect of shelter, warmth, and other bodily comforts. It cannot be doubted, therefore, that for the "practical" man, whether architect, engineer, landscapist, or gardener there is much to be thought of and done with a view to the mitigation of the evils that accompany the east wind. The proverb says that Providence temper the wind to the shorn lamb, but Providence has given us some power to temper it in our own interest, and of necessity the most ready and efficient agency is shelter about which very much may be said.—*The Gardener's Magazine*.

**ENTERTAINMENTS.**—Let me say a word on two or three things which sometimes check the agreeable course of an entertainment. One is the bringing in of the children of the household at dessert. The guests have shaken down together comfortably, conversation has become general and lively, when all is interrupted by the incursion of little Tommy and Mary, who ought to have been in bed, but who enter wide awake, with an eye to sweets, which they are much better without, anyhow at that time of night. They do their innocent best to degrade the entertainment into a mere eating business, since they naturally and importunately think and speak of nothing else. Children should be introduced before, not after dinner, and thus do good service in promoting

speech, if not conversation, in that sometimes dull period during which the guests are assembling. Another mistake—I beg my fair readers' pardon—comes from the unconscious persuasion that a feast must needs be supplemented by song. Thus when the party is perhaps broken into several groups engaged in pleasant chat all this is abruptly hushed by the approach of a young lady to the piano. Here and there one seasoned man goes on with his sentence or story till the voice proclaims that it is a "song" and not a "piece" with which the company is to be entertained. The song is sung; a little murmur of relief is accepted as a tribute of praise by the performer, and people begin to enjoy themselves again. If a girl can readily sing well she may at a judicious moment interpose a song and gratify the assemblage; but occasionally she cannot sing well, and perhaps injudiciously begins her performance when conversation is in full buzz. I am almost tempted to respect the hardened sinners who will talk when the conventional song proclaims, after a few bars, that it is not of that sort which agreeably surprises the audience, or promises to creep into the heart by the ear. And even those might be pardoned who feel scant pity for the young lady who is left to sing it to herself and to two or three who chance to be sitting by the instrument and pose themselves in an attitude of polite attention till the time is over. She may have taken lessons from the singing-master, but the want of general appreciation is not without being a useful "lesson in music" of another sort.—*Leisure Hour*.

**AGREEABLE PEOPLE.**—In every society there are certain members who are the agreeable people *par excellence*, whose presence makes the whole world shine with a kind of reflected light, and by whom is ensured complete social success. Sometimes it is a woman, beautiful, well-educated, graceful, lively, and neither vain nor exclusive—neither a flirt demanding the attentions of one man or many, nor holding herself superior to the duty of helping to entertain. She brings her personal loveliness and her suggestive toilette, her perfect breeding and her charming vivacity, as gifts which she scatters to the crowd, her contributions to the circumstances of the evening. When we hear that she is to be at such and such a dinner, such and such an assembly, we rejoice. The deadly deadness of the ordinary London gathering no longer haunts us with its melancholy presage of bores and windbags—dumb beasts that cannot be moved to speech and cackling geese who cannot be reduced to silence. We know that we at least are provided for in part, and that the evening will have for us its allotted moments of brilliant enjoyment by which all the rest will be illuminated. That man of many travels and much experience who does not stut his knowledge, but who lays himself out to amuse the frivolous and interest the thoughtful, he too is a godsend for whom hostess and guests alike are grateful. When those who have been seated next him confer together, they say among each other, "What an agreeable person he is!" and "What a charming party this has been!" And the anecdotist, the wit who sparkles and flashes like conversational fireworks, keeping every one alive with his droll stories and quaint audacity, so that even parched dry souls expand and the logs of wood carved into the likeness of men and women that sit about unmoved in chairs, are stirred into such vitality as they possess, is he not a godsend equal in value to the beautiful lady who throws so many social gifts into the social treasury, to the man of many travels and varied experience who is a kind of encyclopædia of pleasantness by which dense minds are enlightened and arid brains enriched?

Yes; the agreeable person has value and serious uses and is not to be dismissed by a shrog by the serious as "a human popinjay," "a mere person of society," something who is "all very well but not the kind of thing to respect or really value," with all the other deprecatory qualifications by which people who are not agreeable lower the pretensions of those who are, and look at their light through smoked glass.—*Queen*.

**NEW PRINCIPLE OF SASH WINDOW.**—The common sash frame is a fixture, and therein are its inherent defects. The new sash-frame—the production of Mr. C. Brothers, a specimen of which may be seen in the Museum of Building Materials in Maddox-street—is slung on pivots or hinges within a second outer frame, so that the whole of the sash-frame, with the sashes complete, opens into the room like a door. By this means servants standing on the floor of the room can, with the greatest ease and security, clean both top and bottom sashes inside and outside. Painters, too, can perform their work with the like ease and security, dispensing entirely with the use of either ladders or overhanging machines. The whole of the frame opening in this way allows free access to its sides, so that the weights can be got at and the sashes hung or rehung without taking out the beads or disturbing any part of the woodwork. Sash lines of suitable lengths are provided with hooks and eyes, so that any one can fit them. When the window-frame is open the limit to which the sashes can subsequently be raised or depressed can be determined by a locking arrangement, effected by a master-key provided for the owner or tenant of the house. Say an opening of four or five inches is permitted, this will be too small a space for any one to get access through from the outside, and thus no collusion with inmates would serve the purposes of the burglar. At top an excellent adjustable ventilator is fitted, and on closing the sashes they fasten themselves, thus superseding the ordinary catches and introducing the better principle of unfastening instead of fastening the window. When the sash-frame is shut on the outer frame, it is locked in place of the master-key and becomes proof against tampering. The locking arrangements on the sash-fastenings can be applied to any ordinary window. During the past week the model, which is 8 feet by 4 feet, has been inspected by the Hon. Gerard Noel, First Commissioner of Works, Mr. Charles Barry, President of the Institute of Architects, Mr. Mitford, Mr. Taylor, architect of the Board of Works, and other gentlemen of eminence, by whom the most favourable opinions were expressed.—*Standard*.

**WHAT THE WOMEN OF ILLINOIS ARE DOING.**—Of lawyers Chicago has at least three. Mrs. Myra Bradwell was the first lady lawyer in that State. She is the editor of the *Chicago Legal News*, which is an authority all over the north-west. The beauty of its typographical execution is a natural result of "the woman in printing," and the partnership of Judge and Mrs. Bradwell in the legal professions is a refutation of some popular object to "woman out of her sphere." Miss Alta M. Hulsett, of Chicago, who died of consumption in California, where she went for her health, was a young lawyer of noble promise. She was admitted to the bar before she was nineteen, and at the age of twenty-three had attained an enviable reputation, and a practice amounting to three thousands dollars a year. A number of young women are studying law, and Misses Perry and Martin are in successful practice in Chicago. Of ministers there are not a few. Many of these are licensed; but a still larger number, recognising the two-fold call of adaptation and success as more important than

any mere ecclesiastical permission, go forth upon their gospel errand without official sanction. Illinois has a goodly array of editors and journalists. Margaret Buchanan Sullivan undoubtedly stands at the head, on account of her ability and position. Sarah Hubbard is admirable as the literary and scientific editor of the *Chicago Tribune*. Miss Annie Kerr is book reviewer and fashion editor of the *Times*, and for her services receives 2,500 dollars per year. Mrs. Virginia Fitzgerald, news editor of the *Inter-Ocean*, and for several years connected with the *New York Commercial Advertiser*, is one of the best trained routine newspaper workers in the city. Mrs. Derrick is of the *Post*; Charlotte Smith is editor of the *Inland Monthly*; Mrs. Rayne of *Current Thoughts*, and Mrs. Waite of *The Crusader*. It would be impossible to enumerate the large number of women prominent in literary work, authors of books, literary correspondents, and the still larger class who with steady perseverance are doing earnest work in the quiet of home. A considerable proportion of women are engaged in business. One of the largest photographic houses in the West is owned and managed by a woman. Miss Ada B. Sweet, who is barely twenty-three, is the Pension Agent at Chicago. Since July, four agencies have been consolidated into one, and the disbursements amount to six hundred thousands dollars a quarter. The Government has not before entrusted any disbursing office to a woman. Miss Sweet attends personally to the accounts and correspondence, and employs from twelve to fifteen clerks. Miss S. A. Richards, of Chicago, has been a very successful insurance broker for twelve years, six years in an insurance firm, and six by herself. Miss Waite is engaged in the real estate business in Chicago. A large number of young ladies are studying stenography, but few as yet have become short-hand reporters. About twenty-five do the work of an amanuensis, at salaries of from fifty to a hundred dollars per month. Miss Alice C. Nute has been engaged as shorthand Court reporter for the past two years, commanding 1,500 dollars the first year, and increased profits this year as member of the firm of Scates and Nute.—*Victoria Magazine*.

**A NEW INDUSTRY.**—A new industry, we are informed, has been started at Oakland, California, in which the entrails of sheep are used in the production of what is pronounced an exceedingly strong and durable article of belting. The process of the manufacture is described as follows:—The entrails, which will average about 55ft. in length, are first thoroughly cleaned and then placed in vats of brine, where they remain some days. When thus prepared they are not much thicker than a piece of common cotton twine, and will sustain a weight of about ten pounds. The next stage in process of manufacture is to wind the prepared material on bobbing, after which the process is the same as in making common rope. This method is used to produce a round belt; but where a wide, flat belt is to be made, a loom is employed, and the five strands are woven together, as in ribbon manufacture. The flat belts are made of any size, and the round of sizes varying from 1-16in. up to 1½in. in diameter. The round belts are made either in the form of a smooth cord, or as ropes with from three to five large strands. The gin rope is said to stand a strain of seven tons, and is guaranteed to last ten years. Hemp rope will last on an average not over three years. Three-eighths round cord, containing 150 strands, will endure a strain of about four tons.—*Marlineau and Smiths' Trade Circular*.

## THE STALL FEEDING OF CATTLE.

At a meeting of the Blandford Farmers' Club, recently held at Blandford, Mr. J. G. FOWLER read a paper on the above subject, as follows:—

In opening the discussion this evening I must tell you that I have undertaken it more from a sense of duty than from the slightest presumption to any qualification. I should certainly not have presumed to attempt such an undertaking, knowing how many of our members are more capable of doing justice to the subject than I am, had I not felt a strong desire to support the Club, feeling sure that members present would keep up a good discussion afterwards, introducing numerous omissions of which I shall be guilty, and I hope it will be the means of inducing other young members of our Club to come forward and give us their knowledge and experience on this and other important subjects connected with agriculture in the same spirit as I am doing. I need hardly dwell on the importance of this subject—the stall-feeding of cattle—not only to the farmer who has the convenience for so doing, but also to the community at large; for, quoting from Swift, who says "Whoever would 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," so we, I think, may well say that he who fattens two bullocks where only one was fattened before confers a benefit on his country, and, we know, increases the value of his manure. It has been thought by many that the introduction of so much American dead meat into our markets would lower the price of our own produce; that would be a great benefit to the consumer, but a loss to the producer of meat in this country, but I do not think we have yet found it so for the best qualities. I quite endorse and agree with a resolution passed by the Morayshire Farmers' Club a few weeks since, after having had a discussion on "The American Dead Meat Question:"—"That it was their opinion that the American dead meat trade had not affected materially the British farmer as to the price of the best British beef, but had reduced somewhat the price of the secondary and third-rate beef," which seems to show that the interests of the British Farmer are to produce as far as can possibly be accomplished the very best quality of beef. I have no new principle this evening on which to advise you to act. I shall merely give you my own plan, hoping that in the discussion which will follow I may be able to ascertain if the one I adopt is condemned or approved by those present. Now I must candidly tell you, from the little experience that I have had, I do not think we "hill farmers" can graze bullocks in the stall with any great expectation of profit; in fact, were it not for the excellent yard manure that they make I question if we should not find it a losing game, even after adding a percentage for increased value of manure. It depends, of course, on circumstances, such as first cost, the price of their food, and the state of the market when sold, prices depending on supply and demand; they can, of course, be fattened at a much less cost on food produced from rich land than from our poor soils. The first thing, then, necessary for stall-feeding is to have the stall as well as the animal. The stall should be warm and comfortable, free from draught, having conveniences for feeding, with plenty of room for the animals, that they may not

jostle and disturb each other when feeding, and if possible the floor of the stall sufficiently raised to drain itself dry, but not more so, the bullocks being thus more comfortable and healthy. This is a most important point, for if the floor of the stall be raised too much the bullocks will be far from easy, as they prefer lying on a flat spot of ground. On the premises I occupy is an excellent house for grazing, with drains behind the bullocks, and tanks for receiving the liquid manure, which I make a practice of pouring over my bones and ashes for the turnip crop of the next season, and with good results, taking care not to use it too plentifully. Land-owners will do well to see their tenants have good and convenient premises, and they may be able to house and yard their bullocks in the winter, consuming instead of spoiling and wasting their surplus straw, so that instead of using so much artificial manure they may be able to feed cake and corn making good farmyard manure, which, in my humble opinion, is far better. This question of good premises is to the advantage of the landlord quite as much as the tenant. When a farm is to be let what are almost the first questions asked? Are the premises good or bad? Conveniently or inconveniently situated? A farm is permanently improved by having good and convenient premises erected on it. In proceeding with this subject the next thing I have to offer to your notice is the selection of animals for grazing; size and aptitude to fatten must be the great consideration, so as to produce the greatest amount of flesh from a given quantity of food. The breeds of cattle now found in Great Britain are almost as various as the soils of the different districts; each county seems to have its own breed, which is sometimes difficult to describe, but nevertheless suited to the soil and climate. Personally I prefer the Shorthorn, though many present possibly may have a preference for the Devon or Hereford. The tendency of the Devon to fatten is no doubt unrivalled; the skin, notwithstanding its curly hair, is exceedingly soft and elastic. Graziers know there is not a more important point than this; but the Devon does not attain the height which some other breeds do, but the quality stands A 1—just the beef for the upper class. I think most will agree with me that the Hereford fattens to a much greater height than the Devon. The Hereford ox, steer, or heifer fattens quickly and at an early age. But whatever differences of opinion may prevail respecting the merits of our different breeds of cattle it must be admitted the Shorthorns possess a combination of good qualities, their splendid frames and variety of colour. They have in some instances realised for their owners and breeders immense sums of money, and are daily increasing in value and request; in fact, I consider this to be the breed to feed the million. Shorthorns of the right sort still command fancy prices. Only a short time ago Mr. Henry Allsopp, M.P., purchased from the Earl of Bective two Shorthorn cows for £7,500; he also gave £3,500 for four young Shorthorn heifers, making a total of £11,000 for the six animals. The Earl of Bective, too, gave, about four months since, 400 guineas for one of Mr. Cochrane's Canadian heifers. There is another breed, or rather cross-breed, which I should like to mention, known as the Irish, or, as some would call them, "the mongrel," the best of which have a good cross with Shorthorn, and what pays better for good food than an Irish

bullock? I scarcely know how we should get on if our supply of Irish cattle failed. They are purchased at our ports by buyers from all parts of England, and in some counties it is nearly their only supply. And what fine carcasses of beef you see in the Islington market of this description; This probably is the sort of animal which you would see in my stalls were you to favour me with a visit. I used to think that a good three year-old steer when fat was worth at least one shilling per score more in the market than heifers, but latterly I fancy there is not so much difference; a good heifer seems to sell almost, if not quite, as well and as high. But as regards profit I think we must look for it from the bull, which in the generality of cases is tied up poor, and serves our heifers or cows as the case may be, which we should consider pays for his keep, and can be made to get fat at the same time, leaving a profit. I will now turn your attention to the feeding of beasts in the stall. The herdsman, if a good servant, is invaluable. He should be on good terms with the cattle he attends, rising early and retiring late. He should find out what quantity of food they require, taking care not to over-feed them; it is not so much the quantity of food which is given to a fattening bullock that promotes the laying on of flesh as attention on the part of the feeder. The food should be eaten rather greedily. Should you perchance get a bullock off his feed from being over-fed, an old and simple remedy, and one which I have used successfully, will quickly set him right again—namely, 6 oz. of Epsom salts, 2 oz. of sulphur,  $\frac{1}{4}$  oz. of ginger, given in a little water. It is sometimes necessary to use old-fashioned remedies whilst waiting the arrival of the veterinary surgeon, who is often too far from the scene to be at once available. We frequently hear and read of people feeding their animals by weight, but I find some beasts, on account of their size, age, and breed, will eat considerably more than others; but do not give too much at once, little and often is best, and, as I said before, early and late. I generally find it necessary to house my bullocks, to be tied up, about the 20th of October at the latest. What grass there is then left with us has no proof in it. I first give them about three bushels of cut turnips per day cut into finger-bits, not round thick slices, which are likely to choke beasts. This, I know, is rather more turnips than most people are in the habit of giving, and I hope it will be a point for discussion presently. I believe farmers in Scotland give their cattle when fattening them far more roots than we do in England. This season, however, unlike ourselves, they are short of roots, and the usual number of cattle and sheep are not expected to be fattened. Next we come to cake, of which I give three pounds per day, mixed, half cotton and half linseed, and half a-bushel of meal per bullock per week with as much hay as I can spare them two or three times. Our hay on the hill has little proof in it compared with that made by our friends in the Vale. I may here mention that I have the cake given by itself and the meal shaken over the turnips. I prefer giving cake and meal to giving all cake; the more change of food beasts have the more they seem to me to thrive. After feeding them in this way for about a month I change from cut turnips to cut swedes, taking care of course that they should be thoroughly trimmed and cleaned, earth making them scour; then the 3lb. of cake should be gradually increased to 5lb. or 6lb., and again after a few weeks the half-bushel of meal into one bushel. I have found it advantageous, in order to keep the animals in health, to mix with their roots and their cake a little malt dust, also wheat-straw cut into fine chaff, or what they will eat more greedily, barley-dust. I find my beasts

thrive considerably more when having barley-dust than when fed on chaff. I remember when the price of wheat was so low some three years since, I tried wheat meal instead of barley-meal, but I did not consider the beasts did nearly as well on the wheat as on the barley-meal. Some pigs also which I was fattening at the time did not do at all on wheat-meal. Towards the spring you will find it beneficial to give, if possible, with the swedes a few mangels, but by this time beasts should be fat or nearly so, and will not require or care for anything like the amount of roots or hay as I have previously named; if fed after the plan I have now specified, by March 20th, unless below par at October 20th, you will be able to commence selecting for the butcher. The cost of the cake and meal which the beast will have consumed during this time will amount to about £7 per bullock; to this must be added the wages of the herdsman, with a boy to assist him, and sundry other items, such as the value of hay, haulage of roots, &c. I should, on the whole, estimate the total cost of fattening to be from £9 to £10 per bullock. With regard to giving beasts water when fattening them, of course it is scarcely necessary where so many roots are given as I am in the habit of doing, but when they only get three or four peck of roots given them per day I should imagine they would require a little water. Some people I know are in the habit of turning their beasts loose to water every day. This may be right, but I should prefer bringing the water to the animal, as I always fancy it makes them a little restless and dissatisfied turning them in and out of the stall. I think, gentlemen, I have now said quite sufficient on introducing this subject; the reading of a paper is secondary compared with a good discussion, as it is merely individual ideas and experience. In conclusion I would say, then, that I am of opinion stall-feeding on thin soils is of benefit to the land, but on an average of years leaves little immediate profit to the grazier.

EGGS AS FOOD.—Eggs of various kinds are largely used as food for man, and it is scarcely possible to exaggerate their value in this capacity, so simple and convenient are they in their form, and so manifold may be their transformations. They are exceedingly delicious, highly nutritious and easy of digestion, and when the shell is included they may be said to contain in themselves all that is required for the construction of the body. It has been claimed for them that they may be served in about 600 ways, although it is generally found that the more simply they are prepared the more they are approved. Although other eggs than those of birds are eaten, for instance, turtles' eggs—it is generally agreed that the eggs of the common fowl and of the plover possess the richest and sweetest flavour. The eggs of ducks and geese are frequently used in cookery, but they are of too coarse a nature to be eaten alone. The eggs of the turkey and of the pea-hen are highly esteemed for some purposes. The weight of an ordinary new-laid hen's egg is from one and a half to two and a half ounces avoirdupois, and the quantity of dry solid matter contained in it amounts to about 200 grains. In 100 parts, about ten parts consist of shell, sixty of white, and thirty of yolk. The white of the egg contains a larger proportion of water than the yolk. It contains no fatty matter, but consists chiefly of albumen in a dissolved state. All the fatty matter of the egg is accumulated in the yolk, which consists relatively of a smaller proportion of nitrogenous matter, and a larger proportion of



solid matter, than the white. Therefore, in an alimentary point of view, the white and the yolk differ considerably from each other, the former being mainly a simple solution of albumen, the latter being a solution of a modified form of albumen, together with a quantity of fat. . . . Raw and lightly-

boiled eggs are easy of digestion. It is said that raw eggs are more easily digested than cooked ones; but this may be doubted if the egg is not over-cooked. A hard boiled egg presents a decided resistance to gastric solution, and a constipatory action on the bowels.—*Cassell's Domestic Dictionary.*

## THE GRIEVANCES OF TENANT FARMERS.

At a recent meeting of the Vale of Clyde Chamber of Agriculture, held at the Crown Hotel, Mr. John Roberts, of Geinas, read a paper on the above subject.

Mr. Chairman and Gentlemen,—I hope you will not expect a great deal from me on this subject, though I may now venture to say that it is an open field for one and all of us to discuss. I hope that what I will say will not cause the least offence to any landowner or other gentleman, as it is far from my intention that it should do so, and I would much prefer making friends to making enemies. I am very proud to think that we have some of the best landlords in the county as members of our Chamber. But allow me here, sir, to ask you, honoured chairman, why have so few of our landlords disregarded the example of enrolling themselves as members of our Chamber of Agriculture? Much praise is due to Mr. Townsend Mainwaring for the promptness with which he came forward, not only to be a member, but also to undertake the chairmanship of this useful Chamber. There is an old adage that landlords and tenants ought to sail in the same boat, and I assure you, gentlemen, that I should not have ventured to come forward in response to your solicitation to read a paper on this important but somewhat delicate subject if I did not myself live under one of the best, most liberal, and considerate of landlords. Therefore I cannot say that I have to suffer all the grievances that some of my brother-farmers have to contend with; and the difficulty is very great to get farmers to speak out their minds on this subject, as the landlord has his tenant to such an extent under his power by those very stringent clauses and conditions inserted in their agreements and leases that he can on any day he pleases be very troublesome to his tenant if he is so disposed. And the tenant is perfectly convinced that at the expiration of his lease or agreement he will not get a renewal if he makes complaints and troubles his landlord or his agent about the trespass of rabbits wild fowl, &c., and that he is every day of his life obliged to put up with the same; and in my opinion it is one of the most disheartening businesses possible for a farmer to start in life with a capital of say £10 per acre without any security whatsoever for the continuance of his tenancy, but at the will of his landlord. And if any disagreement occurs he receives six months' notice to quit, and off he goes, leaving perhaps a large proportion of his capital behind. I now ask you, gentlemen, where is the "Agricultural Holdings Act," and how many tenants in North Wales reap any benefit from that Act? I am afraid they are few, as that Act has been so loosely formed that you could any day drive through it with a coach and four, not horses but elephants; but it may be argued, why have so many tenant farmers contracted themselves under the Act? I reply that because, if they refused, they feared they might have lost their homes and interest, and unless tenants get better security for their capital, landlords must not expect the best farming such as will increase the value of their lands, inasmuch as under the present state of things the tenants are absolutely at their mercy. I will further endeavour to point out in a few words as possible some of the grievances that tenant farmers

suffer under, and I believe that our landlords will thank me for calling their attention to them, as most grievances are such that they can easily rectify without in the least degree giving up any of their own rights and privileges, and the removal of which will to a great extent benefit their tenants. In the first place I will call your attention to the rooks. Gentlemen, you will admit that we have ten times, yes, twenty times, as many rooks in this country as are or can possibly be of any good. We have about a score rookeries within a radius of twelve miles to Denbigh. I admit that a limited number of rooks are serviceable at some periods of the year to pick up worms, grubs, &c., but their number ought to be kept within proper limit, and not be allowed to multiply so as to become a nuisance and a plague, almost worse than the plague of frogs in Egypt of olden times. I believe I am not exaggerating in saying that I myself have seen as many as 30,000 on one grass field between Denbigh and St. Asaph. Again, though perhaps in a smaller degree, the starlings are becoming rapidly a great pest; during my own lifetime they as well as the rooks have multiplied in this country fifty fold. Thirdly, I shall call your attention to what I consider the greatest plague and pest we have in this country, namely, the wood pigeons. I don't know of anything more destructive to our crops, especially on our turnips, cabbages, young seeds, clovers, and indeed all the green food we have on our farms during the winter months, and especially on our peas and beans, and all our crops during a month or two immediately before harvest. I think you will all agree with me when I say that we have enough crows and wood-pigeons in this country to eat up every ear of corn and every pod of beans and peas that we grow, were they allowed to do so. And you must remember, gentlemen, that these pests will not eat grubs and worms if they can get corn, and I can confidently say that owing to our having been obliged to sow a peck and a half or a bushel more seed per acre than is necessary, and having to pay men to scare these birds—for no boys are now to be had, as the School Boards take all the lads—and the loss we suffer at harvest time, as well as the destruction of our clovers, turnips, mangels, and cabbages, that our losses are reasonably estimated at six shillings per acre over the whole of our farms. Now gentlemen who are really responsible parties for the over-preservation of these pests? To speak plainly, I must say that the responsibility rests with the landlords and their keepers. That they can be very easily destroyed from my own experience I can prove, for when I lived at Kelston, my lads, on a holiday, in one day collected, in a wood near the house, over one hundred young wood pigeons in a very short time, but now, of course no one dare go into the covers for fear of the keepers, and I am certain if all the keepers were to take them in hand that they could destroy them in two seasons. We all know that the keepers have plenty of spare time to do it. I shall say no more on this subject. I hope and trust what I have already said will be the means of enlightening our landlords to this very great grievance. Now I come to what is, perhaps, a more ticklish question, namely, the rabbit ques-

tion. By all means let the landlords exercise their legal rights in a reasonable manner, but I myself cannot see that he has a right to preserve and feed rabbits as a source of profit, on his tenant's lands, seeing that he lets his farms to such tenants to cultivate at what is supposed a fair rent, and to put in his agreement those stringent clauses that his tenant is to preserve rabbits and wild fowl, and to do the utmost in his power to keep away all poachers. I am no friend of poachers and not one shall ever come on my farm if I can help it, for I always class the poachers and thieves together. I must say that it is hard times for respectable tenants to be subjected to the espionage and, indeed, insolence of keepers, who have often themselves been great poachers, and who, I suppose, are selected on the principle of "Set a thief to catch a thief." Very often these men are placed above us, the tenants, and are armed with the powers of petty inquisitors, and when their employers are from home encourage poaching by inviting their own friends to come for a day of rabbit shooting over our lands—and oh, what grievance to the tenant! In many cases however, I am glad to say, the landlords are very careful in the selection of their men, but I am sorry to say that a system has lately arisen among some of our landlords of subletting the shooting to others—some rich men from Liverpool, Manchester, or other large towns—who is not careful of the tenants' fences or in the selection of his keepers, and only cares to make his shooting pay. The evil of our game preservation is thus magnified ten-fold more, two tenants for the same land—one a farming tenant by the landlord, and the other a sporting tenant. The first may farm his land on the most approved system of farming; he saves no expense, and tries to grow two blades where only one grew at his father's time. Oh! what a contrast between the two tenants—one trying to grow as much corn and grass as he can, and the other preserving as many rabbits as he possibly can to devour the other tenant's crops. If rabbit farming would pay best, why can't we tenants take our farms for that purpose if we choose? I venture to tell you that these sporting tenants expect the rabbits to pay the rent of the sporting ground, and also the wages of the keepers and watchers, and all other expenses to get their sport free. I think it is not too much for us to ask our landlords, if they do not shoot over our farms themselves, to let, or at least give us, the offer of shooting for ourselves. In these cases the

landlord or his keepers or the sporting tenant pockets the money, and has no sympathy whatsoever with the farmer who suffers these vermin to eat and destroy his crops. These are not the old race of sporting gentlemen, but they combine business with pleasure, and are the chief dealers in the market with the poulterers and game dealers, and the tenant has no redress of any kind from either party, and then he falls into a system of from hand-to-mouth style of farming, which is the curse of agriculture in North Wales, and everywhere else where this system is carried out. When I was young and beginning to farm, the old sporting landlords would have considered it very far beneath their dignity to let parts of their estates to strangers to sport over in this manner and I consider the state of the present time, as far as agriculture is concerned, is most serious when we all know it is only by the greatest energy, enterprise and skill that the farmer can meet the rent, tithe, high rates, and taxes which he has to pay. It does appear to me monstrous that the seed he commits to the ground, and his growing crops, on which his whole existence depends, should be devoured in open daylight before his eyes without his having the slightest power to destroy these vermin, and without any redress whatsoever for the damage which they do. Good and profitable farming is entirely incompatible and impossible with the excessive preservation of rabbits and wild fowl. Gentlemen, I shall not occupy more of your time. I hope I have succeeded in calling your attention to one of the most serious questions affecting agriculture in the present day. I hope the landlords will take my remarks in as good part as they are offered. The tenant-farmers of this country are very faithful, and Welshmen are always notoriously loyal, both to their Sovereign, and in all authority over them, and are very loyal to their landlords, and are only too glad to see them get good sport with the pheasants and partridges when they shoot over their farms. In return, I am not asking you as a Chamber too much in requesting you to join together in memorialising our landlords to give such instructions to their keepers as will in a very few years destroy nineteen-twentieths of those fowls and other vermin that do so much injury to a very industrious and persevering class of men, and by so doing make their tenants more enterprising, more loyal, and more faithful than they are at present, when both landlord and tenant will really be sailing in the same boat and thus benefit in a much greater degree than at present the whole community.

## CHAMBERS OF AGRICULTURE.

### BANBURY DISTRICT.

At a recent meeting of the above Chamber, held in the Council Chamber, the Highways Bill was discussed, and the following resolution was agreed to:—

"That, in the opinion of this Chamber, the provisions of the Government Highways Bill do not provide that relief from the heavy burdens thrown upon ratepayers by the abolition of the toll-gates which they hoped for, the charge of maintaining the whole of the roads being thrown, as now, upon one kind of property only. That the effects of the burden complained of might be practically remedied by handing over to the County Boards the carriage tax, as now collected, to be added to the county road fund. That it is improbable that County Boards in purely agricultural counties would apply the power given them in Clause 14 of the County Government Bill to erect

new toll-gates and levy tolls on roads much used, and as the fees arising from the power of such County Boards (see Clause 21 of the Highway Bill) would produce only a small amount, it is desirable that County Boards should have power by by-law, to grant licenses for the use, on the roads, of other vehicles than those already taxed, and the amount so collected to be paid to the county road fund."

On the Cattle Disease question this motion was carried:—

"That the thanks of this Chamber are due to the Government for having brought in the Contagious Diseases Animals Bill, and further that this meeting approves of the suggestion made by the joint Committee of the Farmers' Club and the Central Chamber, as mentioned in their Report of the 28th of February."

## BRECONS HIRE.

At the last meeting of this Chamber the Contagious Diseases (Animals) Bill was discussed, and the following resolution was agreed to:—"That this Chamber approves generally of the Contagious Diseases (Animals) Bill, but considers the amendments of the joint committee of the Farmers' Club and of the Council of the Central and Associated Chambers of Agriculture are desirable. With regard to the fifth clause of the fourth schedule of Clause 30 this Chamber thinks it is desirable that no animal should be moved out of the quarantine station before the expiration of not less than fifty-six days, instead of fourteen days, as provided in the Bill."

## CORNWALL.

## THE COUNTY GOVERNMENT BILL.

At a recent meeting of the members of the Cornwall Chamber of Agriculture, held in the Assembly-rooms, St. Austell, to discuss the County Government Bill.

The Rev. A. LAWRENCE moved that the Board should consist of two-thirds guardians and one-third magistrates, and to be appointed for not less than three years.

Mr. N. STEPHENS moved that the whole Board be elected by the guardians, and this was carried by a majority of four.

## GLOUCESTERSHIRE.

The Contagious Diseases (Animals) Bill was discussed at a meeting of this Chamber, held recently at Gloucester, and the following resolution was passed:—

"That this Chamber while regretting that the Government are unable to carry out the recommendations of the Select Committee of the House of Commons last session in respect of cattle from Russia and Germany, cordially approve the provisions of the Bill now before Parliament brought in by the Lord President."

On the question of "Highway Legislation," subsequently debated, these resolutions were agreed to:—

1. "That power be given to the owners to close roads which are pronounced by the county authority to have ceased to be of public utility, and for which no contribution is to be allowed out of the rates."

2. "That the County Board be empowered to order the closing to the public of any road they think fit, subject to such conditions and reservations as they think necessary."

## SWINDON.

At a recent meeting of this Chamber, Mr. Pinner read a paper on "The Contagious Diseases (Animals) Bill," and the following resolution was passed after a discussion had taken place:—

"That this Chamber approves generally of the Contagious Diseases (Animals) Bill, and is of opinion that the clause providing for the slaughter of foreign fat cattle at the port of debarkation, and the quarantine of foreign store cattle, must be insisted upon if the Bill is to afford effectual protection to the agricultural community, and at the same time benefit the consumer."

## WORCESTERSHIRE.

A meeting of the Council of this Chamber was held recently, when some conversation on the Highways Bill took place, and the following resolution was carried: "That

this Chamber feels disappointed that no relief is given to the ratepayers in rural parishes by the Government Highway Bill, which might have been provided by subventions from the Consolidated Fund, or by the application of taxes on carriages, &c., locally collected."

## THE PETERBOROUGH STALLION SHOW.

This meeting, which is held in anticipation of the annual show of the Society in July, took place recently. There was a capital show of horses. In the class for stallions of any age Mr. S. Wilson, Wing's End, Wisbeach, took the prize with England's Glory, a capital dark-grey horse, with immense quarters in a compact compass. This horse was subsequently awarded the Society's Champion prize for the best horse in all the classes. Upon this decision, however, opinion was divided among the spectators, as Mr. Kemp's Young Britain, a fine three-year-old horse, with finely-developed and symmetrical quarters, combined with great activity, and general good appearance, particularly in regard to his fine masculine head and neck, was a great favourite. Mr. Little's Marquis, four-years-old, a very big horse, but wanting in the symmetrical proportions of a prize horse, was H. C. and entered as the reserve number in the event of the prize horse not qualifying. This qualification, we may as well remark here, consists in the condition that each prize horse shall travel one day in the week within the area of the Society's ground, which is a radius of 30 miles around Peterborough. Mr. Walter Kemp's Young Britain was first in the three-year-olds, as we have indicated; but in this class no reserve number was nominated, as there was not sufficient merit; so the qualifying in this case is left open, and should it not ensue, the award will lapse. The two-year-olds were a splendid class; they were all good in appearance. The judges had accordingly a difficult task to perform. The first favourite walked well, but on putting him into a trot, from some unaccountable cause, he went "dead" lame. This let in a very handsome young grey horse, Royal George, sent by Mr. Tibbett, Doddington. Messrs. G & T Neale's very handsome and powerful bay, Royal Oak, was placed as the reserve number. In the yearlings Mr. J. Rowell's black colt, England's Glory, was an extraordinary young animal. He had the appearance of a three-year-old all over. If the horses that were at Peterborough on Saturday go again a year or two hence this colt will probably hold his own against any or all of them; for it seems that great size and draught power with fair symmetry very properly carry more weight nowadays than less working capacity with more beauty. No reserve number was named in this class. The thoroughbreds and roadsters were only of local interest. The judges were:—Thoroughbreds and roadsters: Mr. Lucas Foster, Irthlingboro', Higham Ferrers; Mr. James Harrison, Wansford. Cart-horses: Mr. F. Street, Somersham Park, Ilunts; Mr. C. Marsters, Saddlebow, Lynn; Mr. John H. Plowright, Pinchbeck, Spalding.

## FREE TRADE IN LAND.

No. V.

The following is Mr. Kay's fifth letter to the *Manchester Examiner*:—

In No. IV., published on the 14th Feb (*M.L.F.* March 1834), I endeavoured to state as simply and calmly as I could some of the consequences of the deeds and wills which bind an estate for so many years. I tried to show that—

1. They prevent estates being sold which would otherwise come into the market.
2. They lessen due parental control.
3. They induce careless landowners to be tenfold more careless than they otherwise would be about the education of their children.
4. They maintain in influential positions men unworthy of those positions.
5. They deprive many landowners of the means of properly managing their estates.
6. They tend very greatly to retard the progress of agricultural improvement.

In the present letter I propose to continue the consideration of the consequences of these deeds and wills.

7. The power which our law gives to the landowners to direct not only the succession to, but the management of, the land for so great a number of years after their death renders it necessary in preparing these deeds and wills to make them very long and expensive. In them the landowner provides for many circumstances and contingencies which may happen during all the many years during which the deed or will continues in force. For after the deed is once made, or, in the case of a will, after the death of the owner who made it, no alteration or addition to meet new or overlooked contingencies can be made. It is necessary, therefore, in framing these deeds or wills to introduce numerous lengthy and carefully worded provisions to meet all kinds of possible events which may happen after the maker's death. The obscurity that this sometimes—nay, often—introduces into these deeds or wills is scarcely credible. It is no uncommon thing for them to be laid before two or three of the ablest counsel, and for each of these learned gentlemen to give a different interpretation of their meaning. Nothing then remains to the unfortunate victim of this perplexity but to resort to litigation and to seek the interpretation of the Courts, and very fortunate may he count himself if he finds the judges themselves agreeing as to the meaning of the words. I have known cases where such litigation has gone on for years and years; and I knew one such case where, the entire value of the estate having been absorbed in the costs of the litigation, the only struggle which remained was which firm of solicitors was entitled to the estate in repayment of their costs.

8. This system of deeds, wills, long leases, and mortgages, all of which may bind the land for many years after they are made, renders it often very difficult and very expensive for a purchaser, even when he can find a small plot of land for sale, to ascertain what the real state of the title to such property is. It is often affected by so many ancient deeds, wills, mortgages and leases—these are often scattered in so many hands—it is often so difficult to find out whether all the persons entitled under the various deeds and wills are dead, or whether their

title to the property is extinguished, there being no registration office here, as in many foreign countries, where a purchaser can ascertain at a glance from the registration book every deed which affects the land—that the mere inquiry into the title of a small plot of land and the legal expenses attendant thereon are often quite sufficient to deter a man who is not rich from venturing to agree to buy a plot of land which he would otherwise have been glad to purchase. And such is the confusion that sometimes exists that the examination into the title of a small farm of five or six acres may be quite as difficult and expensive, if not more so, than the examination into the title of an estate of many hundreds. So lately as the month of December, 1877, a poor man who purchased three acres of glebe land and £15 per annum of tithe rent charge had to pay £117 9s. 2d. for the mere legal expenses attending the examination of the title and the deed conveying them to him.

Of course, where an estate has been laid out for sale in building plots, and the title has been investigated once for all, and a proper statement of it prepared for the use of all purchasers; or where an estate has been for generations in one family and has not been encumbered or affected by many deeds or transactions, it may well happen, as I see stated in your columns, that a fortunate purchaser may invest much money in land, and yet have comparatively little to pay to the lawyers. But a man must know little or nothing of the subject if he supposes this to be the case with respect to the majority of sales in the agricultural districts. There the legal expenses are often enough to deter a prudent man who wishes to purchase a small plot of land.

But even when all this trouble has been taken, and when all this expense has been incurred, there is in very many cases no absolute certainty that there is no flaw in the purchaser's title, or that no undiscovered charge may be sprung upon him. Such a thing is impossible in many foreign countries, because there, *before any deed or will or mortgage can be rendered binding or valid* a short account of it must be written out upon the page of the public registration book, which relates to the particular piece of land. And if, when a man buys land and gets his deed of purchase entered in the registration book a former deed has been made but not entered on the page of the registry book it will not affect the subsequent purchase in any way, or be of any validity as against such purchase. But it is not so here. If the vendor of land is a rogue there is often no perfect security for the purchaser that he has discovered all the prior charges upon the property.

As an instance, I may mention what happened to a friend of mine. He purchased a small estate in the South of England. Before purchasing, he made his solicitor institute a most minute search into the state of the title. He was informed that he might safely complete the purchase, and that there was no charge upon the property except those of which he was aware. The purchase money was accordingly paid down. The former proprietor executed the deed of conveyance, and my friend thought he was safe. The former proprietor was insolvent and left the country. A short time afterwards my friend was informed that the estate he had purchased was mortgaged in

£1,200 to another person, who produced the mortgage deed and claimed the money due to him from the estate and my friend was obliged to pay. In many foreign countries the mere legal formalities attendant on the transfer of a plot of land are very simple, certain, and inexpensive. It is quite as simple as the transfer of a ship, or as the effecting of an insurance on a house, is with us. There is no need for a long, costly, and uncertain search into the title. The buyer has only to go and look at a page of the registry book to find out everything about the title. There is no need for a long, unintelligible, and costly deed of conveyance, because such a deed would be utterly useless, neither the seller nor the buyer being able to tie up the estate for future years, and therefore having no need and no power to swell the deed with provisions for all sorts of possible future contingencies. A short, simple document costing a few shillings, settles the matter between buyer and seller. A copy of it is entered in the registration book, and the whole matter is completed, and what is equally important, completed with perfect security for the rights of the purchaser.

9. The benefits actually realised in South Australia from such a system of registration are thus described by Sir Robert Torrens the author of the measure, in a work published by him, and entitled "The South Australian System of Registration of Title":—

"1. Titles being indefeasible, proprietors may invest capital in land, secure against risk of deprivation and the less harassing contingencies of a Chancery suit: mortgagees having also no further occasion to look to validity of title may confine their attention to the adequacy of the security. 2. A saving amounting on the average to 90 per cent., or 18s. in the pound sterling, has been effected in the cost of transfers and other dealings, irrespective of the contingent liability to further expenses resulting from suits at law and in equity, the grounds of which are cut off by the alteration of tenure. 3. The procedure is so simple as to readily comprehend, so that men of ordinary education may transact their own business. 4. Dealings in land are transacted *as expeditiously as dealings in merchandise or cattle, fifteen minutes* being the average time occupied in filling up the form and completing a transaction."

10. But let us proceed with the enumeration of the consequences of these land laws. I have shown how they cause the land more and more to accumulate in fewer and fewer hands and on ever-increasing estates. I have shown that even advocates of the present system, like Mr. Froude, admit this. I have shown how, for many years, they have been tending gradually but steadily to absorb all the small yeoman freehold estates on the great properties, and that even Lord Derby is compelled to admit this. This has gone on until the old race of small yeoman freeholders, who only a few years ago were to be found all over our islands, has almost entirely disappeared. By doing this these laws have deprived the small farmers, the shopkeepers, and all our vast number of peasants of almost every chance of acquiring land, even in the smallest portions, except small building plots in the immediate neighbourhood of towns. These laws also promote more and more a system of large leasehold farms, and lessen year by year the number of the smaller leasehold farms. They thus year by year separate the large peasant class more and more from the land and from the next step in the social scale. They render it more and more hopeless for a peasant either to acquire land or even to rent a small farm. They thus deprive him of all strong mo-

tives to exercise exertion, self-denial, or economy. They make his future hopeless and condemn him to poverty. Take the case of a young Norfolk peasant. The village school is often only one conducted by a poor uncertificated woman teacher. He leaves this school at nine or ten years of age to add to the small earnings of the family. He lives in the small crowded cottage of his parents. At 21 years of age he may earn 12 or 14 shillings a week; to hire a cottage for himself is most difficult, for the number of cottages is kept as small as possible by the landowners, so as to avoid any surplus poor population settling on their estates or near their mansions. Has such a peasant by any number of years' prudence, saving, or self-denial any chance of buying or building a cottage, or of buying a small plot of garden ground, or the smallest farm? The very supposition is ridiculous, from the utter impossibility of his doing anything of the sort. Can he obtain a cottage and garden on lease? Certainly not. Must he, then, remain a poor peasant all his days? He must, unless he can persuade some charitable person to enable him to emigrate, and unless he can tear himself away from his relations and all his old associations for ever. What has he to look forward to in his old age? Nothing but the workhouse if he is rendered too ill or feeble to work and his children cannot support him. Can this be considered a healthy or sound condition to which to have reduced the numerous peasantry of the Three Kingdoms? And all for what? Solely to support in enormous wealth and luxury a very small class of landowners.

It is difficult to make English readers who have not travelled understand how strangely different is the condition of the small farmers and peasants in the greater part of Western Europe. Throughout the Republics of Switzerland and France the great empire of Germany, and the kingdoms of Italy, Holland, and Belgium, the laws restricting the sale of land having been abolished, at various periods since the great French Revolution of 1789, the land has been subdivided into estates of all sizes—from the garden of a quarter of an acre, or the small farm of three or five acres, to the larger estate of thousands of acres. The consequence is that a small farmer, or a small shopkeeper, or a peasant, if prudent, economical, and industrious, may always look forward to the time when he may buy his own freehold, and start as an independent owner. Millions of small owners are to be found throughout the length and breadth of these countries. And how different, how strangely different, is their condition to that of our own dependent and hopeless peasantry. I remember the case of an educated, respectable German peasant. I spent several autumns in the village where he lived. When I first went there he was engaged to be married, and he was hard at work—at peasant's work—during the day and at some handiwork in the evenings, earning and saving with the intention of buying a piece of land and building his own cottage-house upon it, and he was delaying his marriage until he and his betrothed could accomplish this. At my last visit to his village, some four or five years since, he told us with pride that he had bought his land, built his house, and married, and that he was doing well. Such a history in England would be impossible.

11. But many and great as are the evils which this system of land laws causes in Great Britain these evils are very seriously aggravated in Ireland by the additional curse of absenteeism. I showed in No. I that about one-half of the whole of Ireland—i.e., one-half of 20,159,678 acres—was owned by only 744 persons, and that two thirds of this vast extent of land was owned by only 1,942 persons.

But, in addition to the fact that the greatest part of Ireland is thus monopolised by so small a number of persons, an evil as I think of vast magnitude, a great part of these Irish landowners do not live in Ireland, but in Loudon, or on English estates, or in foreign capitals. Their rents are collected by agents in Ireland and are sent to England or abroad, to be spent among strangers and to enrich them, instead of being spent among their own tenants, farmers, schools, charities, and tradespeople to enrich them. This absenteeism deprives the Irish people of the only compensation which renders the system of land laws which produces these great estates excusable—viz., the presence and the active good influence of a respectable resident landlord. Such a man ought to be, and is supposed in theory to be, the friend and comforter of his poor tenantry, the person to whom they can apply in need and in difficulty, their adviser and protector, the encourager of all the local charities and schools, the kindly entertainer of his neighbourhood, the magistrate who is ready to advise in local difficulties, the general centre of the district. If he is not this, what is he but the man who takes the larger share of products of the earth, raised by the labour of others—a burden in fact, which the cultivators of the soil must support without return? But worse than all this, the absence of these men throws the farmers and labourers of Ireland into the hands of agents, who manage for the absent owners. How is it possible that these agents can feel the same interest in the tenantry, with whom their principal duty is that of extracting rents and of rigorously exacting the performance of the stipulated duties? The natural tendency of the agent's work is to render him hard and exacting. The temptation of his work is to be much more than this, for his own ends and gain; and what remedy, what effective remedy, has the poor tenant, with the landlord at a great distance and the agent with great powers close at home?

Does an agent support the schools and religious ministers? Does an agent encourage and support the local charities? Does an agent perform the hospitalities of the hall? Does an agent sit on the bench and watch over the interests of the neighbourhood? Is an agent free to intervene without a slow and often forgotten application to the owner in sudden cases of distress? Does an agent interest himself in the thousand and one works of charity and good which a good landlord looks on as his simple duties? Is it not perfectly well-known that in an agent-ridden country like Ireland, with the owners separated by the sea, the contrary of all this is generally the case? All this has been most keenly felt for many generations in Ireland. O'Connell raised his powerful voice against it. The leaders of the Irish people cry out against it now earnestly and vehemently. But there is not the slightest possibility of applying a remedy to this evil, except by repealing the laws which have produced it as one of the many bad consequences of our Land Laws.

Mr. Drummond, the Under-Secretary of Ireland, wrote to the Irish magistracy those now celebrated words, "property has its duties as well as its rights;" but it seems to me that the Irish absentee landowners forget their duties almost entirely, while they are only too keen in the enforcement of their rights: and yet we English are surprised and indignant that when we and our laws have produced this state of things in Ireland—viz., an absentee class of landowners in a country two-thirds of whose 20,159,678 acres are held by only 1,942 persons in this 1878—the Irish people should be discontented and disaffected.

In my next letter I hope to explain some of the indirect consequences of these land-laws.

I have the honour to be, sir your obedient servant,

JOSEPH KAY.

*Fredley, Dorking, Surrey, Feb. 23.*

### ARE RABBITS "VERMIN?"

Some months ago Nathaniel Goslin, Excise officer, Aunau Dumfries-shire, charged Walter Brown, son of Robert Brown tenant of Hillhead Farm, in that neighbourhood, for an alleged offence under the Gun License Act. The case was raised before the local Justice of Peace Court. It appeared that the farmer held a gun license, which entitled him to scare birds and kill vermin, and to delegate one person to do this. He accordingly employed his son for this purpose. The son held no gun license, but was working with his father's. He killed one rabbit and shot at another, whereupon the officer of Excise raised the complaint of a contravention of the Gun License Act. It was contended before the local court that the farmer's son was entitled to do what he did, seeing that rabbits are not game to the tenant of a farm, and that, under the exemptions in the Act in question a farmer having a gun license could instruct any one person to scare birds and kill vermin. So far as the tenant farmer was concerned, it was urged that rabbits were vermin unless they were specially reserved to the proprietor in the lease. The local justices, taking this view of the case, dismissed it. An appeal was taken to the quarter sessions of the county. That body also dismissed the case.

The quarter sessions, however, granted a case to the Court of Session on the application of the Excise officer. Two questions were laid before the superior court for judgment: 1. Whether, within the meaning of this exemption in the Act, rabbits were vermin? 2. Whether the conclusion at which the justices arrived was a question of law and not of fact; and whether the fact that the respondent had killed a rabbit was not in itself sufficient ground on which the justices should have found that he was carrying a gun for a purpose other than that in the exception of scaring birds and killing vermin.

The Lord Justice Clerk (Moncrieff), giving judgment, held that the justices were entitled to give the deliverance they did on the question of fact presented to them. True, the justices did not explain the grounds on which they based their decision but that would not warrant the court in overturning their decision. Even assuming that rabbits were not vermin, his lordship was not prepared to say that the mere fact of the farmer's son having killed one rabbit and shot at another was proof that he was carrying a gun for some other purpose than that of scaring birds and killing vermin. His lordship was clearly of opinion that the farmer and his son were clearly within the Act in doing what they did. It must be said he kept in mind that, though the son was charged, it was really the father in reality sued. The farmer had a right of killing rabbits at common law because they were noxious and destructive animals. The Excise, however, asked the court to decide that there was one class of animals—viz., rabbits—to kill which the tenant was not entitled to ask his son or servant to kill in virtue of his own gun licence. The contention of the Excise was that, in order to shoot those animals, the farmer must not only have a gun license himself, but one for every party he

might authorise to act for him. His lordship held that that was contrary to the plain object and meaning of the legislature, and that for the purposes of the exemption in question rabbits were vermin.

Lord Gifford agreed with the Lord Justice Clerk, holding that on the farm rabbits were just as much vermin as rats were.

Lord Ormisdale, the other judge on the bench, dissented from the finding of the court. He did not think that rabbits were vermin within the meaning of this exemption, nor could he support the justices' decision as a point of fact. By shooting one rabbit and killing another, he held that the farmer's son did more than he was entitled to do under the exemption.

By a majority, however, the court of sessions dismissed the case.—*Field*.

## THE LAND AND THE PEOPLE.

(From *The Echo*.)

### No. III.—EXCEPTIONAL HIGH FARMING.

In my last article I left unanswered the question how it is that, if in exceptional instances double the ordinary returns are obtained from the land under our existing system of land tenure such great results cannot be secured in all cases, except on game farms. Well, in most of the instances in which exceptional returns are obtained there is exceptional security for the tenants' capital in one form or other. Some of the best farming in England is to be seen in Lincolnshire, where a system of compensation to tenants for their unexhausted improvements has existed for two or three generations, to the great advantage of landlords, tenants, and labourers alike. On some estates, again, as on that of the Earl of Leicester in Norfolk security more or less satisfactory is given to the tenants by means of a long lease, which is commonly renewed four years previous to its termination. In those parts of Scotland where the highest farming is prevalent, leases of nineteen years' duration are the rule. In other cases, the farmers who cultivate their land and produce meat on an unusually liberal scale are owners as well as occupiers. Lastly, there are a few tenants who, at a great risk, farm well in spite of their utter lack of real security. They are like gamblers, risking their money, with the "odds" in their favour perhaps, but still exposed to the constant danger of heavy loss or even ruin. Thus, in spite of our bad system of land tenure, one farmer in fifty, perhaps, is, or fancies himself to be, in a position to improve the land which he occupies, so as to obtain from it what we now regard as a maximum of produce. I say "or fancies himself to be" because every now and then there is a terrible warning to tenants who invest capital largely on insufficient security, and such warnings effectually hinder the majority of farmers from following a dangerous example. During the past year there was an alarming exposure of wholesale farming failures in the Lothians, the garden of Scotland. These tenants, on the partial security of long leases, had invested capital freely. Bad seasons came, the capital of the tenants became exhausted, and they had to go out ruined men, leaving their unexhausted improvements for the benefit of their landlords. Similar disasters often occur in England, though they are not usually made public, as ruined men do not care for the publication of their losses. I shall have more to say about the insufficiency of leases, and the partial security upon which exceptional high farming tenants often rely, when I come to treat of the prevalent low-farming of the country. Remembering the sub-title of this article, I must say something more about exceptional high-farming, for the present leaving the question of insufficient security with the remark that, apart from ownership or tenant-right, there is no sufficient incentive or safeguard to tenants for the utmost development of the

resources of the land; and that as long as this is the case the instances of double-produce farming will be few and far between.

Lord Derby is commonly credited with the statement that the land of this country might yield double its present produce; but I believe that in saying that, the noble lord only endorsed what had previously been said by the Earl of Leicester. Addressing a meeting of Norfolk farmers about seven years ago the Earl said:—"Since I last met you I have travelled through much of England, and part of Scotland, and taking into consideration the whole of the land I have seen under cultivation, I think I may safely state that the produce might be nearly doubled under a more perfect system of agriculture." Lord Derby left out the word "nearly" in his estimate, if he has been correctly quoted, and I think he was fully justified in doing so.

In a paper on "Farm Tenancies," read before the Social Science Congress in 1873, Mr. James Howard of Bedford commenting on the Earl of Leicester's estimate, said:—"Knowing as I do the greater part of the agricultural districts of England and Scotland, without concurring to the full extent in the opinions expressed by the noble Lord, I am satisfied that our productions are susceptible of prodigious increase. If we estimate the possible increase at only one-third our fields and homesteads would yield more than they do by £100,000,000 a year." Mr. Howard then proceeded to give some instances in which the production of meat alone exceeded in value that of the total ordinary produce of the land per acre. He said:

"To show what can be done in the production of meat by farmers of capital, I may instance the fact that a leading farmer in this county of Norfolk, who is in enjoyment of security of tenure, realised in the past two years by the sale of beef, mutton and pork, no less a sum than £40,000, which was an average of from £15 to £16 per acre of his occupation. Deducting from this sum £28,000 worth of animals bought in, there remains a nett meat production of about £5 per acre; and this is by no means an uncommon instance. Upon my own farms, and upon those of my brother, Mr. Charles Howard, Biddenham, about the same amount is raised; and some farmers I have corresponded with exceed even this rate of production. A farmer in the adjoining county of Suffolk, who also enjoys security of tenure, informs me that his nett sale of meat reaches £7 per acre per annum. Were the whole country brought up to the standard of the Norfolk farm I have named, the produce of meat alone in Great Britain, to say nothing of Ireland, would amount to £150,000,000 to £160,000,000

a year, a quantity which, if the population could buy, it would find no difficulty in consuming."

Mr. Mechi once estimated that a labourer who fattens a pig on an eighth of an acre of ground produces meat at the rate of 32 score pounds per acre, and he said that on his own farm he seldom made less than 10 to 13 score per acre in the year, whereas the average produce of the country was less than one score per acre. Now, we know that where such large quantities of meat are produced, the yield of corn is also very much beyond the average, so that the total returns in such cases are considerably more than double the average returns of the country. Successful farmers are naturally chary of publishing the results of their enterprise, because if they are tenants they will have a constant fear of a rise of rent before them. Consequently, it is not possible to quote the precise returns obtained from land, except in very rare instances. To

the practised eye, however, an inspection of the fields, the fold, and the cattle-sheds is sufficient, and a sufficiently near estimate of the produce of one farm compared with that of another can thus be arrived at. It is well known too that in some parts of Scotland, especially where potatoes are extensively grown, the returns are considerably more than double the estimated average returns per acre of the whole of the United Kingdom.

But, allowing for exceptional districts and scattered farms, which are like little gardens in a desert, the instances of satisfactory farming are very few. Next week I shall show more fully than I have yet done why they are so rare, and why the make-shifts for a just system of legal security for tenant's capital to which I have alluded are very poor make-shifts after all.

A FREE FARMER.

### THE HOME AND FOREIGN MEAT SUPPLY.

The following is an extract from a paper read by Captain DELF, at the last meeting of the Essex Chamber.

It must be well known to all interested in the subject that there were stringent restrictions on the importation of live stock which might be attributable to the outbreak of cattle plague during 1877. There was a considerable diminution in the quantity of meat imported in live form, owing partly to these restrictions, and partly to fresh channels for the surplus stock on the Continent. The main question which consumers have to consider is this, Did the diminution of importation in any way interfere with their interest? In comparison with previous years, consumers have been gainers rather than losers, as I shall endeavour to show, and it is so far satisfactory that the deficiency in the imports of live stock from abroad for 1877 have been more than made good by the increase in the importation of dead meat. Mr. Pease, Member for Darlington, said some time in February, "We have been constantly hearing throughout the year of the large and increased quantities of dead meat from America and other producing districts arriving in this country; and that this comparatively large supply has not equalled the falling-off in the importation of live stock for meat." It may savour of temerity on my part to call in question the statistics by which Mr. Pease, who had evidently given much thought to the subject, arrived at this conclusion. The statistics alluded to deal with cattle and beef alone, and the hon. member does not seem to have taken into consideration that the fact of the decrease in the importation of live stock is chiefly made up of cows and calves which do not add so much beef to the consumer as oxen. The arrivals of dead meat are given by the Board of Trade under several heads, only one of which has Mr. Pease brought into his calculations. The somewhat surprising result thus presented to the public will not bear very close inspection, the statement being that we had received less meat by 18,232 cwt. from foreign countries in 1877 than in the previous year. If Mr. Pease had investigated with greater care the statistics relating to beef and mutton he would have seen that instead of there having been any such deficit as he arrived at, this country had in fact received an

increase of about 102,953 cwt., as the following figures will show:—

DECREASE.		Cwt.
20,339 oxen at 6 cwt. each	.....	122,034
33,116 cows at 5 cwt. each	.....	165,580
13,926 calves	.....	15,000
167,432 sheep and lambs at $\frac{1}{2}$ cwt.....		83,766
Deficiency in salt beef.....		34,978
		<hr/>
Total	.....	421,358
INCREASE.		Cwt.
Beef fresh salted	.....	294,603
Ditto, meat unenumerated.....		39,850
Meat preserved	.....	189,853
		<hr/>
Total increase.....		524,311
Decrease	.....	421,358
		<hr/>
Balance	.....	102,953

The consumers of this country have thus been provided with considerably more meat in one form or another in 1877 than in the previous year, owing to the large and increasing consignments of dead meat. For the purpose of enabling you to estimate the consumption of beef and mutton in this country, and for the purpose of arriving at the extent to which we are indebted to the foreigner, I think it better to treat of England, Scotland, and Ireland collectively. In 1872 Sir H. M. Thompson formed a calculation that one-fourth of the cattle in the United Kingdom is killed annually, and the average weight was 600lb. per head. But I believe that I am right in saying that this estimate is too low, and that 6 cwt. or 672lb. is nearer the mark. Assuming that 6 cwt. per head is a correct average weight, one-fourth of the 9,693,960 cattle in the United Kingdom in 1877 at 6 cwt. per head would give 14,540,940 cwt. of beef. By inquiries made in various directions, I arrive at the conclusion that the proportion of sheep annually slaughtered is about 5-12ths, and supposing that the average weight of the carcass is 70lb., that would give 8,372,454 cwt. of mutton. A great number of calves and lambs are fattened off before the date of enumeration in



June, of which I have taken no account, as I have made no deduction for losses either in the herds or flocks. It is estimated that in the shape of pork we have 4,953,408 cwt. contributed annually to the home supply of meat; thus in beef, mutton, and pork our annual home supply is 27,571,832 cwt., in addition to which there must be an immense supply of poultry and game, of which we have no statistics.

Now let us see how the imports of live stock during 1877 stand. I find that assuming the 148,619 oxen to weigh 672lb. each, the 25,404 cows 560lb. each, the 30,172 calves 140lb., the 874,062 sheep 56lb. each, and the 20,037 pigs 170lb. each, the total importation of live meat amounted to 1,523,535 cwt. It may occur to you that the weight which I have given of sheep is too low when compared with the estimate of English sheep, but the fact that the proportion of lambs was relatively higher in the foreign returns, inasmuch as they represent a whole year, whereas a considerable proportion of the lambs reared and slaughtered in the United Kingdom disappear before the enumeration is made, from the foregoing you will see that the United Kingdom obtained from abroad about 1 cwt. for every 18½ cwt. supplied by our own herds and flocks.

In order that we may duly estimate the proportion in which the importation of live stock for the year 1877 stands to the meat supplied by this country, we must add to the meat produced at home all foreign importations dead or alive, not excepting bacon, which forms a very large item, being no less than 2,381,725 cwt., or more than the total of all other kinds of dead meat. Assuming these calculations to be correct, the quantity of meat consumed in this country last year was as follows:—

	Cwt.
Home produce .....	27,571,832
Foreign live stock.....	1,523,535
Foreign dead meat.....	4,389,483
	-----
Total .....	33,784,855

This quantity equally apportioned would give about 110lb. to each man, woman, and child in the United Kingdom. Thus you will see, if you have been able to follow me in the figures

which I have given, that during last year the meat consumed in this country imported as live stock was only about 4½ per cent. This may be regarded as being so small as scarcely worthy of notice, yet it is the apprehended loss of a portion of this small percentage which has caused the salesmen and butchers in large centres, headed by Mr. H. Gebhart and Mr. Hall to so philanthropically espouse the cause of meat consumers. I am inclined to think that if statistics have any force, and that if consumers will allow their own common sense fair range, they must see that by the greater restrictions proposed to be imposed on the importation of live stock, aided, as suggested, by uniform and stringent regulations in this country, they will be greatly benefited.

It is generally conceded by those who have given the subject careful consideration, and who are well qualified to give an opinion, that the importation of dead meat will increase in a degree which would soon render this country quite independent of the importation of live stock.

Let us see what this country would lose, supposing it were entirely deprived of all the meat sent alive to us from abroad: the result would be a diminution of 4½ per cent. in our supplies, that being, as I have shown, the proportion of meat imported alive in 1877; but there is no ground for believing that even this small percentage would be lost to the country by the Bill now before Parliament. We have been taught that if the prices obtained in this country are sufficiently high to draw live stock from other countries the same inducement will attract a large quantity of dead meat. But for the sake of argument, let us suppose that the importation of dead meat does not increase, and the importation of live stock ceases; I am inclined to think that the result would not be so detrimental as at first sight might appear. In explanation of this assertion I would ask you to bear in mind that to make good the deficiency thus incurred it would be only necessary that for every twenty-two animals reared and grazed in the United Kingdom one more should be added. Such a slight increase would surely be no difficult matter, when comparative security from disease is insured, especially when we remember that the annual loss from disease has been far greater than one in twenty-two.

LIVE STOCK NOTES.

In the pages of *The Agricultural Gazette* having reference to the Australian sale of Shorthorns, at Melbourne, on January 4th, when the prices fetched show the game's alive, and that, despite all croakers and bad times, the love of breeding in the human heart is as difficult to kill as the nettleroot in the soil, there is an expressive phrase used which I claim to be in accordance with my teaching. The "stud" cattle are what brought the guineas down for the obvious common-sense reason that unless some one keeps a cask of the spirit there can be no strengthening of the light wines. Thoroughbred stud-stock there must be of every domestic animal. Only conceive the reign of a regular farm-yard mixture of every sort—mongrels, to use a term, the very sound and reading of which fills one with horror! It is by preserving sifted sort<sup>s</sup> true to their type and distinguished for their style, whilst moreover there is regard taken of the natural merit of

the animal (as for instance milk no less than meat should be a *sine quâ non* in the cow, and bone and safe action in the horse) that men have in every age managed to attain to fame, the stock of their choice and production proving further, if not always to themselves, at least to their successors, a mine of prosperous issue. "Ever improving" should be the rule of life. Of what service, even in grain, has the principle of selection been found? and many a hundred farmers have to thank the head and skill of him who discovered the superior value of certain berries in the stem-head, and took pains to preserve such seed in its purity. In continuance of this subject it has caught my eye that Lord Dunmore lately not only took the most earnest pains to gather materials for and publish a Stud Book of the Clydesdale breed of cart-horses, to which his estate is neighbouring—not only took upon himself the publication of the first volume—

but has since been at pains to procure the best samples of the race himself to breed from, regardless of expense, £500 being named as the price given for a single cart mare! The view I take of the matter is this: how it will stimulate, egg on, and encourage every farmer in the district to improve, so far as lies within his power, an animal of everyday use upon his farm, of which so great a value has now been found. We all heartily hope that Lord Dunmore will gather in a heap of coin by this venture. It is not everyone who would have conceived the idea—it is not everyone who would have had the enthusiasm and method to work it out, and fewer still who would have ventured capital sufficiently in the cause. There are lots of small men who are capital judges who, now that they see their chance, can bring brains and experience to bear, and by the help they will surely have in access to prime stallions will rapidly lay up a hoard such as corn can supply no more. For noblemen and rich commoners to act as Lord Dunmore has done is virtually to sink a shaft for the public benefit in an unsuspected local field of ore. Don't sink the rents. Let the idlers smash and vanish. Give the intelligent and enterprising tenant-farmer and cottager the means of expanding a circle which has hitherto been a belt in the immediate past too narrowing, of iron texture. Replace the shrunken wood with a slate table, and the antiquated rag cushion with the real india-rubber, and you know not to what height of successful figures the game of the studios may mount. The Suffolk Stud Book, I am glad to find, in the hands of such a reliable compiler as Mr. Hermann Biddell, and shall become a subscriber to the historical volume, which I hear is to inaugurate the issue, having had the happiness not only to study the points of the matchless sires and mares of the Catlin, Crisp, and Barthropp periods, but having moreover owned two of the not least famous, which, I delight to think, left their unmistakable and beneficial mark in the distant country to which they were exported.

I have drifted on to another point. I beg pardon of Mr. Sotham for having so long omitted to notice his playful and yet serious strictures. The fact is, I am erratic and irregular, and work by spurts. And now as regards his remarks, I can easily show him several English herds, which are *even* and not "uneven" in character, the constituent animals of which, too have been mainly *bought*. That "speculation" should have occurred in the sphere of Shorthorns, is not to be wondered at. Men will bet on the flow of raindrops down a pane, when no better excitement offers. Success will always leave the fungus growth of gambling attach itself to it somewhere. I quite agree that it is a false state of things where cows are dried of nature's flow to allow their frames expansion, whilst they are still credited with the fine offspring they have produced, for foster cows to rear for them. This helps to sell a breed, and the cows come certainly as a rule the sooner in season, and so it may be fairly argued that a plurality of calves is worth more than an abun-

dance of milk. Such tactics imply a purse, too. But I can show him lots of fine Shorthorn cattle of ancient lineage which do rear their own offspring most successfully, and as regards his comparison of the Shorthorn with the Hereford, how is it that I myself, living actually in the county of the white faces, dispose continually to my farming neighbours of bull calves to cross with their Hereford herds, as I am uniformly told, because it "gives them so much more milk?" I have just sold a pair of Shorthorn heifers to a Herefordshire squire who lately owned a capital native herd, because his new bailiff has persuaded him to "go in" for a "dairy!" And another rich neighbour—one of the staunchest to ridicule my pedigree Shorthorn stock—is obliged to import his cows for the house from Gloucester! For miles around me the white, red, and roan dispute the pasture with the pale face. And this is in Herefordshire itself!

I will say no more than that one of the most successful of Hereford breeders published in *The Agricultural Gazette*, the other day, if a man could afford it, the best thing to do was to go in for the *blue blood Shorthorns*. How on earth came he to such a conclusion? I admire the Hereford cattle much, and, had I been a native, might have taken pride in keeping up the sort. I should certainly have aimed at more milk, and a year's earlier ripening. It is here the cosmopolitan Shorthorn beats them. Moreover, the bald-faced Hereford doesn't do as a rule to cross with—the issue is often so ungainly and plain; whereas the Shorthorn rather improves the character of all ordinary cattle that it may cross with. Mr. Stratton's Shorthorn bull Protector has beaten, in competition, I believe, all the most famous Hereford bulls in existence. That is however, of small import. There is no doubt that the Hereford of the show-yard is unusually excellent. The beauty of the breed at the last Tredegar show was something wondrous. Still, I ask, Why do my Hereford neighbours take a Shorthorn cross? Mr. Sotham says he is seventy-six, but "if 'Vigil' can show him a herd uniform in size, symmetry, quality, and substance" he will take a trip to England purposely to see them. I can only say that we should all welcome the plucky visitor, and I can assure him that there are many home-bred herds of the highest fame which are at least as competent to exhibit their collection of similar qualities as one has yet seen even in a gathering of Renick's Red Roses, much as I personally admire that tribe. But as I, "Vigil," have been made the butt of these remarks I will undertake to show him, as soon as he arrives, say, twenty of my own herd as like to each other in conformation as Southdown sheep, certainly as any Hereford cattle, and a neighbour shall do the same, and the whole lot of forty shall be one Shorthorn tribe. There are no nurse cows kept on my place—all calves are reared by the dams. Butter and milk, more or less, according to the season, are supplied to the house, and the cows now done calving are fit to kill for the

butcher to-morrow. One cow is nursing a huge bull-calf, gives half her milk to the house, is in calf again, and has a good depth of beef over her best points at this moment. She has, certainly, about a couple of pounds of cake daily, in addition to a chop of swedes and indifferent hay, all steamed. Her dam is alive, and, I hope, in calf, and had been delivered of seventeen live calves at fifteen years of age. But I will say no more than that Mr. Sotham takes too much for granted against the pedigree Shorthorn of England. When I spoke of "rotten bouds" my mind was in Turkey rather than America. I take this opportunity of observing, with regret, in reply to Mr. Sotham's observation, that "Jonathan has had the advantage" of the old country in Shorthorn interchanges, that certainly not all the importations from across the Atlantic have been felt to be quite as superior to suspicion as Cæsar's wife.

### ON COLIC IN THE HORSE.

At the London Farmers' Club recently this ailment was referred to by several speakers, as well as by the essayist, Mr. Frederick Street, in his excellent paper on "The Breeding and Management of Horses." And well might it receive attention, for in one form or other—whether known as gripes, wind, inflammation, &c., it is among the most fatal of diseases to which horseflesh is heir. One authority puts it at 50 per cent. of the deaths of horses by disease. But certain it is that it is less fatal and less frequent now than formerly. Horses are better treated as a rule, more frequently fed from the nose-bag or otherwise, in recognition of the fact that he has relatively the smallest stomach of any of our domestic animals.

The symptoms once seen are readily detected. Mr. Armatage, in his recently published work "Every Man his own Horse Doctor" (a book that is cleverly illustrated by a Bedfordshire artist, Mr. Stannard, with cuts of horses suffering under various diseases), says, "The animal scrapes with the fore feet, kicks at the belly, shifts about, turns round, smells the floor, crouches, puts the nose to the flanks, lies down, rolls, remains for a time on the back, and breathes heavily throughout. Gradually he slips over on the side, stretches out the legs, when the signs abate as suddenly as they began: he then rises, shakes himself, and the termination of the paroxysm is known by his looking about for food."

As to the causes, irregular or unsuitable feeding, gorging with cold water, liver complaint, &c., we have nothing to do. But we venture to offer a word as to the means of relief and cure. Happily the days of heavy purging and bleeding are gone by. Our best veterinary surgeons go in for gentler treatment and hygienic management. But the very suddenness of the attack often finds one unprepared, and therefore unable to cope successfully with it. A dose of linseed oil, or a strong purging ball combined with an opiate and a mounted messenger sent off for the farrier, are the everyday methods adopted.

Now, we have to say, very emphatically, that there is a much readier, a far safer, a more certain means of relief and cure at hand in every homestead. Apply at once a horse cloth or woollen rug folded into two thicknesses, wrung out of boiling

water, to the belly and up the sides, and cover tightly with another couple of cloths to retain the heat. As it cools, renew as often as needful. A large bran poultice, as hot as can be borne, is equally effective and retains the heat longer. Should there at the same time be a difficulty in staling, which there often is, apply a similar hot cloth or poultice over the kidneys, when the urine will be relieved. It is well also to give an injection of warm water, about blood heat, into the bowels; and if the case needs it a horn of hot water with a teaspoonful of tincture of cayenne into the stomach. Lay the animal in a well-bedded loose box, darken the window, and leave him for a quarter of an hour. In an ordinary case, the cloths or bran poultice will not need above one renewal—in severe cases they may be shifted four times within the hour, and a hot fomentation also applied to the spine; this has a wonderfully soothing effect. When relieved, wash down with tepid water, dry well, cover up, give a bran mash, and allow a day's rest to compensate for the lower-ness that always supervenes. Now, whether the case is one of simple colic, with a quiet pulse, or proceeds to inflammation of the stomach or intestines (*enteritis*), with a bounding flow of blood, the treatment is the same. It possesses the merit of haudiness, always ready, and of safety and certainty. You simply relieve through the outer skin, instead of through the lining membrane of the stomach. The outer skin is the more reachable, it has millions of pores and countless nerves to act upon, it brings the disease to the outside at once, and it is perfectly safe. Animal life is the same both in man and in the horse, and the same means of cure in disease—warmth and moisture, applied locally or generally—will tell a hundred times more effectually than physic-king or similar methods.

For prevention, feed more frequently, and give water oftener, and in smaller quantities. A handful of oatmeal into the water, and the chill also taken off, is of incalculable benefit. Neither must Jos be allowed to stay in the public-house while the team stands shivering at the door. It may be added that there is no curable disease of the horse to which some modifications of the treatment referred to may not advantageously be applied. *Probatum est.*—*T. Bowick & Co.'s Price Current.*

WHY THEY SMOKED.—In a Scotch town the lads of a school acquired the habit of smoking, and resorted to the most ingenious methods to conceal the habit from the master. In this they were successful, until one evening, when the master caught them puffing most vigorously. "How now?" shouted he to one of the culprits, "How dare you be smoking?" "Sir," said the boy, "I am subject to headaches, and a pipe takes off the pain." "And you? and you? and you?" inquired the pedagogue, questioning every boy in his turn. One had a "raging tooth," another "cholice;" the third a "cough"; in short, they all had something for which the weed was an unfailing remedy. "Now, sirrah!" bellowed the master to the last boy; "pray, what disorder do you smoke for?" Alas! all the excuses were exhausted; but the interrogated urchin, putting down his pipe, and looking up in his master's face, said in a whining, hypocritical tone, "Sir, I smoke for corns!" —*Ayr Advertiser.*

## THE AMERICAN STORM WARNINGS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Allow me to call attention in your columns to the article in the current number of "The Nautical Magazine" on the above subject, by Mr. Robert H. Scott, Secretary to the Meteorological Council. As the announcements occasionally in the newspapers "during the past year have naturally attracted much attention on the part of the public," the writer, therefore, ventures to submit to the readers of the "Magazine" a notice of the out-come of a private inquiry which he had "conducted into the results of these warnings for the space of eleven months, ending December, 1877."

Passing over Mr. Scott's repetition of the grounds of his own well-known prejudices on the subject, he very fully and fairly gives in this article the results of his observations on the success or failure of the occasional storm warnings sent us by *The New York Herald*. During the eleven months referred to, thirty-six telegrams were received from New York giving warnings of forty different disturbances. These Mr. Scott classifies under four categories as follows:—A, absolute success; B, partial; C, very slight; D, absolute failure. From his observations given in detail we find that the results were:—

Class.	No. of Instances.	Percentage.
A	7	17.5
B	10	25.0
C	6	15.0
D	17	42.5
	40	100.0

"These figures therefore show," Mr. Scott remarks, "that not 45 per cent. of the warnings can be considered as really successful," or, as he further explains really successful to mean, "that the information conveyed by them was of real value to seamen in British ports."

Without going into the question as to the value of these storm warnings to captains at British ports, allow me to say that it appears to me Mr. Scott here narrows the usefulness of such warnings. There are other interests in the United Kingdom largely influenced by changes of weather besides shipping interests; those of agriculturists for instance. I do not know how far British farmers may have been benefited by them, but I have been told by the manager of a well-known news agency that its provincial *clientelle* always call his attention to the fact when by any mischance these New York storm warnings are not promptly sent to them.

That only 45 per cent. of the warnings can be considered really successful, even by Mr. Scott, is not to be wondered at when it is remembered they are not sent by a competent authority. At first I understood they came to us from the Washington Weather Signal Office through

*The New York Herald*. Such I now find not to be the case, but that they are based on deductions from the storm warnings of that office which have reference only to the American Continent—deductions made by the "weather" editor of *The New York Herald*. That a newspaper should have one of its staff specially detailed to this work shows the interest felt in America in storm warnings. Considering this fact, and without by any means wishing to disparage the result of these amateur attempts at transatlantic weather-warning, I would express the conviction that had they been sent by such competent authority as that of General Meyer, of the Washington Signal Office, the percentage of favourable results might have been largely increased.

At the close of his article Mr. Scott says that the statistics he has given indicate that as yet the "attempts to foretell weather by means of the Atlantic Cables have not met with a very marked success," and that "It will be impossible to institute a thoroughly satisfactory testing of the warnings until we have before us a long series of synoptic charts of the winds and weather existing between America and Europe similar to those now in process of publication"—of course by Mr. Scott's own office. Is that gentleman ignorant of the existence of Maury's wind and current charts of the North Atlantic? Is he aware of the fact that so complete was the knowledge of that part of the ocean possessed by the Washington Observatory that it was consulted in March, 1857, by Mr. Cyrus W. Field, on behalf of the Anglo-American Cable Company, for the best route and time for laying its cable? In reply he was told by the late Lieut. Maury, after 260,000 days' observations at sea had been investigated, "that the most propitious time for their undertaking was the last of July and the first of August," and that "the steamer with the Western end of the telegraph cord on board would be less liable than the other to encounter a gale;" and the results proved the information thus communicated to be strictly correct. Is it necessary, therefore, to wait until Mr. Scott's own maps of the North Atlantic are completed before testing this important question of transatlantic storm warnings? Why not turn to practical account the observations and information we already possess? In this way we can most speedily increase that information. Had the Americans acted according to the principles upon which our Meteorological Council is conducted, "we guess" it would have been a long time before they would have attained their present superiority in meteorological science. With them theory and practice went together, and so it should with us. Let us begin right by obtaining our intimations of storms likely to reach our coasts from such competent authority as exists in the Washington Weather Signal Office. Mr. Scott's feeble attempt at transatlantic storm-warning from "Heart's Content,"

Newfoundland, should not discourage him. No wonder they failed, owing to unfavourable circumstances, as "the site of the station was where no storm could possibly hurt the cable," and that therefore there could be no storms reported from that point. But information from Washington, where the progress of storms from West to East across the American Continent are noted, would be of some value taken together with the information the late

Lieut. Maury has left ready at Mr. Scott's hand. No *à priori* reasoning of the Secretary of our Meteorological Council ought to satisfy us that some satisfactory results might not immediately be obtained by adopting the means which are suggested in this letter.

I am, Sir, &c.,

March 23.

A. M. D.

## THE MIDDLE-MAN AND THE STOCK-DEALER.

It has often been complained that the middle-man, the stock-dealer, runs away with a portion of the farmer's profits, which the latter can ill afford to spare. On the other hand, there are those who contend that the dealer is paid by the consumer. Without entering into this question, it must be admitted by all that the stock-dealer is a very useful member of society, and that in some branches of the cattle traffic it would be difficult to do without him.

Those who rear stock for sale as stores in a distant part of the country find the large dealer a very useful middle-man; but, probably, in the sale of fat stock, most farmers might do very well without him. Both in supplying local wants and in meeting the requirements of large towns, the animals are sold by rule of thumb. Why not by actual weight? Because it is the custom to sell by guess-work; there can be no other reason. But there are, we think, many reasons why the custom should be done away with, although it has lasted so long. It is uncertain to buyers and sellers, however experienced they may be, and it affords scope for a great deal of very unsatisfactory business being transacted. The cost of a weigh-bridge would be but a small item on a farm from which fat stock is regularly sold, and would probably be saved in other ways. In markets the outlay might be repaid by a small toll for the use of the weigh-bridge. In either case there is no real difficulty in the way. Butchers and salesmen who are buying and selling daily are doubtless better judges than feeders who only sell occasionally, and the farmer who sells in a small way has very little chance, as a rule, with the local butchers. The plan of selling by live weight would not ensure satisfactory returns being received by the consignor, because there would still be the fluctuation of the market on the value per lb.; but the consignor would weigh his bullocks before starting them, and would know the shrinkage when the market weight was returned, and the rate at which they were sold. We venture to think this would be more satisfactory than the present system,

When the market price of a bullock is quoted at 6s. per stone it means, of course, that, when slaughtered, the carcase—after being trimmed of certain portions of fat and lean in the neck, of some fat elsewhere, if plentiful enough, and of the skirting, and the lean kidney taken out—will be weighed and paid for at 9d. per lb. That is to say, if the animal is "sold by weight;" otherwise, all this is estimated and discounted, and the animal sold at the supposed weight of his carcase when so manipulated. This is what is called making 9d. per lb. of a bullock. The hide, feet, head, internal fat, heart, liver, lungs, tripes, melt, entrails, and blood are not accounted for directly, but are supposed to be paid for by the difference in the value which is attached to the dressed carcase by estimation in the live market over and above the rate at which it would be sold per lb. in the dead market; and this difference is from 1d. to 1½d. per lb. So that instead of this hypothetical carcase being worth 9d. per lb. it is only worth, say, 7½d. per lb., and the butcher by buying it nominally at 9d. has in reality purchased the "offals"—an unknown quantity be it remembered—by this difference in the value of the carcase alive and dead. We consider this to be a wrong principle; inasmuch as the weight is estimated, not actually ascertained; and when the practice of "selling by weight" is resorted to, the offals are still an unknown quantity, a factor in the price which does not appear to the seller, but only to the buyer. It may be objected that the old rule of thumb has worked well, and that the producer gets as much under the present system as he would be likely to get under the proposed alteration. That is an argument which cannot be proved without a trial, and in selling by actual live weight the producer would gain a certain amount of satisfaction which cannot possibly form any part of the present system, independently of any monetary advantage which might accrue.

It cannot be said that a precedent is wanting, inasmuch as the system we are proposing for this country is in actual working in the United States,

Americans sell their fat stock and their store stock by actual live weight, at so much per pound for the whole. The value of the former is according to the percentage which the dressed carcass will represent. The best of the animals which are slaughtered there for our markets dress about 57 lb. of carcass to 100 lb. of live weight; and, as they are estimated to "dress," so is the price per lb. of the whole or live weight determined. In this way the buyer and seller have to estimate and agree upon the percentage of beef there is in an animal, which certainly requires judgment; but the seller, when the rate of payment has been fixed on this estimate, does not guess the gross weight to be paid for, but actually weighs the animal. The different lots are weighed and sold at per 100 lb.—store cattle as well as fat. The following quotation from an American paper will show how values are estimated in Transatlantic markets:—"New York, Feb. 11th, 1878. Some of the choicest steers were taken for the city trade, and for export alive, at 11¼ to 11½ cents (5¾d. to 5¾d.), to dress 57 lb. per cental (100 lb.); prime selections, at 10½ to 11 cents (5¼d. to 5¾d.), to dress 57 lb.; medium to good qualities, at 9¼ to 10¼ cents (4¾d. to 5¾d.), to dress 56 lb.; and poor to ordinary grades, at 7½ to 9 cents (3¾d. to 4¾d.), to dress 55 lb., four cars of Texans being taken at the latter figure. Exporters took about 1,000 steers, mainly at 9½ to 10½ cents (4¾d. to 5¼d.), to dress 56 lb. A year ago prime steers were sold at 11 to 11¼ cents (5½d. to 5¾d.); two years ago at 12¼ to 12½ cents (6¼d. to 6¼d.) to dress 57 lb.—Chicago. Good to choice steers, 4 dollars 25 cents to 5 dollars 12½ cents per 100 lb. (2¾d. to 2 9-16d. per lb.); common to fair, 3 dollars 75 cents to 4 dollars 10 cents (1¾d. to a fraction over 2d. per lb.) feeders and stockers, at 2 dollars 50 cents to 3 dollars 85 cents (1¼d. to say 1 15-16d. per lb.)" Advices up to the most recent date are about on the same scale. A very noticeable feature in the above American quotation is, that the rates for a living animal are expressed in fractions, which do not enter into our calculations of the value of a dressed carcass. But in America the cost of feeding or finishing is greater than that of breeding and rearing; whereas in this country the cost of producing the frame is greater than that of covering it with beef. So that our stores, if sold in this way—and it would be a great check on the jobbers and dealers—would be worth as much or more per lb. of their live weight than when finished for the butcher. Thus a fat bullock weighing 1,400 lb. if sold at 5¼d. per lb. live weight would realise £30 12s. 6d., and would dress, say, 812 lb., or 58 per cent. carcass weight

or 101½ stones of beef, which at 6s. per stone, or 9d. per lb., would amount to £30 9s. But a store steer weighing 800 lb., if sold at 5¼d. per lb. live weight would realise £17 10s., and as the carcass would probably not dress to more than 53 per cent. of the live weight, or 424 lb., the 53 stones of thin and inferior beef would represent a value of nearly 10d. per lb. Such a steer at the present time would be worth quite £17 10s. Therefore, it is easy to see that stores are comparatively dearer than fat cattle in this country; but a reference to the market rates of American cattle at the emporium of the trade, Chicago, will show that the value per cental of the live weight of cattle there is about double for a 1,400 lb. ox to what it is for an 800 lb. steer. Judging from the quality of the American meat which is put on our markets, and from the assessment of carcass weight by which their values are determined when alive, as shown above, it is probable that our best and second best animals, as sent to the London market, would range from 57 to 59 lb. of dressed beef to the 100 lb. of live weight. Animals such as are to be seen at our best fat stock shows would, doubtless, in most instances, reach a considerably higher percentage than this.

We trust these suggestions will commend themselves to the consideration of those who are feeders of stock, and that we shall be supported in our advocacy of a system of scales and weights as against that of rule of thumb. The expense of providing the requisite weigh-bridges in all stock markets would be easily defrayed, and we think the advantages to be gained from them would be very great.

SPORT IN AUSTRIA.—England is always looked upon as *par excellence* the country of sportsmen, but Austria does not appear to be far behind us in this respect, judging from official statistics which have just appeared. According to these there were killed or captured during the year ending the 31st of December, 1876, 54 bears (37 in Galicia), 10 lynxes (5 in Galicia), 233 wolves (167 in Galicia), 23,606 foxes (not in Leicestershire!), 7,113 martens, 9,327 polecats, 350 otters, 5,390 wild cats and weasels, and 2,426 badgers. Similar havoc seems to have been made with the winged creation: 261 eagles, 916 owls, 66,925 kites, falcons, and sparrow-hawks, and 12,411 crows having fallen victims during the same period. Galicia, Bohemia, and Lower Austria are the best hunting grounds of the empire.—*Coming Events.*

DESERTIONS FROM THE ARMY are reported to amount to 5,000 per annum. It is not within our province to enter into the general question of the terms of service and the causes of desertion, but we may with consistency remark that where soldiers are encouraged to devote their leisure time to gardening, they are better every way in health, in habits of life, and in devotion to their duty.—*The Gardener's Magazine.*

## THE ENGLISH CART-HORSE STUD ASSOCIATION.

A meeting of this Association, which was formed after the close of the last meeting of the Farmers' Club, was recently held at the Caledonian Hotel, in order to take the necessary steps for getting the Association into working order. Mr. J. Brown, Chairman of the Farmers' Club, presided, and among those present were the Earl of Ellesmere, Mr. C. S. Read, M.P., Mr. Pell, M.P., Mr. Chas. Howard, the Hon. E. Coke, Longford Hall, Derby, Mr. John Bradshaw, Mr. James Howard, Mr. Joseph Martin, Mr. W. Little, Littleport, Mr. Chas. Masters, Norfolk; Mr. T. A. Spencer, Clavering; Mr. S. B. L. Druce, Mr. John Linton, Mr. Sexton, Wherstead; Mr. G. Street, Mr. T. Brown, Norfolk, Mr. Garrett Taylor, Norfolk, Mr. Gorringe, Sussex. Mr. Sherborn Bedford; Mr. F. Street, who acted as Hon. Secretary, &c.

The CHAIRMAN said, having been requested to take the chair he felt very great pleasure in doing so. He was very glad that the Farmers' Club had at their last meeting discussed a subject so well deserving the attention of the farming community as that of the breeds of cart horses, and he was quite sure that the result would be satisfactory to all who were interested in such a matter.

The proceeding of the last meeting were only tentative, but they were now in a position to go a little further.

Mr. F. STREET, acting as Hon. Secretary, then read a Circular, setting forth in substance what had been done at the prior meeting, and containing a list of gentlemen who had been nominated as a preliminary Committee. He also stated that 1,000 copies of this document had been forwarded to different parts of the country, and that advertisements calling attention to the matter had been inserted in papers connected with agriculture. The following are the names of the Committee included in the first list:—

Mr. J. Brown, Chairman of the London Farmers' Club.  
 Mr. C. S. Read, M.P., Honingham, Norfolk.  
 Mr. Pickering Phipps, M.P., Northampton.  
 Hon. E. Coke, Longford Hall, Derby.  
 Mr. James Howard, Clapham Park, Bedford.  
 Capt. Heaton, Worsley, Manchester.  
 Major Dashwood, Kirtlington, Oxford.  
 Rev. L. Wood, Singleton, Lancashire.  
 Mr. Charles Howard, Biddenham, Bedford.  
 Mr. Fiulay Dun, Hanover Square, London.  
 Mr. R. Leeds, Castleacre, Norfolk.  
 Mr. J. Duckham, Ross, Herefordshire.  
 Mr. J. K. Fowler, Aylesbury.  
 Mr. W. E. Bear, Thorpe, Essex.  
 Mr. Joseph Martin, Littleport, Cambs.  
 Mr. J. F. Crowther, Mirfield, Yorkshire.  
 Mr. Lewis Curtis, Chatteris, Cambs.  
 Mr. J. Linton, Westwick Hall, Cambs.  
 Mr. C. Masters, Saddlebow, King's Lynn.  
 Mr. T. Rose, Melton Magna, Norfolk.  
 Mr. George Street, Maiden, Beds.  
 Mr. F. Street, Somersham Park, St. Ives.

Mr. Street then read a letter written by Captain Heaton on behalf of the Earl of Ellesmere, in response to an invitation to his lordship to become President, in which he said, "I am desired by Lord Ellesmere to inform you that he has great pleasure in accepting the office of President of the Shire Stud-Book Association."

The Honorary Secretary then said, that knowing the interest Lord Dunmore had taken in the formation of the Clydesdale Stud-Book Association, he wrote to his lordship, asking him to be kind enough to allow the Secretary to forward to him the rules, &c., of that Association, and that he had received the following reply:—

Windsor Castle, March 26.

DEAR SIR,—Stud-Book for Shire-bred Horses—I shall be only too happy to give you any assistance in furthering the object you have in view, and with that view I have written to our Secretary, Mr. Dykes, 194, Vincent-street, Glasgow, instructing him to send you a copy of our Memorandum of Association, Rules, Regulations, and Bye-laws for your perusal. In forming the Clydesdale Horse Society, I commenced by enlisting the support and co-operation of landed proprietors interested in agriculture, and I collected by personal canvass over 100 names. Each of those gentlemen I called Life Governors, and they gave in donations of £10 as Life Governors and 10s. entrance fee into the Society. I then had £1,000 to work upon, and immediately secured the services of Mr. Shepherd (Messrs. Harward and Shepherd, Solicitors, Stourbridge), who had worked our Shorthorn Society, in the formation of which I also took a prominent part. If you think of having Life Governors at 10 guineas—and I strongly advise you to—I shall be glad to become one. With regard to your question as to Secretary's salary, it is difficult for me to give you a decided answer, as it depends so entirely on what his work is to be, and where. You have to consider—

1st. In what town your registered office is to be, and whether your Secretary will have to give all his time to the Society or not.

2. Whether you publish a retrospective volume for stallions foaled up to a certain date, say 1st January, 1875, and going back to the early part of this century. This I consider more than necessary; in fact it is indispensable, for it will be from that retrospective volume alone that you can make up your pedigrees for mares and their produce for later volumes with any degree of certainty as to the authenticity of such pedigrees. When breeders begin sending in names of stallions for registration you will find no doubt that there have been dozens of Honest Toms, but probably only one celebrated one; therefore when your stallions in the retrospective volumes are numbered there will be the one Honest Tom, say (212), bred by so and so, and his pedigree, and probably a series of other Honest Toms with their numbers. But when in future vols. you enter a mare with an honest Tom cross in her, any one can tell at a glance if it is the genuine Honest Tom, the great prize-taker (212), or Honest Tom unknown to fame (325), say.—I am working at the retrospective vol. of the Clydesdale Stud-Book alone. It is my own idea, and I am editing it at my own expense, and make it a present to the Society. I have collected upwards of 1,400 horses, pedigrees

and I have no hesitation in saying that without it we could do nothing for subsequent vols. We pay our own Secretary £135, and we pay £75 for an office. We have now a Clerk at £50 besides. If there is any further information that I can give you, I shall be always glad at any time to do so.

I remain, yours faithfully,

Frederick Street, Esq.

DUNMORE.

Mr. F. Street also read a letter from Mr. Hermann Biddell, relating to the Suffolk Stud-Book Association, entering into various details, and the following one from Mr. Wood:—

Singleton Vicarage, Kirkham, Lancashire, March 25.

DEAR SIR,—I regret very much that your meeting is fixed for a Monday, for my professional engagements on the previous day put it out of my power to reach London in time to be present. Your movement has all my sympathies. I believe it to be a most important one, and I trust that the opportunity now afforded by the recent discussion at the Farmers' Club for the establishment of a Stud Book will be turned to good account. It is a subject to which I have given much thought and attention during the last few years. I will not waste time in discussing the desirability of such a work; that is fully established by the expressed opinion of many speakers at your meeting, and I believe is fully shared by the most important breeders in all parts of England. The difficulty will be in deciding on the *principle* upon which the first volume of such a work could be compiled, and, in my opinion, that difficulty will be mainly found, not in the scarcity, but in the copiousness of the material that would be offered. We in the present day, are in a very different position, and a far more favourable one for arriving at the truth of the pedigree of any animal of note than the originators of the Stud Book for Thoroughbred Horses or the Herd Book for Shorthorns. We have the records of all the most important agricultural shows in England for the last 20 years to refer to, as a safeguard to a certain extent against imposition, as a guarantee of the correctness of the pedigrees of any animals that have been exhibited at those shows, and I think this may be made a most important instrument in the hands of the Committee. My own opinion is that the value and future usefulness of this work will largely depend on the care that is taken in the compilation of the first volume; this satisfactorily accomplished, the rest will follow in an easy train. I do not think a safer principle could be adopted for qualification for entry in the first instance than a reference to the winners of prizes—male and female—at the principal shows in England for the last ten, fifteen, or even twenty years. I would make those winners the starting point from which our work began, and every animal that could trace direct descent from them should be entitled to admission into the first volume of the Stud Book. The committee must have in their hands some security against false pedigrees or the work would be a snare and an encouragement to falsehood; and I know not through what other channel than the records of the show-yard *reliable* information could be obtained. I know full well that this principle will meet with much opposition and may be the means of excluding some valuable animals, but an indiscriminate entry at the will of owners would be a far greater evil. A work stated on this limited scale would in a very short time assume very large proportions; for whereas the breeding of thoroughbred horses is limited to a comparatively small number, the breeding of cart horses is in the power of every farmer. Many details will have to be considered which I think it would be impossible for

a council or general committee to deal with, and I would suggest that a small committee of practical men, say five or seven, should be appointed to prepare materials to submit from time to time to the general committee, and a fund should at once be raised for the payment of their travelling and hotel expenses. I think it a question whether London is the best quarters for the preliminary work. I should say some town in the Midland Counties, such as Birmingham or Derby, would be more central. I cannot close this letter without expressing my perfect coincidence with your remarks on the weakness of the prize list issued by the Royal Agricultural Society. The breeders of English draught horses never received at the hands of that Society the encouragement they had every right to look for; this year they are almost left out in the cold. Until the members generally have a voice in the election of the council I fear there is little prospect of amendment. Could you adopt a better name than a Stud Book for the "English Draught Horse?" Pardon my expressing my views at such a length; if anything I have written is of the smallest practical value in helping the good work pray use it as you think best.

Yours truly,

Frederick Street Esq.

LEO. CHAS. WOOD.

The following letter was subsequently read from Mr. Reynolds, of Liverpool, who, the Hon. Secretary observed, had had a larger experience in reference to such matters than almost any one else.

Municipal Offices, Liverpool, 14th March.

DEAR SIR,—The fact of having read a notice in *The Field* of a paper presented by you to the Farmers' Club, upon the management of cart horses, must be my apology for writing this letter to you. I am gratified to learn that as a result of your paper it is projected to form a Society and to publish a stud book for shire horses. You may not be aware that about twelve months ago I wrote to *The Field* advocating that step and have felt considerable disappointment that the project did not appear to meet with encouragement. I sincerely hope that now the subject has been taken up it will be carried to a successful issue; indeed, I had determined it should do so, and for a long time I have been engaged in collecting and arranging in tabular form the pedigrees of cart horses, which I intended to publish as an initial volume of a stud book. I have found the task one of considerable magnitude, and have spent a great proportion of my leisure time upon it. It is a work too extensive to be undertaken by one man, and I shall be glad to place the results of my labour at the service of the Societies' Committee. I have upwards of 1,000 horses, pedigrees, ranging from the commencement of the present century to last season. I am afraid my business engagements will prevent my being present at the proposed meeting in London on April 1st, and I shall wait with anxiety to know the results which possibly you will favour me with in due course, and if in the meantime you desire further information as to what I have done I shall be glad to communicate with you. Amongst my friends in this district I am sure I can, if desired by your Committee, increase the numerical strength of the Society.—

I am, dear Sir,

Faithfully yours,

Mr. F. Street.

RICHARD REYNOLDS.

On the motion of Mr. C. S. READ, seconded by Mr. W. WELLS, the minutes of the last meeting were confirmed.



The Earl of Ellesmere having been elected President of the Association, Mr. Brown thereupon vacated the chair, and was succeeded in it by his lordship.

The PRESIDENT said, in taking the chair, he wished to thank the meeting for the honour which had been conferred upon him, and to say how proud he was of occupying the position of President. The letter from Lord Dunmore which had just been read showed what an amount of trouble his lordship took in forming the Clydesdale Association. He was afraid that he could not give as much time, and he certainly did not possess the same powers, but he could only say that he would do his best to promote the success of the Association.

The next business on the Agenda being that of choosing a permanent title for the Association,

The PRESIDENT, alluding to the title adopted temporarily, said it seemed to be rather doubtful what was the exact meaning of "Shire-bred horses," and he had really not sufficient knowledge to define the meaning of the term. Perhaps some gentleman was prepared to make a proposal on that subject.

Mr. JAMES HOWARD said, having taken it upon himself to correspond and confer with a great many persons who felt interested in the matter, he had found that the title which was most generally approved was "The Old English Shire Horse Stud-Book Association." That title had the recommendation of carrying with it the weight of antiquity, and as they were going to establish a stud-book which would give the pedigrees of horses, that was an important point. Shire horses had existed for many generations as a distinct breed.

Mr. C. S. READ, M.P., said he strongly objected to the word "Shire" being retained. In Norfolk they had three or four distinct breeds which would not be included in the word "Shire." He would prefer as the commencement of the title "The Old English Cart Horse."

Mr. T. BROWN said he also objected to the title suggested by Mr. Howard. He did not know what it meant, or whether or not it would include horses bred in the fens. He strongly approved of the formation of an Association for cart horses, but he thought the title should be wider. He did not see why there should not be a stud-book for all cart horses.

Mr. G. STREET hoped that Mr. Howard would assent to the words "The Old English Cart Horse." He objected to the words "Shire-horse," because although it was known to those who took an interest in their national and other shows, it was not universally known among farmers. He did not believe it was known to 50 per cent. of the farmers of this country, and he ventured to say that 80 or 90 per cent. of Englishmen would not at all understand it. Another objection was which there appeared to be very good cart horses which were bred out of the shire. Until he read his brother's paper the other day he never knew what was meant by a "Shire-bred horse."

Mr. F. STREET said it appeared from his correspondence that the term "Shire" was very generally known, and he believed that nine-tenths of the dealers in London

knew the horses to which it applied by no other name. He thought the word "English" might be omitted, but he could conceive no better title than "Shire-bred horses" or the "Draught-horse." Shire-bred horses were to be found in Scotland and he did not wish the horses in the book to be confined to either country.

Major DASHWOOD said Mr. Raymond, to whom he mentioned the matter, said he disapproved of the term "Shire-bred horses," and suggested the words "The English Cart-horse."

Mr. LURTON said he had met with several people who did not appear to understand the term "Shire-bred," and one gentleman said he never heard of such a thing, (Laughter).

Mr. W. WELLS thought the question depended very much upon whether there were any other cart-horses whose existence was likely to interfere with the use of the word "Shire-horses," and as they would not like to see a separate stud-book for other cart horses, he would prefer the words "The Old English Cart-horse."

Mr. CHARLES HOWARD said he felt that the term "Shire-bred" was of too rigid a character. What they all want was to improve the race of cart-horses, which were fit for the whole kingdom, and that being the case he would prefer the words "The Old English Cart-horse." He thought that the adoption of the term "Shire-bred" would create a feeling which would tend to deprive them of support. He knew as a fact that there were good Essex bays that might well be included, and if the term "Shire-bred" was adopted they would not be admitted into the Stud Book. He wanted the Association to open its arms so widely as to embrace the whole country.

The Hon. E. COKE said they must not forget the retrospective objections which might be urged by gentlemen who took special interest in the Clydesdale horse. One of those gentlemen had appropriated to himself the title of "the cart-horse." They also had the "cart-horse," and why did they not adopt the title of "the English Cart-horse."

A gentleman observed, that it appeared to him that if they adopted the title just suggested, it would not follow that Clydesdale horses and Suffolk horses could not be entered in the book.

The CHAIRMAN said, some gentlemen seemed to fear lest they should not open their arms widely enough. He did not think that if the words "cart horse" or "draught horse" were adopted there would be any difficulty with Clydesdale or Suffolk horses, because it would be for the committee to consider on what terms horses should be admitted to the Stud-Book. He thought that would meet any difficulty which might arise between the Association and the Clydesdale men and the Suffolk men. For his own part he was inclined to advocate the thing being made as open and wide as possible.

Mr. JOSEPH MARTIN said when he entered the room he was in favour of sticking to the Shire-horse, but he

now concurred in the opinion that the Association should be as wide as possible.

Mr. JAMES HOWARD said he thought it was very desirable that they should endeavour to be unanimous at starting (cheers), and as there appeared to be a strong objection to the word "Shire-bred horses" he would substitute for it the words "Old English Cart-horse," and he hoped that that would remove all difficulty. That was not a new term, being found in the works of most of the old authors who had written on the subject, and it had the advantage of being euphonious; he moved therefore that the title of the Association should be "The Old English Cart Horse Stud-Book Association."

Mr. C. S. READ said he had great pleasure in seconding that proposal, and he was very glad to find that his friend Mr. James Howard was so conservative, (laughter).

Mr. T. BROWN (Downham, Norfolk) said that title sounded too long. The Thorough-bred Stud Book was called "*The Stud-Book.*" He did not wish their title to be quite so short or aristocratic as that, but he thought they might very well call it "The Cart Horse Stud-Book Association," and he would move that that be the name.

Mr. MORTON seconded the amendment.

On a division the numbers were, for the amendment 18, against it 13.

It was then agreed that the decision of the question should be left to the President. Mr. J. HOWARD concurred in this arrangement, and the result was that his lordship declared himself in favour of the title, "The English Cart-Horse Stud Association."

Major DASHWOOD then moved, "That the Society shall consist of life members paying ten guineas, and of annual members paying one guinea."

The resolution was then adopted.

Mr. F. STREET expressed his confidence that there would soon be 500 annual members.

Captain HEATON thought that the Council list did not sufficiently represent the country, our great object being to get as many persons as possible to take an interest in the Association, and proposed the addition of the names of Mr. Henry Overman, Mr. Garrett Taylor, Mr. William Wells, and Mr. Reynolds, of Liverpool, observing that the latter gentleman, who was a member of the Corporation of Liverpool, had tabulated the pedigrees of a number of horses which had lived during the last 100 years, and probably knew more about the history of cart horses than almost any other man living. He would also suggest the name of Mr. Townley Parker for the Council.

A discussion ensued, in which it was explained that the list of the Council which had been published was not a final one, and Captain HEATON'S proposal was withdrawn on that understanding.

On the motion of Mr. James HOWARD, seconded by Mr. J. K. FOWLER, it was resolved that a meeting of the members of the Association should be convened for the first Monday in May, at the same place.

Mr. F. STREET agreed, at the request of the meeting, to continue to act for the present as honorary secretary, and the President, Mr. J. Howard, Captain Heaton, and Mr. T. Brown were appointed as a temporary committee to act with Mr. Street in making the necessary preliminary arrangements.

On the motion of Mr. C. S. READ, M.P., seconded by Mr. J. HOWARD, a vote of thanks was given to the Earl of Ellesmere for taking the chair on that occasion, and for accepting the office of President.

## AGRICULTURAL SOCIETIES.

### ROYAL OF ENGLAND.

MONTHLY COUNCIL, Wednesday, April 3rd, 1878.

Present—Col. Kingscote, C.B., M.P., President, in the chair; Earl Cathcart, the Earl of Lichfield, the Earl of Powis, Lord Chesham, Lord Vernon, the Hon. W. Egerton, M.P., Sir T. Dyke Acland, Bart., M.P., Sir M. Lopes, Bart., M.P., Sir A. K. Macdonald, Bart., Mr. Aveling, Mr. Aylmer, Mr. Booth, Mr. Bowly, Mr. Cantrell, Mr. Chandos Polc-Gell, Mr. Davies, Mr. Dent, Mr. Druce, Mr. Evans, Mr. Frankish, Mr. Brandreth Gibbs, Mr. Howard, Mr. Leeds, Mr. McIntosh, Mr. Martin, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Rawlence, Mr. Sanday, Mr. Shuttleworth, Lieut.-Col., Turbervill, Mr. Jabez Turner, Mr. Wakefield, Mr. Wells, Mr. Whitehead, Mr. Wilson, Mr. Wise, Professor Simonds, and Dr. Voelcker.

The following new members were elected :—  
 Arkwright, William, of Sutton Scarsdale, Chesterfield.  
 Birch, Robert W. P., of 3, Westminster-chambers, S.W.  
 Blundell, Fredk. J., of 24, Portland-street, Southampton.

Chandler, Cornelius, of the Vails, Haresfield, Stonehouse.  
 Dalton, George, of Soho Foundry, Leeds.  
 Darley, Mrs., of Barmoor, Kirby Moorside, York.  
 Davis, James Charles, of Tregonan St. Ewe, St. Austell.  
 Fry, James Collings, of Oldfield, Marshfield, Chippenham.  
 Golden, William, of Huddersfield.  
 Harding, Benjamin, of Colehurst Manor, Market Drayton.  
 Hatt, Richard, of Queensford, Dorchester, Wallingford, Oxon.  
 Hoddinott, Francis, of Waterhatch Farm, Winchcombe.  
 Hylton, Lord, of Ammerdown Park, Radstock, Bath.  
 Inskip, Wickham, of Caldecote, Baldock.  
 Jeffries, Robert, of Ormskirk.  
 Nicholl, Mrs., of Merthy Mawr, Bridgend.  
 Parnell, Alfred, of Walls Court, Stapleton.  
 Peck, John Henry, of Wigan.  
 Platt, William, of Wigan.  
 Rickards, Robert, of Castleford, Cardiff.  
 Robinson, James, of West Pinchbeck, Spalding.  
 Rush, Joseph A., of East Haddon, Northampton.  
 Seddon, R. B., of the Firs, Hindley, Wigan.  
 Simpson, Henry L., of South Lea Farm, Datchet, Windsor.  
 Slater, George, of Park Farm, Dalton-in-Furness.

Slater, William, of Park, Dalton-in-Furness.  
 Vernon, Arthur, of High Wycombe.  
 Watney, Norman, of Queenswood, Beddington, Croydon.  
 Wyer, Richard Henry, of Wyke, Metch Wenlock, Salop.

FINANCES.

Colonel KINGSFOTE, M.P. (Chairman), 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, and Co., the Society's accountants, and found correct. The balance in the hands of the bankers on March 31 was £1,239 6s. 5d., and £3,000 remaining 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 £482. The Committee recommended that the names of thirty members, whose addresses cannot be found, or whose subscriptions from other causes are not recoverable, be struck off the books. Arrears, amounting to £184, have been recovered by Messrs. Garrard, James, and Wolfe, at a cost to the Society, including two County Court cases (in both of which the Society was successful), of £30 9s. 6d. The increased and still increasing operations of the Society have led the Committee to consider whether Mr. Jenkins is adequately remunerated for the additional labour and responsibility involved in the performance of the duties of Secretary and Editor, and they recommend, as an acknowledgment of the high sense entertained by the Council of the ability and energy shown by Mr. Jenkins in the performance of those duties, that an addition of £200 per annum be made to his salary.

This report was adopted.

JOURNAL.

Mr. DENT (Chairman) reported the recommendations of the Committee with reference to obtaining reports on the Paris Exhibition, and on the exhibition of live stock and implements, and the trials of sheaf-binders in connection with the Bristol Meeting. The Editor has suggested a list of subjects having reference to French agriculture, which were deserving of notice in the *Journal*, and the Committee recommend that he be empowered to obtain the necessary information, and to write a series of papers on such subjects. This report was adopted.

On the motion of Mr. DENT the Council granted a vote of 100 guineas to defray the expenses of a report on the agricultural features of the Paris Exhibition.

CHEMICAL.

Mr. WELLS (Chairman) reported that the Committee had received with regret a communication from Mr. Lawes, informing them of his intention to retire from taking any part in the conduct of the experiments at Woburn, and they recommended that the thanks of the Council be given to Mr. Lawes for the trouble he had hitherto taken in the conduct of these experiments. In consequence of the retirement of Mr. Lawes they had drawn up, and now recommended for adoption, a memorandum in connection with the management of Crawley Farm, and the carrying out of the experiments at Woburn,

In reference to the Committee's report, presented to the Council at their last meeting on the subject of the establishment of a laboratory on the Society's premises, they recommended its adoption, subject to the approval by the Council of the plan and specifications now produced, and in case of its approval they asked that the Secretary be authorised to refer the plan to the district surveyor and the sanitary authorities.

Mr. WELLS, in moving the adoption of this report, paid a tribute to the exertions which Mr. Lawes had made in establishing and carrying out the existing scheme of experiments at Woburn, and stated how great a loss the Committee felt they should sustain by Mr. Lawes's withdrawal. The Committee, however, felt that it would be their duty to endeavour to render the experiments as reliable as possible in the future, notwithstanding the loss of Mr. Lawes's services.

The Earl of LICHFIELD, in seconding the adoption of the report, dwelt especially upon the vote of thanks to Mr. Lawes, and stated that he quite agreed with the Chairman of the Committee in his expression of the great regret with which the Committee had received Mr. Lawes's resignation, and of the disappointment that they had felt that the efforts of the leading members of the Committee to induce Mr. Lawes to reconsider his decision had proved unavailing. The loss to the Society of his great and well-known experience in these matters could not be over-rated, but at the same time he felt that the Society could place reliance upon the skill and knowledge of their own chemist, whom he firmly believed would be able to conduct these experiments to a successful issue.

This report having been adopted, it was moved by Mr. AVELING, seconded by Mr. CHARLES HOWARD, and carried unanimously, that Sir A. K. Macdonald, Bart., be placed on the Chemical Committee and the Woburn Sub-Committee.

The Committee presented the following quarterly report, which they had received from the Society's consulting chemist; and, on the motion of the Chairman, it was ordered to be published in the agricultural newspapers:—

1. A sample of cake, sold as the "best Pure Linseedcake that can be made," was sent to me for analysis and opinion on the 15th of January, 1878, by Mr. Martin Pate, Ely, Cambridgeshire, and was found to have the following composition:—

Moisture .....	9.94
Oil .....	10.25
*Albuminous compounds .....	26.56
Mucilage, starch, and digestible fibre .....	37.14
Woody fibre (cellulose) .....	9.70
Mineral matter (ash) .....	6.41
	100.00
*Containing nitrogen .....	4.25

The cake was poor in oil, and had been made from anything but clean linseed, for it was contaminated with buckwheat, broken corn, and small weed seeds. In this and the two following cases no further information could be obtained in

answer to the usual inquiries respecting the sellers of the cakes, &c.

2. Mr. E. C. Clarke, Manor Farm, Haddenham, Thame, Oxon, sent a sample of linseedcake for an opinion as to its genuineness. The examination showed that it was not a genuine linseedcake, but an adulterated or inferior compound linseedcake, containing, amongst other ingredients, in addition to linseed, cotton cake and locust bean meal.

3. A sample of oilcake was sent by Mr. Josh. Mackinder, Peterborough, who specially requested me to test it for the presence of rape or other seeds.

The cake, which was branded [L] Pure, had the following composition :—

Moisture .....	8.01
Oil .....	11.15
*Aluminous compounds .....	21.44
Mucilage, starch, and digestible fibre .....	37.52
Woody fibre (cellulose) .....	11.03
†Mineral matter (ash) .....	7.85
	100.00
*Containing nitrogen .....	3.91
†Including sand .....	2.80

This cake was made from dirty linseed, containing, in addition to nearly 3 per cent. of sand, rape, wild mustard, polygonum, and numerous other small weedseeds, which usually occur in badly-screened linseed. Moreover, it was an old stale cake, slightly mouldy at the edges, and had a disagreeable rancid smell like old oil paint, and certainly was not a cake which should have been sold as pure linseedcake and branded [L] Pure.

4. In the last quarterly report reference was made to a sample of linseedcake, sent by Mr. Lister, Upper Morton Grange, Retford, which was sold as pure, and found by me to be an inferior linseedcake made from badly-screened linseed.

A letter has since been received from Mr. Lister, who informs me that the matter has been settled, he having obtained a reduction in the price nearly to what I stated should be made by the dealer—a reduction, Mr. Lister says, he should not have received had it not been for my analysis and report.

I have also to direct attention to the occurrence of castor-oil beans, which I detected by the microscope, in a sample of a compound feeding-cake that proved injurious to cattle.

6. The following is an analysis, showing the composition of a sample of a "Meat and Bone Manure," sent by Mr. Clement Baguley, The Oldfields, Pulford, Wrexham :—

Moisture .....	26.17
*Organic matter .....	23.96
Oxide of iron and alumina .....	8.73
Phosphate of lime.....	8.7
Carbonate of lime.....	5.68
Alkaline salts and magnesia .....	5.39
Insoluble siliceous matter (sand) ...	29.20
	100.00
*Containing nitrogen.....	1.98
Equal to ammonia .....	2.41

The manure was thus very wet, and contained 29 per cent. of sand, and about 20 per cent. of other mineral matters of no intrinsic fertilising value. It yielded only 2½ per cent. of ammonia, and although sold as a "Bone and Meat Manure" did not contain quite 1 per cent. of phosphate of lime. It was

scarcely worth £2s. 2s. a ton. Mr. Baguley bought 10 tons, at £5 10s. per ton, from the manufacturer. Not finding the bulk, on delivery, equal to the sample by which it was bought, Mr. Baguley went to the works, and wrote to me that he was satisfied with the appearance of things, and finally arranged to pay according to my valuation. Mr. Baguley also put into my hands the following letter, which he had received from the vendors :—

Dear Sir,—Yours of the 8th instant is only to hand this morning. If the sample was fairly taken, the manure is certainly not worth what I have charged you for it.

There is no mistake in the article sent that I can find out, and I cannot account for its inferiority unless the fact of its being the face of the heap, the first sent out, and the long exposure to the atmosphere at the doorway, may account for it in some way.

Its not having been put through the disintegrator, and, through being screened, possibly the richer part and pieces of bone may have been left out, may also have something to do with it.

However, as the manure as supplied is not of the value charged—that is, if sample sent to Dr. Voelcker fairly represents the bulk—and as Dr. V.'s valuation is below what I can sell it at to manure-makers. I think the fair course for both parties will be for you to return it to me, and to charge me with all payments you have made, and I will replace it with some of what I am now sending out.

I shall be glad if you will call upon me next time you are in Liverpool, and I will let you see what manure-makers are paying for it, and also let you see the article now we have got half-way through it.

Was sample taken from each or only from some of the bags ?  
—Yours truly, \* \* \*

C. Baguley, Esq.

The Oldfields, Pulford, Wrexham.

The preceding letter was accompanied by the following note addressed to me :—

The Oldfields, Pulford, Wrexham, 14, 3, 78.

DEAR SIR,—In answer to your last, I beg to enclose filled up form, likewise Mr. \* \* \* own explanation, which I am inclined to believe.

I had sown the manure before receiving this, on the agreement that he returned the deficiency, if any, in value between price paid and your valuation. He now writes to say that he has forwarded 2 tons blood manure, value £9 per ton, which he thinks will amply repay the deficiency. It is possible that I may ask your opinion of that same.

I remain, yours respectfully,

Dr. Voelcker.

CLEMENT BAGULEY.

7. A sample of "Nitrophosphate Manure" for grass, sent by Mr. George Wigham, Laverick Hall, Cranlington, sold at £9 a ton less 12s. for cash, on analysis was found to have the following composition :—

Moisture ... ..	17.29
*Organic matter ... ..	9.15
Phosphate of lime ... ..	1.61
Oxide of iron and alumina ... ..	4.66
Carbonate and sulphate of lime ... ..	2.49
Alkaline salts and magnesia ... ..	2.85
Insoluble siliceous matter (sand) ... ..	43.95
	100
*Containing nitrogen ... ..	.49
Equal to ammonia ... ..	.59

This manure contained only about 1½ per cent. of phosphate of lime and less ammonia than common farm-yard manure. It contained 44 per cent. of sand, much carbonate of lime and other earthy matters of no intrinsic fertilizing value and was scarcely worth as a manure 15s. per ton.

Mr. Wigham bought three tons at £9 a ton, from the Ceres Nitrophosphate Company, Ceres Works, Stratford, London, E., payment to be made to the order of Mr. Otto Schleicher.

The Ceres Nitrophosphate Company's circular embodies printed certificate of analysis by Mr. F. Sutton, analytical and consulting chemist to the Norfolk Chamber of Agriculture, showing the following composition of the Company's grass manure:

Moisture	...	...	...	...	13
Organic matter	...	...	...	...	35.10
Biphosphate of lime	...	...	...	...	8.70
Equal to tribasic phosphate of lime	...	...	...	...	13.70
<hr/>					
Insoluble phosphates	...	...	...	...	3.91
Sulphate of lime and alkali	...	...	...	...	13.57
<hr/>					
Nitrogen	...	...	...	...	2.52
Equal to ammonia	...	...	...	...	3.06
Equal to sulphate of ammonia	...	...	...	...	12.24

(Signed) FRANCIS SUTTON.

The manure was obtained through Mr. Joseph Armstrong Herdman, High Horton, Cramlington, a farmer's son, who in answer to an advertisement in one of the Newcastle papers was appointed agent to the Company a short time ago.

The invoice was sent to Mr. Wigham direct from the Ceres Nitrophosphate Company's Works, Warlow Road, Stratford, E., with the following notice:—

Our forwarding clerk omitted to pay the carriage here, and we should therefore take it as a favour if you would kindly do so at your end, and deduct it from invoice.

Yours truly,  
CERES NITROPHOSPHATE CO.,  
OTTO SCHLEICHER.

Mr. Wigham had to pay £4 2s. for carriage—that is a great deal more than the three tons of this so-called grass-manure was worth.

8. Another sample of grass-manure, sold at £8 10s. a ton, by the same Ceres Nitrophosphate Company, was sent to me by Mr. William Bannister, farmer, Westdean, Lewes.

It had the following composition:—

Moisture	...	...	...	...	18.10
*Organic matter	...	...	...	...	7.15
Phosphate of lime	...	...	...	...	1.04
Oxide of iron and alumina	...	...	...	...	4.77
Carbonate and sulphate of lime	...	...	...	...	24.20
Alkaline salts and magnesia	...	...	...	...	2.21
Insoluble siliceous matter (sand)	...	...	...	...	42.53
<hr/>					
					100.00
*Containing nitrogen	...	...	...	...	.44
Equal to ammonia	...	...	...	...	.53

A comparison of the composition of the samples sent to me by Mr. Wigham with that of the sample sent by Mr. Bannister shows that both samples may be considered practically to be the same. Like the sample sent by Mr. Wigham, the sample analysed for Mr. Bannister is scarcely worth 15s. per ton.

Mr. Bannister obtained the manure through the Ceres Nitrophosphate Company's agents, Messrs. J. and N. C. Bull, Newhaven, Sussex, who, Mr. Bannister informs me, were only appointed a few months ago, and who likewise state that they have no liability, not being allowed to receive payment, and whose commission, by their own confession, is £1 per ton.

Having had previous transactions with Messrs. Bull, and being much pressed for an order, Mr. Bannister at last consented, on condition that the manure should be analysed.

The invoice was sent to Mr. Bannister direct from the office of the Ceres Nitrophosphate Company, Warlow Road Stratford, and curiously enough, with the same intimation which Mr. Wigham received, namely:—

Mr. W. BANNISTER.

DEAR SIR,—Our forwarding clerk has omitted to pay the carriage here, and we should therefore be glad if you would kindly do so at your own end, and deduct it from invoice.—Yours truly,

CERES NITROPHOSPHATE CO., OTTO SCHLEICHER.  
GENERAL BRISTOL.

Mr. SHUTTLEWORTH reported that the improvement of the road by the "Black Boy," leading to the show-yard, will be completed by the time of the show; that the Bristol Local Committee will not be disposed to incur the expense of a band: and that the goods manager of the Midland Railway has been requested to send to the Secretary a tariff of charges for the conveyance of stock and implements from the Clifton Down Station to the showyard. The Committee recommended that the grand stand be 300 ft. long and five seats in depth, with entrance at each end; and that the charge for a daily ticket to the grand stand be one shilling. This report was adopted.

JUDGES' SELECTION.

Mr. BRANDRETH GIBBS presented a list of gentlemen whom the Committee recommended should be invited to act as judges of implements and stock at the Bristol meeting. The recommendation of judges for Devon Longwools, Somerset, Dorset, Dartmoor, and Exmoor sheep, as well as for butter and cheese, had been referred to the Bristol Local Committee. This report was adopted.

HOUSE EXTENSION.

Earl CATHCART (chairman) reported that the committee had had under their consideration the proposal to build a laboratory at the back of the Society's house and the suggestion that the Society should obtain more commodious premises than they now occupy. They recommended that, pending the result of the proposed inquiry of the local authorities as to the practicability of building the laboratory, the consideration of the question referred to them by the Council be deferred. This report was adopted.

SHOWYARD CONTRACTS.

Mr. BRANDRETH GIBBS reported that the contractor had been instructed to put up notices on the boardings of the showyard at Bristol to the effect that the Society would not be responsible for any injury arising to persons walking, riding, or driving about the showyard during the progress of the works. The Committee

recommend, that the Surveyor be instructed in several matters of detail relating to the Bristol showyard; and that the Secretary be empowered to make the usual contracts for the supply of refreshments. The Committee had received the report of the Surveyor, which showed that the progress of the showyard works was very satisfactory. This report was adopted.

The following letter from the private secretary to the Lord Mayor, conveying resolutions passed at a public meeting held at the Mansion House, on March 13th, was laid before the Council:—

The Mansion House, London, E.C.  
March 22, 1878.

DEAR SIR,—I have the honour to communicate to you, for the information of the Royal Agricultural Society of England, that, at a meeting held here on the 13th inst., under the presidency of the Lord Mayor, it was unanimously resolved that it was desirable to promote the holding of a great agricultural exhibition in London next year under the auspices of the Royal Agricultural Society of England. At the same time a committee of noblemen and gentlemen was formed to carry out that object, to collect subscriptions, and, generally, to co-operate with your Council. That Committee has since met at the Mansion House, and appointed some of their number to act as an executive body, the Lord Mayor being its treasurer and Chairman. They have also determined to leave to the discretion of the Royal Agricultural Society the question of the site of the proposed exhibition.

The Lord Mayor has made a public appeal, through the Press, for co-operation and support in the work of the Committee, and he has every confidence in the success of the movement.

The Mansion House Committee will look to your Council for advice and assistance in carrying out the objects entrusted to them, and will be glad to adopt any suggestions which the Royal Agricultural Society may make to ensure the successful result anticipated.

I am, dear Sir, yours faithfully,

WILLIAM J. SOULSBY,  
Secretary.

H. M. Jenkins, Esq.

A letter was read from Mr. FLEMING, thanking the Council for his election as an honorary member of the Society.

A letter from the HOME SECRETARY, inquiring what had been the effect of legislation in reference to the adulteration of grain, was referred to the Seeds and Plant-Diseases Committee.

A letter was read from Mr. SMITH, of Woolston, on Steam Cultivation.

THE PRESIDENT reported that the following noblemen and gentlemen would represent the Society at the Agricultural Congress to be held at Paris from the 10th to the 20th of June inclusive.

The President.	Mr. James Caird, C.B., F.R.S.
Duke of Bedford.	Mr. J. D. Dent.
Earl Cathcart.	Mr. Claudos-Pole-Gell.
Earl Spencer.	Mr. Brandreth Gibbs.
Lord Chesham.	Mr. W. Wells.
Hon. W. Egerton, M.P.	The Secretary.
Sir A. K. Macdonald, Bart.	

The following list was prepared of members of Council who retire by rotation, but are desirous of re-

election, showing the number of attendances at Council and Committees of each of such members during the past two years, in accordance with the following section of Bye-law No 13:—

A list of the members of Council who retire by rotation, but are desirous of re-election, showing the number of attendances at Council and Committee meetings of each of such members during the past two years, shall be prepared at the April Council, and published immediately in at least two agricultural papers. Any two governors or members may nominate in writing to the Secretary before the first day of May following a member or members of the Society desirous of being nominated for election on the Council; these nominations, with the names of the proposer and a seconder, shall also be added to the previously published list, and the entire list shall be published in the same agricultural papers immediately after the May Council, and be also printed for the use of members at the general meeting in May.

ATTENDANCE, FROM THE RISING OF THE BIRMINGHAM MEETING IN 1876, TO THE PRESENT TIME.

NAMES.	Mon. Committees.		
	Councils, Total.	No. of Attendances.	
Amos, Charles Edwards, 5, Cedar's Road, Clapham Common, Surrey.....	1	31	5
* Arkwright, J. Hungerford (elected March 7th, 1877), Hampton Court, Leominster, Herefordshire.....	6	3	3
Booth, Thomas Christopher, Warlaby, Northallerton, Yorkshire.....	11	87	69
* Bowly, Edward, Siddington House, Cirencester, Gloucestershire.....	9	32	13
Davies, David Reynolds, Agden Hall, Lynn, Cheshire.....	1	—	—
* Druce, Joseph, Llynsham, Oxford.....	7	9	2
Edmonds, William John, Southrop House, Lechlade, Gloucestershire.....	5	35	10
Egerton, The Hon. Wilbraham, M.P., Rostherne Manor, Knutsford, Cheshire.....	9	42	28
* Frankish, William, Limber Magna, Uleby, Lincolnshire.....	10	44	23
* Hemsley, John, Shelton, Newark, Nottinghamshire.....	11	59	41
Laves, John Bennet, Rothamsted, St Alban's, Hertfordshire.....	1	20	13
Leicester, Earl of, Holkham Hall, Wells, Norfolk.....	2	—	—
Lindsay, Colonel R. Loyd, M.P., Lockinge, Wantage, Berkshire.....	3	19	—
Masten, R. Hanbury, Pendeford, Wolverhampton, Staffordshire.....	6	43	12
Musgrave, Sir R. C. Bart., Edenhall, Pearch, Cumberland.....	4	30	4
Odams, James (elected March 13th, 1878), The Grange, Bishop Stortford, Hertfordshire.....	—	—	—
* Randall, Charles, Chadbury, Evesham, Worcestershire.....	11	49	30
* Rawlence, James, Balbridge, Wilton, Salisbury, Wiltshire.....	6	9	—
Saunders, George Henry, Wensley House, Bedale, Yorkshire.....	11	53	35
Shuttleworth, Joseph, Hartsholme Hall, Lincoln.....	13	47	34
Straton, Richard, The Duffryn, Newport, Monmouthshire.....	9	38	16
Tutberville, Lieut. Colonel, Pictou, Ewenny Abbey, Bridgend, Glamorgan-shire.....	9	45	31
Welby-Gregory, Sir William Earle Bart., M.P., Newton House, Folkingham, Lincolnshire.....	8	37	21
* Whitehead, Charles, Barning House, Maidstone, Kent.....	7	65	42
Wise, George (elected March 13th, 1878), Woodcote, Warwick.....	—	—	—

\* These gentlemen have attended Special Councils (total 1)

HIGHLAND AND AGRICULTURAL.

The monthly meeting of the directors of this Society was recently held in their chambers, No. 3 George IV. Bridge Mr. Smith, Stevenson Mains, in the chair.

The directors having expressed their deep regret at the loss sustained by the Society by the death of the Right Hon. Sir Wm. Gibson-Craig of Ricecarton, Bart., treasurer of the Society, and of Mr. Elliott Lockhart, of Borthwickbrae, a former member of the Board, it was remitted to the Secretary to draw up resolutions of condolence previous to the next general meeting.

On a letter being read from Mr. Kenneth Mackenzie, C.A., asking the directors to conjoin with him in the office of auditor to the Society the name of his partner, Mr. John Turnbull Smith, C.A., the directors unanimously agreed to the request, and appointed Mr. Smith accordingly.

Copies of the report on the present state of the agriculture of Scotland, arranged under the auspices of the Society, to be presented at the International Agricultural Congress at Paris in June next, were submitted; and the Secretary stated that the copies intended for the Society of Agriculturists of France would be despatched by the earliest post.

The Board resolved to issue the report free to members of the Society, but that those wishing to have the publication must make application to the Secretary, No. 3, George IV. Bridge, Edinburgh.

The Secretary intimated that the annual examination of candidates for the Society's veterinary certificate was fixed to take place on Tuesday and Wednesday the 16th and 17th current, between the hours of ten and four; and that the practical examination would be held in Mr. Buist's auction mart, Lauriston, on Monday the 15th, at 10 a.m., candidates being required to enter their names with the Secretary on or before the 12th current.

The secretary reported that the competition of thoroughbred stallions had taken place at Dumfries on the 20th ult., when the prize had been awarded to Mr. Michael Teenan, Lochside, Dumfries, for his stallion "Loaf Sugar." Letters to the conveners of the counties connected with the show and to the Provost of Dumfries, as to the nomination of the local committee, were submitted and approved of.

The Board approved of letters being addressed to the conveners of the counties in the district of the show in regard to the auxiliary subscription.

At a meeting of the Society's Council on Agricultural Education, held on Wednesday, Mr. John Turnbull Smith, C.A., was appointed joint examiner, with Mr. Kenneth Mackenzie, C.A., in book-keeping and accounts. The report of the examinations was afterwards submitted, from which it appeared that the written examinations were held on Monday and Tuesday, and the oral examination on Wednesday, and resulted in the following passing:—

FOR DIPLOMA.—John Henderson, East Elrington, Haydon Bridge.

Primrose McCrae, Castle Mains, New Cumnock.

William McCrae, Blackhall, Kirkcubrighton, Newcastle-on-Tyne.

John Edward Nonnen, Degeberg, Tidkoping, Sweden.

Robert Wallace, Auchenbrack, Tyron, Thornhill.

John Bramwell, Blackaddie, Sanguhar.

Robert Carr, Felkington, Norham, Berwick-on-Tweed.

John Johnstone Sharp, Leiston, Upper Keith.

FOR FIRST-CLASS CERTIFICATE.—William Malcolm Anderson, Deuchirie, Prestonkirk.

FOR SECOND-CLASS CERTIFICATE.—John Malcolm Aitken, Crieff.

James Gillespie, Half Mark, Corsock, Dalbeattie.

James Spencer Innes, 22, Fettes-row, Edinburgh.

AGRICULTURAL EXPERIMENTS AND MANURE ANALYSIS IN SCOTLAND.

The agricultural experimental spirit in Scotland has not been idle for a year or two back. Three years ago a few leading agriculturists in the north-east, headed by the Marquis of Huntley, having failed to get the Highland and Agricultural Society to move as they wished in the matter, subscribed for about £1,200, and pluckily started five experimental stations in different parts of Aberdeenshire, the crops grown on which have as yet been turnips. Last year, about the time that the Highland Society's scheme for the conduct of two agricultural stations in the Lothians was approaching maturity, the recently-formed Chemical Agricultural Association for Scotland resolved to carry on experiments with the various kinds of artificial manures on a small but carefully-arranged scale. The chemist to the Association, Mr. Falconer King, Edinburgh City Analyst, undertook to conduct the experiments. Accordingly early in 1877 ground was secured at Golden Acre, Inverleith Row, near Edinburgh. Originally it was intended to grow oats on some of the plots, and turnips on the rest. The former, however, owing to the backward season, were abandoned. Five different kinds of artificial manure were employed on the turnips, which were of the purple-top yellow variety, were sown on the 6th of June, and thinned on the 27th of that month. The results of the experiments have been published in Mr. King's annual report just issued to members of the Association, and are as follows:—

Plot.	Manure.	Cost.			Weight of Turnips.		
		£.	s.	d.	T.	C.	Lb.
1	Nothing .....				15	7	2 25
2	{ Peruvian guano, 3½ cwt. ... Dissolved bones, 5 cwt. ... }	4	1	9	20	6	2 11
3	{ Mineral Superphosphate, 7 cwt. ... Sulphate of ammonia, 3 cwt. ... }	4	8	6	18	5	0 26
4	{ M. Superphosphate, 7 cwt. ... Nitrate of soda, 4 cwt. ... }	4	11	6	18	5	0 26
5	Bone-meal, 10 cwt. ....	4	2	6	16	19	0 0
6	{ Bone-ash, 7 cwt. .... S. of ammonia, 2 cwt. ... }	4	3	6	20	9	2 4

The best result so far has been obtained by the use of bone-ash and sulphate of ammonia, which Mr. King says he did not quite expect. This manure was not the cheapest of the various mixtures, but it has evidently been the most efficacious. Pretty close, however, on it came No. 2, composed of Peruvian guano and dissolved bones, but the price in this case was a little higher. The bone-meal alone, as might have been expected, did not yield satisfactorily, but it should tell on the succeeding crops. There is nothing better for putting heart in the land, and giving quality both to grain, root, and grass-crops, than bone-meal, but it of course requires a stimulant, for the first year at any rate. The yield has been the same from nitrate of soda added to mineral superphosphates as from sulphate of ammonia added to the superphosphate, only the price is slightly against the nitrate, because 1 cwt. more

of it was allowed per acre than of sulphate of ammonia. In neither case, however, were the results so good as from bone manures applied in conjunction with more stimulating material. This supports the general experience of Scotch farmers who have not so much faith in mineral superphosphates and nitrate of soda as in bone manures. The plot where we got nothing had a wonderfully good crop. Next year experiments are to be conducted on the plots with the view to test the lasting effect of the various manures.

The land on which the crops were grown is of very equal quality, and was thoroughly trenched in the spring of last year. The main objects of the experiments are to ascertain whether common old manures, such as Peruvian guano and dissolved bones, though dear at first sight, are not, in the end the cheapest article; whether dissolved or undissolved phosphates are best for a root crop; and whether nitrogen, derived from nitrate of soda or sulphate of ammonia, is the best.—*Field.*

## CHAMBERS OF AGRICULTURE.

### CENTRAL.

The ordinary monthly Council Meeting was held recently at the Rooms of the Society of Arts, Adelphi, Sir G. Jenkinson, M. P., the President occupying the chair.

After the usual preliminary business, the meeting proceeded to consider the first report of the Joint Sub-Committee of the Central and Associated Chambers and the Farmers' Club on the Contagious Diseases (Animals) Bill.

Mr. ADKINS moved the following resolution on the Agenda Paper:—"That this Council cordially approves of the Contagious Diseases (Animals) Bill; and, while thanking Her Majesty's Government for their prompt introduction of the measure, trusts that no material alteration may be made in its provisions, and that it may speedily become law." He said he felt very great pleasure in proposing that motion. Looking at the character of the Bill, he thought they would all agree in thanking the Government for bringing forward such a measure; and he felt that the able report of the Joint Sub-Committee comprised all that need be said about its provisions. Under the existing law very great difficulty had been experienced by many farmers in getting licenses necessary for the removal of their animals, and that was a very great drawback to the value of the licensing system.

Mr. T. WILLSON seconded the motion.

Mr. STORER, M.P., agreed with Mr. Adkins as to the difficulty the farmers had experienced in obtaining licenses, but thought that difficulty would now be entirely done away with, and that the views of the Joint Sub-Committee would be met by the proposals of the Government. He would suggest that members of the County Boards about to be established should have power to grant licenses. In his opinion such power should not be placed in the hands of clergymen, because they had not the same kind of experience as agriculturists, and were, therefore, not likely to exercise the same care and judgment.

The resolution was then adopted.

Mr. T. DUCKHAM moved, "That this Council deprecates any attempt being made to exempt from slaughter at the ports animals from certain countries, considering that such a course would greatly increase the risk of importing disease, while a uniform treatment of all foreign animals would secure a steadier trade and more uniform price." It must, he observed, be obvious to every one who reflected on the matter that the preservation of the health of their herds and flocks was essential, not only to the prosperity of the country, but to secure meat being offered at a reasonable price to the consumer. He knew that great efforts were being made by interested parties to obtain, by means of gross misrepresentations, very serious alterations in the provisions of the Bill, and even to induce

the Government to set it aside altogether; but the country had had sufficient experience to put it on its guard against such attempts in the severe loss that had been sustained year after year through the introduction of diseases of foreign origin. It was evident that if a pernicious virus continued to be brought into the country they would never be free from it. Under the regulations for the stamping out of the cattle plague that was imported in 1865, the country became free, not merely from cattle-plague, but also from pleuro-pneumonia and foot-and-mouth disease, and when the same kind of regulations were carried out last year there was a similar immunity. Such facts ought to convince the nation that their herds and flocks would soon right themselves if good and judicious regulations were adopted to prevent the introduction of those diseases which had been so disastrous for many years to the English farmers. If shiploads of people were being brought into this great metropolis while they were suffering from small-pox, or scarlet fever, or typhus, or any other contagious disease, the public would be unanimous in saying, "Don't bring such people here." That represented what farmers wanted for the security of their flocks and herds. In these days of ready transit the evil was much greater than it was formerly. Then animals had to travel much slower, and the virus became proportionately weakened; now diseases were brought in, as it were, fresh amongst them, and sent through the country rapidly, and the results were much more disastrous than they were 30 or 40 years ago, when there were not the same facilities for spreading disease.

Mr. LYWOOD, in seconding the resolution, said, as a large flockmaster, he felt very strongly that there should be every kind of protection that could possibly be afforded to their flocks and herds. One thing which he had not seen mentioned in the newspapers, and thus brought before the mind of the consumer, was that part of their prize animals were withdrawn from this country, and that some of their offspring were afterwards brought here. Considering that they sent away some of their very best blood for the purpose of breeding, they should surely, even on that ground, do what they could to secure adequate protection against the importation of disease.

The CHAIRMAN said, perhaps it might be well here to mention that the First Report of the Joint Sub-Committees had been submitted to the Duke of Richmond, and that a reply had been received.

The SECRETARY then read the following reply:—

"Veterinary Department, Privy Council Office,  
44, Parliament-street, Westminster, S.W.

"Sir,—I beg to acknowledge the receipt of your letter of the 12th instant, forwarding first report of the Joint Sub-Committee of the Farmers' Club and the Council of the Central and Associated Chambers of Agriculture, on the subject of



the Contagious Diseases (Animals) Bill, now before the House of Lords, and to state that it shall be submitted to the Lords of the Council. I am, Sir,

Your obedient servant,  
"CHAS. PEEL."

The CHAIRMAN said he wished to express a hope that the Select Committee of the House of Lords, which was now sitting on the Bill, would not in any material degree alter it. Its provisions appeared to him to be on the whole good, and he hoped it would speedily come down to the Lower House and be passed into law without having undergone any material alteration. He was sure that it would operate beneficially for the consumer as well as the producer. There was one main point which ought never to be lost sight of, but should be repeated again and again, namely, that the restrictive measures which had hitherto been established and enforced, and which had been so much complained of, had not affected the price of meat or made meat dear; and so long as that was the case he did not think any one could complain justly of their claiming protection against disease for their herds and flocks.

The resolution was then agreed to.

Mr. T. WILLSON said a great deal of the best grazing land of his county was in the open fields, there being often from 100 to 120 bullocks grazing together in one field, and he saw nothing in the Bill which would enable the owners of such animals in the event of a diseased animal being discovered among the herd, to remove the sound animals till after a period of 28 days—a state of things which threatened destruction to the whole of them. In order to provide for that case he would move the following: "That the local authorities should have power to permit the removal, for the purposes of food, shelter, or isolation of apparently sound animals which have been herded or brought in contact with diseased animals."

Mr. ST. JOHN ACKERS, in seconding this proposal, said he believed the Committee desired to avoid throwing any obstacle in the way of passing the Bill, and therefore had only suggested a few alterations which might help to make it work more smoothly. They strongly wished to see the Bill pass and would rather see it pass without any alterations than press amendments which might endanger its passing. He had however, no doubt that the amendment now proposed would be cordially accepted by those who had charge of the measure.

Mr. JABEZ TURNER thought it would conduce to the better understanding of Mr. Willson's resolution if he mentioned that the Bill transferred powers which were now vested in the local authorities to the Privy Council, and among these powers was that of prohibiting or sanctioning the removal of sound animals in such cases as Mr. Willson referred to.

The CHAIRMAN said no doubt some provision was required to meet such cases; but he thought it would be rather dangerous to pass such a resolution as that now proposed, because if it were carried out there would be nothing to prevent animals from being removed to a distance of ten miles. There should at all events be a stipulation that animals should not be removed beyond the farm to which they belonged (Hear, hear.)

Mr. J. HOWARD said it appeared to him that under the Bill as it stood there would be no difficulty in removing cattle from one part of a farm to another part. The question turned on the definition to be given to the word "place;" and if an inspector had declared a particular part of a farm, or a particular cattle shed to be infected, it would not follow

that the owner would not be allowed to remove animals to another part of his own farm.

The CHAIRMAN said the main thing which farmers had pressed for was the necessity of isolation, and if they asked that this matter should be taken out of the hands of the Privy Council and left to the local authorities they might be told that they were blowing hot and cold.

Mr. SEARBY (Lincolnshire) contended that the Bill provided so well for the requirements of owners of cattle that it would be best to leave the matter in the hands of the Privy Council. They all knew that there would be great difficulty in passing the Bill, and by suggesting alterations they would of course be increasing the difficulty. He thought they should be contented with the resolution already passed (Hear, hear).

The CHAIRMAN thought that such an alteration as that under consideration would be most properly discussed in a Committee of the House of Commons.

Mr. T. WILLSON said that was the reason why he had proposed it.

Mr. HERMAN BIDDELL remarked that "farm" was a very vague term, and might include all the roads connected with the farm.

Mr. G. F. MUNTZ was afraid that they were getting on very dangerous ground (Hear, hear). They had asked for very stringent resolutions with regard to foreign stock, and now it was proposed that they should ask for a relaxation of the proposed resolutions in the case of home stock (Hear, hear).

Mr. HICKS said the majority of the Council did not seem to perceive the bearing of the resolution before it. It applied principally to Leicestershire and some other midland counties, and the question was how the difficulty was to be met. He would suppose that, there being a herd of 100 bullocks in a field, disease broke out at Michaelmas, and that one animal after another fell. Christmas was come, and what was to be done with the animals which had not been attacked? They could not be removed, the grass was gone, and there was no shelter, and unless there were some power to authorise their removal into yards they must all perish. The object of the resolution was to enable them to be removed from one field on the farm to another for the purpose of food, shelter, and isolation, and it was not a resolution providing that the animals should be removable, but simply one suggesting to the promoters of the Bill that the case should be adequately provided for, and he did not think such a suggestion could endanger the passing of the Bill.

The CHAIRMAN said he knew very well the whole of the land which Mr. Willson had spoken of, having hunted in that part of the country; but it seemed to him that what was proposed would open a dangerous door, there being nothing in it to prevent a drover or dealer who had a hundred bullocks, some of which were diseased, from obtaining permission to remove them to another part of the same county. Was it likely that such a Bill would pass into law when they themselves began to discuss the removal of restrictions which they had all along declared their willingness to submit to? (Hear, hear). He was of opinion that the best course would be to leave the question to be raised in the Committee of the House of Commons by Mr. Read or Mr. Pell, or some other member who was in favour of the Bill.

Mr. STORER, M.P., said he did not believe that any local authorities were at all likely to give drovers or dealers power to remove cattle under the circumstances and in the manner

which had just been mentioned. It should, however, be borne in mind that one great thing which they had asked for was uniformity, and the giving local authorities a discretion in such cases would tend to prevent uniformity (Hear, hear). He felt quite sure that upon proper representations being made in such cases as Mr. Willson referred to the Privy Council would within a few hours give the requisite authority for removal (Hear, hear). Considering the great difficulty there was in passing such a measure as that, as well as others which were interesting to the agricultural community, he thought that the wisest and safest plan would be to throw as few impediments in the way of legislation as they possibly could (Hear, hear).

Mr. J. HOWARD said, having just before looked through the provisions of the Bill, he was satisfied that the local authorities would have power to deal with such cases as that to which the resolution applied. At page 5 of the Bill it was provided that if the local authorities were satisfied of the correctness of a statement they might act accordingly, and prescribe the limits of the place affected by pleuro-pneumonia or foot-and-mouth disease. It would also be competent to them to declare not merely one farm but all the farms in a parish infected, and they would have ample power to sanction removal not only from one farm to another but also to an adjoining farm.

The CHAIRMAN expressed a hope that Mr. Willson would withdraw his resolution, especially as he must see from the feeling manifested that, if put, it was certain to be rejected, and the fact of its rejection there would be unfavourable to his object in another place.

The resolution was then withdrawn.

Mr. JABEZ TURNER said he now stood before the meeting under rather peculiar circumstances. The Cattle Diseases Committee had had before it that morning two or three resolutions, as it was intended to submit to the Council in the usual manner suggested alterations in the Bill, and now the Council appeared to be of opinion that no resolution should be proposed that would in any way alter the Bill. [A Member: "Not alter it materially."] Under these circumstances he felt some hesitation in moving what he held in his hand; but, as it did not affect the principle of the Bill, but was only a matter of detail, he would do so, and he thought the proposal was one that must commend itself to the common sense of the Chambers of Agriculture and of agriculturists generally. It relates to the compensation to be paid for animals that were destroyed by order of the local authorities. The Bill provided that three-fourths of the value of the animal should be paid to the owner —

Mr. HICKS (interposing) observed that the resolution that Mr. Turner was about to move was not agreed to by the Committee.

Mr. JABEZ TURNER said it was placed in his hands to propose. The Bill provided, he said, that when an animal had been slaughtered on account of pleuro-pneumonia compensation should be paid to the extent of three-fourths of its value immediately before it became affected, but that the compensation should not in any case exceed £30. What he proposed in lieu of that was "That the compensation should be paid upon three-fourths of the actual loss rather than three-fourths of the value of the animals." As the Bill stood an owner might receive more than the value, and there could be no danger or disadvantage to anyone in consequence of what he proposed.

Mr. HICKS repeated that the resolution thus submitted was not sanctioned by the Committee.

Mr. JABEZ TURNER went on to say that he would propose it on its own merits, leaving the Council to decide. Before sitting down he wished to say a word or two on the general principle of the Bill, to which he thought sufficient prominence had not been given by preceding speakers. It was, he felt, necessary to impress on the Government and on the community at large the falsity of the views which had been expressed by a considerable number of persons as to the tendency of that Bill to diminish the supply of food for the British public. A large amount of industry had been employed in disseminating false opinions on that point; but it was a well-ascertained fact—there was abundant authority for this statement—that the supply of home-bred cattle only required a very small increase to make-up for the whole amount of the foreign importation. Agriculturists had been taunted in some of the daily newspapers with wishing to revise the system of protection in the case of cattle; but they had no such object, and he would like it to go forth to the whole country that the only protection they wished for was that protection against foreign disease to which they were entitled as Englishmen (Hear, hear). It had been clearly shown that an increase of 7 per cent. in home-bred cattle would completely cover the imports from abroad, and the late Sir Henry Thompson, who was for many years a leading member of the Council of the Royal Agricultural Society, estimated that an addition of 2 per cent. would be sufficient for that purpose.

The CHAIRMAN deprecated the Council's entering into such a discussion after having passed two such resolutions as it had done in the early part of the proceedings; he thought that by discussing details of that kind they would place themselves in a false position before the country. Moreover, to provide that compensation should be paid for three-fourths of the actual loss would be to open a door for very great demands, as some animals had been sold for thousands of pounds.

Mr. GURDON (Norfolk) said the Chamber which he represented was unanimously of opinion that it would be better both for the owners of a diseased animal and for the ratepayers to proceed on the plan which had been followed in his own county of the owner being recouped to the extent of three-fourths of the actual loss. They considered that the owner was the person who was most likely to get the best price obtainable, and that he should be allowed to sell, and be recouped to the extent he had mentioned.

Mr. DUCKHAM contended that it would be best to leave the question to the committee of the House of Commons, and moved as an amendment the previous question.

Mr. NEVETT seconded the amendment.

A desultory discussion ensued, in the course of which Mr. C. S. READ, M.P., remarked that in Norfolk between four and five thousand pounds a year has been paid for salvage, and that he believed what Mr. Turner advocated would prove advantageous to the ratepayers and encourage owners to give notice of disease. The resolution was ultimately submitted in the following amended form, "That in cases of pleuro-pneumonia the compensation should be paid upon three-fourths of the actual loss rather than three-fourths of the value of the animal, subject to the maximum prescribed by the Bill."

On a division the numbers were, for the previous question 21, against it 4.

The subject of Highway Legislation was afterwards fixed upon as the principal subject for consideration at the meeting in May.

On the motion of Mr. DUCKHAM, seconded by Mr. LYWOOD, it was afterwards resolved that a copy of the resolution that had been passed in relation to the Contagious Diseases

(Animals) Bill should be forwarded to the Duke of Richmond and Gordon, and the proceedings terminated with a vote of thanks to the CHAIRMAN.

## FARM WORK IN HARVEST.

The ordinary monthly meeting of the Central Farmers' Club was held recently, at the Club Rooms, Caledonian Hotel. Mr. J. Brown, chairman for the year, presided. The subject for discussion was "Farm Work in Harvest," the introducer being Mr. T. Rose, of Melton Magna, Norfolk.

The CHAIRMAN said:—Gentlemen,—The subject put down for discussion this evening is one of considerable importance. In the present day harvesting is not what it used to be thirty or forty years ago. With the different appliances which we now have for preparing the sheaves for harvesting the work is done much quicker than it used to be. In olden times we used, I believe, to be satisfied if we finished harvesting in about six weeks, but now, I think, most farmers are dissatisfied if they cannot get it done in something like half that time. It is very important that we should know what are the best and most economical methods of meeting the new state of things, and I feel sure that the paper about to be read by my friend, Mr. Rose, will give us some valuable instruction on that point. I will not detain you any longer from hearing what he has to say, but at once introduce him to the meeting (cheers).

Mr. ROSE then read the following paper :

The subject I have to bring before your notice this evening is "Farm Work in Harvest," or, in other words, we are met to discuss the advantages we *ought* to derive from the introduction of labour-saving machinery into our harvest fields. Machinery is undeniably an expensive thing to buy in the first instance; and in the second, there is a constant expense for necessary repairs to keep it in working order. For these reasons, therefore, some farmers object to its use. They do not deny that it may have its advantages so far as work is concerned, but object to the outlay as being proportionately greater than the advantages derived from it. It is, then, for us to consider whether we cannot make efficient use of the time and labour saved, by executing other work contemporaneously with that of harvesting, and which otherwise may have to be deferred until the short uncertain days of winter. As a matter of course, every good practical farmer best knows how to ingather his own particular corn crop; for of necessity different localities have varying requirements, so that by no possibility can any one law be laid down "warranted to suit all parties." The farmer must adapt himself to the circumstances of soil, seasons, and climate, in his harvest operations and a general knowledge of agriculture cannot be gathered from the practice of any one man. Yet I must confess, a doubt exists in my own mind whether the general system of occupying all our time and attention solely with harvest work (let the weather be what it may during that season) is not susceptible of improvement; and the question naturally arises—Are farmers justified in devoting all their own and their employes' time and attention to the actual ingathering of the corn crop, permitting their men—should the weather prove

unfavourable for harvest operations—to lay by and do nothing as if the land, on which the corn has grown would never be wanted again for other crops? The impossibility of inducing a band of harvestmen to execute other work is a frequent assertion; yet it seems unreasonable for a man to object to turn to other employment when it is clearly to his own pecuniary advantage to do so. The ingenuity of our agricultural machinists has provided us with what are intended to be labour-saving machines. Yet, surely, either their inventions are worthless, or we cannot have made the best possible use of them, if, notwithstanding their assistance, we have not contrived to carry on "golden autumn tillage," or other desirable work during the spare harvest hours, caused by rain, heavy dews, slow ripening of corn, and other hindrances.

In November 1876, it fell to my lot to prepare a paper for the Norfolk Chamber of Agriculture on "Harvesting Corn Crops," and I then made suggestions which I determined to verify by my own practice during the harvest of 1877, and I trust you will not think me egotistical if I here ask permission to give you my experience of the benefits derived from the use of machinery during last harvest.

I have both reaping machine and elevator, and with the help of eight full-priced men, two youths, three boys' ten horses, and an itinerant thatcher, I last harvest cut and carried 132 acres of corn, and cut 12 acres of sanfoin in twenty-six working days, including wet days, and in addition to this, with the aid of two old men past harvesting, I contemporaneously carried on other work. As soon as the land was cleared of sheaves, and the gleaners had picked up the stray ears, I put the ploughs to work and ploughed 17 acres of wheat stubble for mangel, and nine additional acres of wheat stubble, which I drilled with one peck of mustard seed per acre; this produced a good piece of feed, on which I kept 110 ewes from about the second week in October until the 24th day of December. This I consider a fine preparation for my ensuing mangel crop. The ewes had a fresh fold every afternoon, and were well supplied with hay and corn chaff, besides having four or five hours' exercise every day on grass or turnip land, which had been cleared for hoggets.

In another field I ploughed (during the twenty-six days of harvest) 3 acres of wheat stubble land, which I drilled with Sutton's rapid growing grass seeds, the ground being of course harrowed and rolled sufficiently well to form a good seed-bed. The grass soon made its appearance, and is now invaluable as spring feed for the ewes and lambs.

In addition to this, after having it forked by a gang of boys I harrowed and prepared 13 acres of wheat stubble, which I sowed with one peck of trifolium and two pecks of Italian ryegrass per acre. This also promises to be a valuable auxiliary to my stock of spring feed. I could not, I am convinced, have achieved the extra work without the aid of reaper and elevator. Some old farmers will tell us wheat stubble should be ploughed in winter, but my own experience is, that at the end of harvest I found nearly all my autumn cultivation—"Golden Work" as it has been called—was done; and it is

generally admitted that the earlier we can plough light and mix soil lands, the less weeds we have in our root crops and as a natural consequence the better crop of roots we shall obtain. The same argument applies, even more forcibly, to heavy land, which derives other material advantages from early tillage viz., that it can be worked in the spring with half the labour, consequently at less expense, while the surface water can more freely filter down, leaving its valuable manurial properties in the top soil, where it otherwise would be stagnant, injuring, nay, even poisoning the fertilizing power of the soil. If this work, the early performance of which is acknowledged to be so beneficial, can be performed during harvest (and I think I have fully proved that, with fair management, it can be), it will rebound, not only to the farmer's credit, but also greatly to his advantage in every way. Granted, it may not be possible in all cases to induce men to do the extra work, but this I know, my men did it. I paid them by the hour for it, and in justice to them feel bound to say they worked with a will, and appeared as anxious to get over it as I could be myself.

A short time since, a popular banker, very well known in the eastern counties, asked me if I thought that in these hard times a farmer was justified in purchasing mowers, elevators, or reapers. Would it not, on the contrary, be wiser to avoid such outlay by continuing the use of the scythe, which has done such good service in time past? This is my reply:—It may be feasible to adhere to this implement on small farms, in certain districts, provided labour is plentiful; but, however suited to the requirements of a past generation, it can only, under special conditions, be adequate to present day needs in these high pressure times. Even on small occupations where no mechanical assistance is rendered, of necessity more manual labour is required, or higher wages must be given to those employed, with the very probable result of a four or five weeks' harvest, while other work, such as smashing up stubble land (which I contend is of equal importance), cannot be carried on simultaneously, but must be shiftlessly left until some future opportunity, which, in all probability, may be long in coming, and at a time, perhaps when vegetation is slow. Meanwhile the weeds are luxuriating on the nutriment of the soil to the prejudice of roots or other succeeding crops. If any one thing tends more than another to increase the food supply of this country, it is early autumn cultivation.

The agricultural history of even the last quarter of a century justifies the belief that the introduction of modern agricultural implements has been of use in the economy of labour and this is supported by the fact, that farmers are now more alive than at any previous time to the important aid which the agricultural machinist is capable of affording them; formerly the village blacksmith or carpenter were the only mechanical assistance the farmer deemed necessary or could command. Unquestionably the advantages derived by the use of machinery in expediting harvest work cannot well be over-estimated, for the cheap labour of a few years ago is not now obtainable; therefore on many farms mechanical aid has become an indispensable adjunct. Some persons even in the present day talk loudly of thew and sinew and condemn the use of grass-mowers, reapers or elevators. These objectors are, however, becoming few and far between, and I fancy the time is not far distant when the scythe and the fag-hook will become as obsolete for general harvest purposes as is the serrated sickle. Time was, when small tradesmen, artisans, and other towns-folk turned out to do their harvest. This,

however, is rarely the case now, for these classes have largely migrated from the purely agricultural districts to the large manufacturing towns. Again, in days past, when agricultural labour and harvest wages were not so expensive, farmers could afford to employ more hands; besides, since the Education Act came into force, it is almost impossible to obtain cheap lad labour, while in many districts, where women formerly worked in the fields, glad to contribute their share towards the family maintenance, they now prefer to remain at home, and endeavour in this way, I suppose, to make the best use of their husbands' increased earnings. All these facts show that cheap labour is not now within our reach as formerly. Therefore the assistance of harvesting machinery becomes indispensable in order that we may be enabled to make the best use of the productive capabilities of the land, and in this way indirectly, if not directly, make its application profitable.

To illustrate more fully, if it is possible, the advantages obtained by the use of harvesting machines, let us take the case of a farm where a hundred and forty acres of corn are grown. This in the eastern counties, would, generally speaking, consist of seventy acres of wheat, and seventy acres of barley, or thereabouts. To harvest this crop advantageously it would be necessary to employ twelve able-bodied men and a lad or two. As such a company could not, however, average to cut, tie and stook, more than nine acres per day, it would take fully eight days to cut the crop of wheat; while on a farm of the same area, growing the same acreage of corn, if a good sheaf-delivery reaper and an elevator were used, ten men, with the aid of a boy or two, would be sufficient and by keeping the reaper at work, the average quantity cut per day, may be estimated at thirteen acres, and the wheat would be down in five days, thus saving two men's wages, which may be put at £15, a fair interest on outlay for reaper and elevator; besides, weather permitting, the wheat could be cut and carried within the eight days mentioned as being necessary to cut it by hand which leaves a clear gain of three days available for early autumn tillage. An estimate for larger or smaller farms, must, of course, vary with their acreage. Possibly other circumstances, too, might have to be taken into account. A saving on a 300-acre farm of two men's wages, representing a sum of at least £15, is not a despicable interest on an outlay of £80; but a far greater gain, and even a more important one, is that of the time thus rescued for the immediate cultivation of the cleared corn land. If, by the aid of machinery, ten men can perform the work of twelve, and perform it better and more quickly, the product of their labour is as much increased as if they had really suddenly become much stronger, more industrious, and, it may be added, more skilful. I know of no subject more deserving our attention than that of harvesting machinery.

There is no question but that the sickle was the reaping instrument of antiquity. It is mentioned in both the Old and New Testaments, and from statements we find in the Bible concerning it, we are led to infer that this implement was used for reaping both fruit and grain by hand, and not as part of a machine. It is evident, from the sculpture on some of their tombs, that the sickle, with either smooth or serrated edge, was used by the ancient Egyptians; and, so far as we can ascertain, the sickle and scythe are the only harvesting implements used by the industrious though "Heathen Chinese."

The first account of a machine to reap grain appears to be that given by Pliny the Elder, born A.D. 23, who, in writing

of the various methods of reaping in use in his time, mentions that in the extensive fields of the lowlands of ancient Gaul, large vans were used, which he describes as having wheels on either side, although shaped somewhat like a wheelbarrow with projecting teeth (resembling a reaping machine knife of the present day) fixed on their front edge. This machine was driven through the standing corn by an ox, yoked in reverse position, whilst a man walked by the side and pulled the ears of corn towards the teeth, or knives, with a small wooden instrument similar in form to a hoe. In this manner the ears were torn off, and fell into the van. He further states that although in some places the sickle was used, in others the corn was pulled up by the roots, those who adopted the latter method affirming that by so doing they loosened the soil as they proceeded. Thus it appears that people in those early days had some idea concerning the benefits of tillage simultaneously performed with harvest work. They also reaped the additional advantage of being able to use the long straw to thatch their houses, the shorter straw being only useful as litter. Barley straw they reserved, as being the favourite fodder of oxen. In some parts the Gauls gathered their corn ear by ear with a hand comb. In some places the grain was separated from the straw by means of drags, on a thrashing floor; in others it was trodden out by horses, and in some cases it was thrashed out with flails. They also held, that the later wheat was reaped the more abundant was the yield; the earlier, the finer and stronger was the grain. Their maxim was, "Reap before the grain hardens, and as soon as it has acquired its proper colour." "Tis better to reap two days too soon than two days too late." As we sell our corn by weight and not by measure, we have in the present day every inducement to begin cutting our wheat early. For many years past I have felt convinced that as a general rule we do not cut our wheat so soon as we might or ought to do. I believe harvest operations might be commenced at least a week earlier than is the general custom. If we trusted the maturing of the grain to the moisture contained in the stem, the weight per acre would not be diminished, although we might not perhaps get so much measure; while the consequent thinner skinned grain would, I doubt not, meet the approbation of the millers; for in these days the question of quality obtains over that of quantity. Then, again, the corn would not shed so much, as if it were dead ripe, and more time would be left at our disposal for other work.

Whatever theoretical opinions may be entertained in the matter by speculative men the use of machinery in aid (or, as some contend, instead) of human labour, is rapidly increasing, and cannot be restrained. The influence of machinery is of two kinds: first, as it affects the production and consumption of commodities; and secondly, as it affects the employment of labour. Viewing it as it affects the employment of labour, I do not say that in all cases it would be wise to reduce our number of hands, and for this reason—that by employing on a given quantity of land the same number of hands as hitherto, we ought, with the additional aid afforded by machinery, not only to perform more efficient work, but our production should also be vastly greater. Perhaps it may be asked, how then do we derive benefit by saving labour? Well, during harvest or very soon after, autumn cultivation would be finished, then comes wheat sowing, and storing of roots; this finished, those of us who farm pasture, marsh or meadow land, could, I am sure, advantageously employ all hands at odd times during winter in carting soil, compost, &c., unto them. This

class of land, has not, I think, as a general rule, been greatly improved of late year. Since the price of labour has advanced a false economy has induced many to neglect the renovation of old grass lands, and they have refrained from cutting down and destroying thistles, and other rank injurious weeds. But since the meat question has become of such paramount importance to the agriculturists of this country, we need more than ever to turn our attention to solving the great problem of "growing two blades of grass where only one has grown before." There can be no question but that with the aid of machinery we are enabled to accomplish our harvest work more rapidly, and in this way reap a benefit by being at leisure early to till our land, so as to grow a green crop on our stubbles for sheep feeding, thereby discouraging the growth of weeds, and the spread of that most injurious and troublesome of plants—couch-grass; as well as smashing up stubbles or mangels, beans, or wheat-stubble barley. If we cannot do this we do no more than our forefathers accomplished with ordinary scythe and sickle. Not only are the weeds killed by early and deep cultivation, but the vegetation of the seeds is much hastened, the soil also becomes disintegrated, and, as I said before, the winter rains are thus enabled to pass through, instead of remaining in a state of poisonous stagnation, while the aerated land more readily absorbs and retains the treasures of the air and sun. In fact, as Mr. Mechi says, "the particles of earth should be rendered accessible to air by cultivation and drainage. We should have a surface kept open, loose, and porous, instead of what we too often see, a dense, unremoved, pasty covering, inaccessible to æriform fertilisers." As must be the case when cultivation is performed late in the season, the pasty consolidated soil cannot absorb the treasures of the air, sun, and rain, viz., oxygen, ammonia, and carbonic acid. Early cultivation has also other advantages. By breaking up the corn-stubbles early the growth of weeds is checked: these, if allowed to grow, must and do impoverish the soil. Again, if there is any couch-grass, it is much more likely to be killed by being exposed on the surface than by the uncertain and expensive method of spring hand-picking. It is not until after the land is cleared of corn that weeds of this kind have room and air to encourage their growth. Again, by inducing the seeds of annuals to vegetate early much trouble and expense are saved in the matter of spring hoeing; for it is a matter of fact that late-ploughed lands always produce more weeds than those ploughed early. If a heavier root-crop results from the practice of harvest tillage (as undoubtedly it does), this alone should induce agriculturists to adopt it. A larger crop of roots, being interpreted, means in great measure the ability to keep a larger quantity of stock, and this signifies a larger supply of home-grown meat for the consuming public, as well as a larger quantity of home-made manure for the production of succeeding crops. The landowner, also, would reap benefit in having his property better farmed, freer from weeds, and consequently improved in condition and value. Given that it may not always be possible to perform harvest or early cultivation by horse-power, then comes forcibly to our notice the assistance to be obtained from the use of the steam cultivator and digger. Almost every human invention from the earliest times has had for its object the saving of labour, as well as the increase of production. At length the giant power of steam has caused the world to be filled with inanimate slaves, which do man's work faster and better than he can do it himself, even with the greatest labour and most ingenious tools.

Until comparatively a few years ago the scythe was in general use in our own country for corn-cutting, and was doubtless considered a vast improvement on the old-fashioned system; but, even with the assistance of this wonderful implement, although the corn was cut more rapidly, little or no attempt was made to get on with other work during the harvest month. Of late years, since the ingenuity of engineers and mechanics has been brought to bear on this subject, and when after much labour and expense they have gradually brought harvesting machinery to its present high state of efficiency, so that the hard work is shifted from the men to horses or steam-engines, I contend that we have not as a general rule made that remunerative use we might have done of their ingenious inventions; for, in how few cases have the extra hours and spare labour thus gained been utilised by proceeding with autumn culture. Ought not this important work to be carried on to a certain extent during harvest time, now that we possess the aid of so much efficacious machinery? Up to the present time, however, the employed, not the employer, have reaped the benefit of its use; but notwithstanding this, the actual manual labour, such as stooking, stacking, and thatching, is not so well or neatly performed as it formerly was. Since the introduction of machinery has entirely altered harvest operations, it is only right that farmers on their own part should, while at the same time benefiting their men, consider in what way its introduction can be made profitable to themselves.

Formerly the wheat crop was *the* crop of the year, the farmers' mainstay, and all agricultural operations were directly or indirectly conducted with a view to obtain it. Roots were in a great measure grown as a preparation for it. A portion of the root crop then, as now, was fed off on the land by sheep, and the rest was brought home to be consumed by cattle in the yards. The sheep-taike on the land was considered all that was requisite to produce a barley crop. No expense of extraneous fertilisers was then deemed necessary, and the stock in the yards were expected to supply sufficient manure for the wheat crop. The production of meat is now the great object of the farmer. Our population is larger, and wages being higher the working classes can afford, and do consume, more animal food than formerly. Years ago, in country districts, those who could afford to eat meat subsisted principally on pork, and the artisans and labourers in towns fared equally roughly—therefore the manufacture of beef and mutton was not of the importance it now is. I contend that the wheat crop does not really pay in the present day; at the same time we cannot do without it as an accommodation crop, for its straw supplies the best bedding for our cattle and the grain is useful in providing us with ready cash. In the vicinity of large manufacturing towns the wheat-grower has an advantage over his brethren in the purely agricultural districts, that is, if he has power to dispose of his straw, which commodity commands a high and remunerative price in the present day. In Norfolk and other counties, however, where the four-course system, and other useless, vexatious, and obsolete restrictions are still in vogue, the tenant farmer labours under the serious disadvantage of being prohibited from using his own judgment as to the disposition of this important item of his produce.

In arable and grazing land districts, grass and roots are now the most important of all crops, as from them we derive materials for the manufacture of meat and wool. After the root follows the barley crop, the quickest-growing and certainly the most remunerative of all cereals, and on no land can it be grown

more successfully than on early cultivated wheat or barley stubbles.

I have said that in our day the wheat crop is not the mainstay of the British agriculturist, while I have endeavoured to prove, and I think, conclusively, that harvest work of all agricultural operations wants to be speedily effected, so as to enable us to till the land for ensuing root or other crops; for in this lies the secret of growing roots and stubble-land corn to perfection. I hold, therefore, that a really practical self-binding reaper is yearly becoming more and more an imperative necessity. The self-binders already introduced, although a decided step in the right direction, do not in one essential particular altogether meet our requirements, and until some method can be perfected of binding the crop with its own straw I do not think these machines will meet with general acceptance at the hands of the agriculturists of this country. Mr. Walter Wood's machine appears to be the best and most practical yet introduced; but it binds with wire. It is said 3,000 of them were at work in America, Australia, and New Zealand, during the last harvest, which fully demonstrates the appreciation in which they are held by our Colonial farmers. I believe I am right in saying, however, that only two of these machines were in use in the United Kingdom—one on the farm of the late Lord Kinnaird, at Maggotland, Inchtute, N.B., the other on the farm of Mr. R. Neilson, Halewood, Liverpool. This gentleman speaks most highly of it, and says the machine does its work at the rate of an acre in a little under the hour, picking up every straw from the ground, and firmly tying every sheaf, so that not one came loose in carting from the field, nor afterwards in taking them from the thrashing machine where, with the hold-fast nippers, the wire was cut and held securely, drawn from the sheaf, and dropped safely behind the man with the nippers, without a single piece being carried forward with the sheaf, which could only occur from wilfulness or gross negligence. He further says, he considers that the binder saves the labour of at least six hands, if not more. And in a letter I received from the late lamented Lord Kinnaird, dated Rossie Priory, October 23, 1876, he mentions, "having imported from America a machine which cuts, and lifts, and binds at once; a very perfect invention, not liable to get out of order. The sheaves are bound up with wire, which is twisted at the end and cut by a simple contrivance, the end being left ready for the next sheaf; provision is made for the different lengths of straw and size of sheaf, which latter is regulated at the will of the driver; and they can be bound either tightly or loosely—but better loose, the wire not slipping off. The machine being light of draught, is worked easily with a pair of horses—which in the case of our fast-stepping Clydesdale horses, can cut, or stand corn, from ten to twelve acres per day of ten hours. The cost of the machine is about £45, and the saving in wages for extra hands will soon pay itself."

Mr. John Scott, farm manager to the late lord, also expresses much satisfaction with the working of Wood's machine, and with the saving of labour consequent on its use. Many noted firms have, I know, been turning their attention to the subject of self-binding reapers, and doubtless some of the results of their labours will soon be placed before the public. Messrs. Howard, of Bedford, are, I believe, about to exhibit one at the Paris Exhibition of this year, and as this eminent firm has for its head a sound, practical man, we may look forward with confidence to the result.

The real objection to the use of wire by a self-binding reaper is not the danger of damage to the thrashing machine (that is nil), but it is the palpable fact that, in spite of special provision

in the way of shears or scissors, accidents will occur, and men are liable to be careless. What is more likely than that in recent cases the wire bands would be drawn through the drum with the straw, get mixed with the chaff, and so be accidentally consumed by the cattle, eventually causing their death. String also does not at present seem to meet our requirements as a binder, and like wire is an expensive method. It still, therefore, remains for us to persevere until we shall obtain a machine which shall bind the crop with its own straw; and whenever this is achieved I venture to predict it will come into rapid use. And here I should like to make one suggestion, viz., that this important Club, assisted by its country cousins, should offer prizes for the most practical self-binding reaper, having regard to cost as well as binding material used. High-priced machines are not within the reach of the many, although I cannot imagine a greater boon to the farmers than a machine that will set at liberty many hands that otherwise must needs be occupied in tying corn. Barley tying would in all cases then be possible, even in counties where such a thing is now deemed impossible. The hands thus set at liberty must be utilised in some manner. Economy demands it. The labourers' welfare demands it. Our own interests demand it.

It would be foolish on our part to make a great and perhaps ill-afforded outlay for machinery which is profitless to us. Each must prove to his own individual satisfaction that he can in some way reap substantial advantage from it, and this, as far as I can see, can only be done by employing the men on other work, alike remunerative to their employers and themselves.

The colonists of South Australia and California have in general use a machine which, by a simple process, reaps and thrashes the wheat at one at the same time. An implement of this kind can of course only be used in a dry climate, and where the grain is allowed to ripen and harden in the ear. Still I am inclined to think that in some modified form it might in many seasons be practicable to use it in some parts of our own Island, and thus greatly reduce our harvest expenses, and thrashing bill. I hold the opinion, that we shall never see wheat dear again, unless indeed there should be a general European war, and that I trust will not take place in our time. When I find that even in time of war Russia can send us wheat, notwithstanding the vast requirements of her armies in the field; that India can export large quantities of this grain, even while suffering from a most fearful famine; and that we have ever increasing quantities imported year by year from the rapidly extending cultivation of the waste land of our Colonies; as well as large cargoes sent from Egypt and America—I think I have good grounds for entertaining such an opinion. Therefore it is absolutely necessary for us, to turn our attention to the best means of successfully competing with the meat importations from America and from the Continent, and nothing will I think, tend more to increase the production of home-grown meat than early autumn cultivation.

One thing is certain, viz., that the earlier the land is cultivated the better, and if possible should be done immediately the corn is removed from the land, let the ensuing crop be what it may.

In a letter received from Mr. Edmonds, after commenting on the assistance rendered by machinery in harvest operations he says:—

“Under this new state of things I was enabled to use my steam plough last harvest throughout the time (excepting

when stopped by rain), and during the past few years I have only stopped four or five days. We are rarely able to break up stubble-land to any extent in harvest time. There is generally some land to prepare for wheat; but I should not hesitate, indeed should be very glad, to break up stubble-land once through if possible, and then return to it in a fortnight or three weeks to give it another stir, in order to kill the growth of wheat, weeds and seeds.” He adds: “A sheaf-binder will be a great boon to farmers, whenever it can be made to do its work well. At present there is a great deal of litter from improper binding.”

Mr. Charles Howard writes to me—

“That he devotes all his strength to the ingathering of the harvest, but immediately that is ended, he smashes up his stubble by steam-power. Some who own steam-tackle on large farms break up their stubble as soon as cleared; while others engage hired tackle, the work then being done independently of the men employed on the farm. This is not however, done to any great extent, but will doubtless increase year by year.”

In order to be in a good place with our work when harvest time comes, we must all the year be carefully preparing for it, and always aim to be in advance of our treacherous seasons.

If we are really inclined to get on with early tillage we must have no turnip hoeing or other back work to make up; moreover, much may be done prior to its commencement to facilitate actual harvest work. Nothing should be left to be done at the last minute. Supposing, for instance, all stack-bottoms were laid beforehand, in places carefully selected near the homestead, so as to avoid winter straw-carting as much as possible—this might easily be done at odd times; let all machines, carriages, forks, rakes, &c., be put in going order, all knives sharpened, with an extra blade or two in case of breakage, ropes on waggons or carts, let the elevator be placed against first stack bottom, the first field be got ready for immediate start. All these things may appear trivial, but they take up valuable time when left to be done by the harvestmen. With reference to the beer question, I would say give the men money as a gift rather than beer, which is a wasteful expenditure, for nowadays they do not need it as formerly; they fare better all the year round, and harvest work is not nearly so laborious.

In grass-land districts there is an impression that the aftermath, does not spring either so well or quickly after the machine, as after the scythe. I agree with Mr. Scriven in thinking this may in a great measure be attributed to neglect in keeping the knives with a good sharp edge, so that the grass gets bruised, and torn, instead of being shaved off; for given man as the motive power, he finds it to his own interest to use a keen blade, whereas it is entirely a different matter when a man has a machine and horses to use. It may be said, this bears little or no affinity to my subject, but I think it of so much importance that I have ventured briefly to notice it, for I fear many of us are likely to be careless about keeping grass mowers and reapers in good repair.

I consider the first corn cut marks the commencement of a new agricultural year, and from that time our watchword should be, “Forward!” And as regards the duration of the harvest, this also might be materially lessened if our landlords will only recognize our wants by aiding us in the erection of suitable stack-sheds. These would in many ways be a boon to the tenant, and would soon repay their original cost in the saving effected. They would not only make us more or less independent of the weather and save the thatcher's bill, but

we should hear no more complaints (as we so frequently have done lately) of sprouted stack-roofs. Tenants occupying good holdings would without doubt be willing to pay a fair percentage for this very desirable accommodation, and I doubt not there are many landowners who would erect such buildings for good tenants. Mr. Charles Howard, in a valuable paper read before the Bedfordshire Agricultural Society, ably advocates this important matter, and it is one which farmers generally would do well to take seriously into consideration. Harvest is often delayed by having either to wait for the thatcher or to lessen strength by taking a man from his company. And besides all this, such buildings would render us independent of weather when thrashing time comes, also of the incidental expenses of broaches, thatching, binding, and frequent re-thatching during winter months. When, however, a landowner is indisposed, or unable to meet the views of his tenant on this point I feel sure it is possible to erect inexpensive portable stack-sheds, which could be moved from one field to another as required. I am by no means an advocate for landowners being required to spend money on buildings of any kind merely for the sake of obliging or satisfying the whims of a tenant, in fact, it would be unfair to expect them to sink money unless they themselves reap a just advantage from it; but where a real benefit accrues to a good tenant, and he is willing to pay a fair percentage on the cost, I believe the landowners of England will as a body be willing to meet this and other desirable requirements. A slovenly, bad farmer who does not care to improve his holding, who is quite satisfied with the "one blade of grass," cannot justly expect recognition of any claims he may think proper to urge. In short, I would ask, does he deserve it?

After referring to covered yards and the Cattle Diseases Bill, Mr. Rose proceeded—

It will be already understood my principal argument is, that we devote too much of our time and attention during harvest to actual harvest work. I am fully aware that an objection may be raised. In order to cultivate our stubble land during harvest we must either keep more horses than we require in a general way or we must employ steam, which over-day farmers consider expensive work. Well; as we have not time now to argue this matter, let them for the present hold their opinion unmolested. Most of us now present are, I am convinced, fully alive to the merits of steam culture, and doubtless the time will come when farmers will co-operate in the joint use of such expensive implements, and so avoid overweighing their cost of production, the farmer's only salvation now being largely-increased produce, at a cheaper cost. This is the problem we have to solve. Let us glance, then, at the question of keeping more horse-power. First I would say, let the extra animals be mares. I know of no animals that pay better for breeding than good cart horses; it need not be a first-class foal to be worth £25 at six months' old, but if at that age £40 can be realised for a good one it amply pays the breeder for any trouble and expense he may be put to in keeping an extra mare. It is well known that farmers' profits are at best but small; therefore I contend, that the breeding of cart horses, suitable for draught work in London, Manchester, Liverpool, and other large towns, might be made remunerative by the arable land farmer, and if judiciously done, would be a undoubted source of profit. In my own county, at any rate, this branch of farming has, I am sorry to say, been greatly neglected. It is not a question of district, for I dare assert I never yet saw horses too large for lightland, especially since

portable steam-engines with their drums, double and triple furrow ploughs, reaping and mowing machines, and other heavy farming stock, unknown to our forefathers, have come into use. Therefore, to return to our subject—if we would attain the great object of "golden" early autumn culture, I can see no objection, but, on the contrary, an advantage, in keeping extra mares, so that work can be done immediately on the removal of the corn sheaves from the land on which they have grown. By growing a larger breadth of laud with mangels we might, I think, in some measure facilitate harvest work, for by growing more of this valuable root the farmer must of necessity be in a forward place with his cultivation, besides gaining an advantage in being compelled to hoe them early in consequence of their early sowing. We also get more time between the hay and corn harvest for carting and spreading manure for wheat, and for trimming fences, all which work, I think, might generally be got over before harvest commences. In speaking of early-sown roots as being important for us to grow so as to have all possible work completed before harvest, that we may be enabled to give all spare time and attention to early autumn cultivation, I would not wish to omit making mention of kohlrabbi, a most valuable root for feeding purposes, which should be sown early, and succeeds well on good land. There are even now some persons who cannot believe it is right to grow more than a third of the root land with mangels, and in many of the Norfolk leases there still exists an absurd restriction as to this matter; therefore, supposing 60 acres of land come for roots, about 12 acres of mangel would be grown, the rest planted with swedes, and a few acres with white turnips for early and late feeding. Now, however, many of the best farmers of that county are to a great extent discarding the growth of white turnips either for early or late use, and it is an undisputed fact that mangels are far more nutritious and better in every respect for either purpose than white turnips are. In different counties varying methods must, and will, obtain with regard to letting the harvest, each too well known for me to enumerate here. The complicated system of cutting, binding, stooking, and carting at separate prices per acre cannot be so desirable as the plan of giving a certain sum per man for a company, allotting each man a given number of acres, to include all necessary work. In this case, should the weather be adverse to the prosecution of harvest work no opportunity should be lost in pushing on early autumn cultivation. Some employers have a written harvest contract with their men, a wise precaution which others would do well to follow; for certain it is that in all agricultural transactions commercial principles have hitherto been sadly lacking, both as regards landlord and tenant, master and man. Mr. Charles Howard, has kindly forwarded me his last year's agreement, a copy of which, with his permission, I have laid on the table for inspection:—

#### HARVEST OF 1877.

For 12s. per acre the men employed by Charles Howard engage to tie, cart, drag, thatch, pare, and clean up all the corn, and perform all other harvest operations in the best manner, at Biddenham and Bedford, all hands to be charged to the men, except the men on the reaping machine.

The barley at Biddenham to be mown by hand, and should Charles Howard require any to be tied, such is to be done. The barley at Bedford to be cut by machine and tied, the machine to be charged at the rate of 2s. per acre.

If the beans at Bedford are cut by machine, 2s. per acre is also to be charged for its use. The wheat to be shocked as



the drills run, ten sheaves in a shock, the shocks to be set up once after.

The barley to be turned twice, if necessary; if more to be paid for.—C. II.

If desirable, a clause might be inserted which would insure the men's assistance in other work during harvest. My experience has, of course, been mostly gained in Norfolk, but I have also seen much of farming in other counties, and am convinced that, although details differ, main requirements are really one and the same. We are living in high-pressure times, and present-day utility must be considered in all our undertakings, so that we may not be found lagging behind in the race. There can be no question but that we are at the present time passing through a great crisis in agriculture; which will in the end in many respects be completely revolutionized. Labour-saving machinery, not only for harvest, but also for every possible kind of agricultural work, is rapidly becoming the rule and not the exception. Hitherto-existing farming laws, leases, and agreements, with their obsolete restrictive clauses, must eventually be placed on a footing to ensure security and freedom for production and sale, in order to bring capital, confidence, and enterprise into British husbandry. More capital per acre is now required than formerly in order to farm advantageously, and when the Education Act has had time to prove itself, and our future generation of labourers shall have become the present, we may reasonably expect that they will be endowed with the higher powers and more enlarged ideas which they will need, as the machinery of the future will undoubtedly require intelligent minds, technical knowledge, and skilful fingers for its manipulation. And here I would wish to acknowledge the kind assistance afforded me by many of our leading English agriculturists: the prompt replies of those to whom I have written, and the valuable information conveyed in their letters, deserve my best thanks and, as will be perceived, I have embodied much of their individual experience in the foregoing remarks.

I fear I have not done my subject justice, but have comfort in reflecting, that it is not altogether the actual lecture which is valuable, but the discussion which ensues. This ventilates a subject, and causes its merits to be analysed.

If I am called a theorist for thus strongly advocating my conviction of the good results obtained by early autumn cultivation during harvest, I can best reply by using the words I read in an old book the other day: "Theory is the soul, practice the body." Theory facilitates by causing a subject to be analyzed, and by giving a comprehensive view of science. It accelerates progress by proposing subjects for investigation, but without the aid of experience it conveys no positive information.

Mr. FRANK SHERBORN (Bedfont) said that, listening to Mr. Rose's paper, he certainly expected to hear more information as to the proceedings on the farm during harvest time. As far as he could gather, much information to the point had not been given. Mr. Rose appeared to have assumed that many farmers sat down and did nothing, but his own experience was that farmers had not let the grass grow under their feet. Autumn cultivation and the ensuing cultivation were necessarily prosecuted with the utmost vigour between whiles, as soon as the field was cut and *shocked*, and as soon as there was a preparation for the plough or, rather, the broadshare. But he should be glad to hear from Mr. Rose the expense of getting in his harvest. Having adopted a plan, which applied pretty much to himself alone, he would, with permission of the meeting, explain the system he had adopted with re-

gard to the cutting and carrying of his corn. He cut it all with a reaper and paid the men the usual wages—general harvest wages, viz., 4s. a day, and 4d. an acre extra for all they did. For labour of that kind the average would be about 2s. an acre for the manual labour, quite exclusive of the cost of the horses.

Mr. C. HOWARD: What do the men earn a day?

Mr. SHERBORN said that the men earned 6s. 6d. a day. He found the horses and the boys to drive. There was a set of six men employed to cart the corn and stack it, and that was all they did. He gave them no beer. In 1874 he gave the men 3s. an acre. That was his first experience, but he found the price he paid was unnecessarily high. In that year they carted twelve acres a day, and earned 5s. 10½d. a day. In 1875 they carted 12¾ acres a day, and earned 5s. 4d. But he gave no beer. In 1876 they carted 16¼ acres a day, and earned 6s. 8d. a day. That was reaped at 2s. 6d. an acre. In 1877 he paid them 2s. an acre, and they cut 16½ acres a day, and earned 5s. 4½d. each per day. These he deemed good wages. He was quite satisfied with the plan he adopted. He got more work done, and much more efficiently, too, than by the old plan. He was relieved of a great deal of superintendence, for they required very little looking after. The more work they did the more they earned; and all he had to do was to see that the work they did was done in a proper manner. He had been very much astonished that though he had, told his neighbours of this plan, not one of them had adopted the same practice, which did not say much, he thought, for their intelligence (Laughter). Mr. Rose had, he thought, rather departed from his subject in many respects, and he should have been pleased to hear more on the subject of the paper. Nevertheless, Mr. Rose had given the meeting a good paper, and it was to be hoped it would be well discussed, and more information be given on the subject.

Mr. R. RUSSELL (Court Lodge, Horton, Kirby Dartford) said there was no man he would follow with greater pleasure than Mr. Frank Sherborn when he was in the country at Windsor, and therefore he would presume next to him to give his own ideas of "farm work in harvest." Mr. Sherborn had given some figures from papers, but he (Mr. Russell) must speak from memory. His idea was the same as that of Mr. Sherborn, as to the economy of labour, both in hay and corn harvest and everything else—viz., that everything ought to be done by machinery and piece work. In his case everything was done by machinery and by horse; and he gave his men 4l. a day for cutting extra; but he gave no beer. He found the horses, and the corn was all cut for a very small item—he had not gone exactly into the figure. If it was hay it came to about 5s. to cart and stack an acre, Howard's reaper. As he allowed no beer, there were no drunken men about. The men farmed their labour to the best advantage they could. Then in harvest time they put on three horses and worked with them all day, not having any change or any putting on two horses in the morning and two in the afternoon. A little boy rode the fore horse, and they cut 8 acres every day, and did not come home till they had done. That was the most economical way of cutting corn. He had farmed 1,500 acres for the last ten years; and for the last four or five years it had been done as he had described. He paid about 4s. 6d. an acre for binding; and for two or three years the whole of the corn had been carted and sacked for 3s. an acre, by allowing the men who would not be doing anything else to go with the waggons, two horses to the wagon. He went down to

Barnet Fair the other day, and took a man to whom he said, "How did you get on?" and the reply was, "I never had such a pleasant harvest; nobody got drunk and there was no quarrelling, and I think we earned 1s. 6d. a day more than we ever earned." That was the most economical way. The farmer who used to pay 10s. or 12s. per week now paid 18s., but with the improvements in machinery he did not think they were much worse off; and if rent had not risen 25 per cent. he believed they would have been as well off as they were before. He gave the men who cut down the corn 4d. a day extra in addition to the general pay. [Mr. C. HOWARD: How about the horses? They bite occasionally.] He did not *charge* the horses. Farmers now cut the corn cheaper than they did before.

Mr. C. S. READ, M.P.: Do you bind all your corn?

Mr. RUSSELL: Yes, everything.

Mr. READ: What wages do you pay?

Mr. RUSSELL: 4s. 6d. for binding after the machine.

Mr. READ: But altogether? 4s. 6d. for binding?

Mr. RUSSELL: And 3s. for carting and stacking everything—wheat, barley, and oats.

Mr. JOHN MAY (Framlingham, Kent): I think I can explain.

Mr. RUSSELL: Mr. May is a great potato-grower and can tell you how to grow potatoes (laughter).

Mr. MAY said the subject was "work in harvest," which had nothing to do with potato-growing. Mr. Russell was a neighbour of his, and he thought he could explain a little what did not appear to be quite understood. What Mr. Russell stated was that he had paid 3s. an acre for carting and stacking the corn. For the cutting he employed reaping machines, and paid the men 4d. a-day extra, employing his own regular horses and men, and giving them that sum in addition to the regular weekly pay. This was what he (Mr. May) did himself; and his average cost for five or six years past had been 3s. an acre for carting and stacking. For tying of course the cost varied with the crop. They did not suppose they would pay for half a crop the same prices as a full crop; but taking the average he had paid about 5s. or 5s. 6d. for binding. In regard to the paper, there was no doubt that as soon as they could get the land cleared there was nothing like steam. Steam and machinery were the things that must then be adopted. He had nearly all his work done in that way long before even Mr. Russell had begun (laughter). Mr. Russell went on, like a good many more, until they began to see that steam and machinery were the things that were wanted. They cut corn in his neighbourhood several years before other people, not far off begun to do so. Corn had been partly cut by machine for twenty or thirty years, but it had not come into general use in his county till the past ten years. No doubt in Scotland it was done long before it was done in Kent. Many people supposed that in Kent they stood first, but in his opinion they were a great way behind the people in the north. He had often told Mr. Russell that half the farmers in Kent were a set of antediluvians (laughter), and though Mr. Russell was his neighbour, and a very good neighbour, he must also tell him that he also was one of them (renewed laughter), though not in everything, for there were some things in which Mr. Russell was ahead of most of them. Some might know more than others, but through the meeting of this Club the others would in time arrive at the knowledge of what was best. No doubt the saving of time in harvest was of great importance. The great thing was the machinery, and the beginning early enough, as the paper

stated. There was a vast amount of loss through not beginning soon enough (Hear, hear). As soon as they could get the corn carted there was nothing like steam for breaking up the land, and the sooner it was broken up the better. Mr. Rose had alluded to covered sheds and cattle sheds. What sort of sheds would he have? [Mr. J. HOWARD: There is one at Luton.] It was a question what he would have the cattle sheds covered with. He could give the Club his idea of what they should be covered with. This was, as they knew, a subject that had been much ventilated of late. No doubt cattle would do a great deal better under cover than they do without it. He knew several places where they were covered, but in his opinion they were covered with the wrong material. He thought the covering of cattle sheds should be half glass. Possibly such a thing had never entered into farmers' ideas; but he had had experience of it; and he ventured to say that the cattle on the side where the sunlight got on to the shed would do half as fast again as the cattle on the other side. No doubt in a few years we should have covered yards for cattle, and the subject would require a good deal of consideration. His own opinion was that the sheds should be partly covered with glass. [A MEMBER: Would it not be too hot in summer?] They did not want the cattle in the sheds in the summer time. [A MEMBER: Would you have them on the sunny side of the yard, or on the other?] They might have them on whichever side they pleased.

Mr. B. HODGES (Vincent Margate) rose on account of the discussion lagging, although he came from the same county as the two previous speakers, and it might be thought they were occupying too much of the time. However, "antediluvians" though they might be, they had not, in his county, shut their eyes to modern improvements, but had paid some attention to steam-tillage in harvest. Wherever it was considered profitable or desirable to grow a second corn crop that object was very much forwarded by steam-tillage, and the growth of a second crop of barley or wheat had been successfully carried out, with the aid of steam cultivation, to a much greater extent than would have been possible under the old system, because, although the land was of a light and friable nature, the climate was very dry, and the soil extremely hard after harvest—too hard in many seasons—to allow any success by horse cultivation. But the steam plough broke it up, and it then remained throughout the whole of the winter months, ready to receive a dressing in the spring and surface cultivation as early as January; and it would then secure a finer and better return in a crop of barley after the wheat crop. They were generally left to make those arrangements as they deemed most profitable and advantageous. The restrictions as to the cultivation of the land were few. There were few cases in which freedom of action was not availed of by the farmer to his own advantage, without the smallest damage to the landlord's property. He thought this ought to be known; and that it was a course which ought to be encouraged throughout England, so that the hands of the occupiers of the soil should not be tied by restrictive arrangements as now. Another matter alluded to was that of "binding." He had mentioned the circumstance he wished now to state once before in this room, and it was received with some incredulity, viz., the price he paid for binding. It had been the invariable practice for years to bind all the corn crops in his district. For the last twenty-five years he never remembered any corn to have been carted loose from the field. The present payment for binding was higher than anything he had heard men-

sowed in this room. It amounted to 8s. 6d. an acre for the wheat and barley crops after they had been cut and delivered by the reaper. That was the price which had been paid during the last two or three years in that district pretty generally. It included, he might say, binding the rakings as well as the main crop. He did not know that they had had any other considerable improvements, except in getting the steam-plough into the fields as quickly as possible after the corn had been removed. In light soils he thought there should be some judgment exercised if the plough were used. In certain seasons a disadvantage followed a very early use of the plough viz., when we got a mild wet winter it caused the self-sown grain to sprout in the furrows, and a good deal of annual weed also if the spring happened to be a moist one. This did not frequently happen, but it did happen sometimes, and it had led to the users of the steam plough not being quite so urgent in ploughing the land so quickly after the removal of the corn as they had previously been. Where it was intended that another crop should be sown this argument did not apply; and in that case as soon as the sheaves were out of the field the steam plough might go in and the soil be dressed down with rape or mustard. He was speaking, however, of the land that was intended to remain the whole of the winter, and then be sown with another corn crop; and in this case, perhaps, a little abstinence would give a better opportunity of dressing the land, and surface-work it, and getting a really good seed-bed, than where the work had been too quickly done, after the removal of the previous corn crop. These were some of the details which had come out in experience of the use of steam ploughs in the district in which he farmed, and he thought, perhaps, as Mr. Rose had encouraged the application of the steam plough immediately upon the removal of the crop, that it might be useful to some who farmed on similar soils to know these little facts.

Mr. PELL (Olebury) said not being a member he felt somewhat out of place in rising; but he wished to say that he felt rather disappointed in the paper, which might fitly be called a paper "On steam cultivation in the autumn," whereas he had come there hoping to hear something about the best way of getting in harvest crops. He hoped still to hear something about the best manner of getting in crops cheaply.

Mr. T. DUCKHAM (Baysham Court, Ross), said he thought their thanks were due to Mr. Rose for his very carefully prepared paper; but at the same time he felt that great differences must necessarily exist in different parts of the country as regarded the cultivation of land and farm work in harvest. It might be very well on stiff-clay soils to expose the land to a hot burning sun in August or September; but his experience of light and dry soils was rather against that practice. He liked to cultivate his land in such a manner that he would not have much of that great enemy "couch" to deal with, and he had found that when persons in his immediate district attempted autumn cultivation, unless the season were an extremely favourable one, they made a great many roots out of one. As to the cost of harvesting work in different districts, it must be almost as variable as the soil upon which the harvesting was done (Hear, hear). They had just heard from two or three very excellent farmers accounts of very different prices. While their friend from the Isle of Thanet told them of a very heavy expenditure, another gentleman from the same county made another kind of statement. His own experience lay a little between the two. He had now

used reaping machines for a good many years. The first that he purchased being worn out, and another had done some years' service. He gave 6d. an acre for cutting, unless he put a man on dry work—he, of course, fining the horses. In that case he did not give wages as well. He turned all the women and all the hands on the farm that were capable of binding to the work of getting in the corn as quickly as possible, and the general cost varied, according to the crop, from 5s. to 5s. 6d. an acre for binding and stooking. Although his county was a cider one, he did not give cider any more than beer, having found it best to make an arrangement to give his men so much more per acre for what they would have in the form of cider. Further, he had found it advantageous to pay the cart a shilling an acre for pitching and loading; and his experience was that from 10s. to 11s. an acre was about the total cost by the time when the corn was stacked. Of course very much depended on the crop. As soon as the harvest was over he carted the manure upon the stubble and ploughed it in, preferring that to any attempt at cultivation in the shape of scarifying, for the reason to which he had alluded before. He farmed upon a different course to that of most people, as he had mentioned before at a Club meeting at the Salisbury Hotel; and he would repeat in a few words his process and the advantage of the system which he had adopted. He went on the five-course system instead of the four-course. He grew wheat after roots, and barley after wheat, and seeded the barley. Then, of course, wheat followed clover, and roots followed wheat. He then manured on the wheat stubble for roots, using 3 cwt. of Proctor's turnip manure for the roots in addition to ten loads of farmyard manure. The sheep ate cake and corn while consuming the roots, which were principally consumed on the land; and the young clover he also manured as quickly as possible after harvest, using the same quantity of manure. In the course which he adopted he preferred putting two dressings of ten loads per acre to applying an excessive quantity for any particular crop. Having adopted that system some fourteen or fifteen years ago, he had had no reason to repent the change which he made at that period. As regarded the cultivation of land during the harvest he thought they would want an increased number of hands for that purpose. He had found that in ordinary seasons he had quite enough to do in getting in the harvest when it was ready, and it was not till after that was done that he turned his attention to the cultivation of the soil.

Mr. E. M. MAJOR-LUCAS (Mercer's House Row-ham, Aylesbury) wished to say one or two words with regard to what had been called in his part of the Country Dutch barns, in other words covered sheds. Some years ago he spoke about £100 in erecting several of these barns, and he had found it exceedingly useful, and profitable. In the year 1870 the farmers in his district got in their harvest very successfully, but on account of the dryness of the season and the want of straw they required to thrash very early, but the rain prevented and the result was very disastrous. His own corn being covered in he got on very comfortably. No doubt was to a great extent a landlord's question, because it was not at all likely that tenant farmers would put up roofs for the possible benefit of others. (Hear, hear.) Many tenants, who did not possess the advantages which he did in that respect, would be glad to pay a fair percentage on the outlay, and it would be a matter for calculation what to allow for insurance and decay. He was sorry to say that this year very little corn and straw had been grown in his neighbourhood

and he had put a haycock under one of them. The sheep were sometimes shorn under the same protection.

A Member asked what materials were used for the roofing?

Mr. MAJOR-LUCAS: Slate, with spouting.

Mr. W. E. BEAR (Thorpe, Colchester) said, as regarded the self-binding reapers alluded to by Mr. Rose, he thought there could be no doubt that the use of those machines was likely to introduce greater economy in farm labour than almost any other machine than had ever been invented. When he first went into business he got a one-horse reaper, thinking it would be a great improvement upon the old Crosskill. He had found that in a wet season the three-horse reaper could not be worked, and he had also found that a one-horse reaper worked in such a manner that he would prefer the old-fashioned scythe. When a machine of that kind got out of repair, or even when a bolt dropped out, the men were kept standing for some time, and nothing was done. The two-horse reaper was, of course, a very great improvement, but he had seen great mischief done by the use of that machine in a wet harvest through corn being cut and left untied. Self-binding reapers would enable farmers to harvest their crops with their ordinary staffs of men. Apart from loss of time, he thought the experience of all farmers was that the employment of extra hands was, in some respects, a very great nuisance. He did not agree with Mr. Rose that the best thing to tie with was straw; in his opinion what did best for that purpose was string. Mr. Rose said he hoped that within two or three years they would find sheaf-binders in general use. He (Mr. Bear) hoped that before the next harvest they would see a good supply of both string-binders and wire-binders, so that farmers would be able to choose which they pleased. As regarded the beer question, he felt that there had not been a sufficiently strong protest against the assumption of the leaders of the agricultural labourers that they had a grievance in the case of beer. Farmers had often been represented as tyrannical persons who forced beer upon the labourers in their employ, whereas everyone in the room would agree with him that, as a body, farmers were anxious to do away with the allowance of beer, and that it was the labourers who were opposed to it. (Hear, hear.) The system of giving beer appeared to him very hard upon men who did not wish for half as much beer as other men got, and who had no corresponding advantage offered to them. He would be glad to see the beer system done away with altogether, the men being offered money instead of beer.

Mr. C. HOWARD (Biddenham, Bedford) said he agreed with preceding speakers that the Club was very much indebted to Mr. Rose for his carefully prepared and very comprehensive paper, embracing a variety of questions of considerable interest to the farmers of this country. Mr. Rose had put autumn cultivation in the foreground; his paper gave prominence to it rather than harvest operations. His opinion as an ordinary farmer was that as the results of the year's operations were seen in the harvest they were bound to throw all their energies into those operations. (Hear, hear.) They should, he thought, first see that those eggs were secured in the basket, and then apply themselves to steam cultivation. There is great advantage derived from stirring clay land as soon as you could after harvest, but it was a question whether there would be the same advantage in steam cultivation at that period in the case of light lands. Mr. Rose touched upon green crops, in other words catch crops. Having had considerable experience with regard to light lands for a num-

ber of years, he must say that he had, however, tried such crops, and he had done so on many occasions, without being satisfied with the result. If they could keep their lands clean and in a good state of cultivation, they had better rest satisfied with one crop. He had been induced by what he had read in various papers and periodicals, in reference to such matters, to try first one thing and then another, and had come to the determination that, unless he saw something much more advantageous than he had ever seen yet, he would not to any extent try what was called a catch crop again. He did not think any real advantage was to be gained by it. Of course he spoke then of the land of his own farm. To go back to the harvesting, he must say he regretted that Mr. Rose had not mentioned the practice in Norfolk. Every one knew that the county had earned a high character by the mode in which its farming operations were pursued, and, from all he had seen, it would appear deservedly, and he regretted that they not heard the experience of several Norfolk gentlemen whom he saw in the room. It was not yet too late, and he hoped that appeal would not be in vain, and that before the discussion closed they would hear something about the customs of that county. Several important questions had been raised that evening, especially in reference to self-binders. He was not himself quite clear as to the necessity for them. He thought if they could get their corn cut they could always get people to tie up. Further the corn was not always ready to be tied when it had been cut. It was sometimes cut with the dew upon it, and they were obliged to leave it until fit to tie. These self-binders being worked in connection with the reaping-machines tied the corn as it was cut. He would advise farmers to hesitate before spending much money upon them. They had not of late realised profits which would justify them doing so. As regarded beer he agreed with Mr. Bear that farmers generally had, to the best of their ability, put a stop to the system; but he did not think it could be done with the present generation of labourers. It would be best to begin with the boys, and he advised all gentlemen present who were in the habit of supplying the boys employed on their farms with beer to tell them that in future they did not intend to allow them beer, at the same time letting them understand that they would receive an adequate consideration for that at the end of harvest.

Mr. C. S. READ, M.P., said Mr. Charles Howard had expressed a hope that some one connected with Norfolk would say a few words with regard to the most usual mode of harvesting corn in that great arable county. He did not at all wonder that some gentlemen had felt disappointed at Mr. Rose's paper because he did not enter more into the question of harvest work. He himself, when he first read the notice, thought that it referred merely to harvesting, but when he looked at it a second time he found that it included all farm work, and he was quite sure that Mr. Rose had carried out legitimately the intention with which the notice was given from his own point of view (Hear, hear). With regard to harvesting in Norfolk he would remark that the usual custom there was that a certain number of men and boys were paid so much to secure the corn crops that were grown upon the farm. The men as a rule were paid from £7 to £8, and the usual duration of harvest was certainly under a month, so that the wages appeared exceptionally high; but during that time the men no doubt worked exceedingly hard and for a great many hours. For his own part he did not follow that practice. He put out all his corn at so much per acre, he providing the reaping machine and cleaner. He

paid so much per acre for saving the crop and for the thatching, and the price generally varied from 12s. to 15s. per acre. That was, he believed, considerably less than the average of the county; excepting those districts where the land was exceedingly light, and there was a very short straw crop. As a rule the labourers in Norfolk never thought of doing any other work during harvest. In wet weather they went away to a public house, and spent a great part of their time in jollity, and when they came back to work they were not all so steady as one would desire to see them. He thought Mr. Rose was quite right in a local point of view in urging that at harvest time something must be done besides getting in the corn, and that other agricultural operations ought not be neglected at that period. He believed that on a great number of small farms in Norfolk as much as £1 per acre was paid for the ingathering of the crops. That was a most extravagant rate, and the work was often slovenly as well as expensive, and the barley was never bound. For such wages the harvest was not got in nearly as quickly or as well as it ought to be. As respected Kent, he had seen some of Mr. Russell's crops, and although that gentleman might be an antediluvian in some respects, in others he had proved quite up to the mark. One gentleman belonging to Kent has told them that he could secure his crop for 8s. per acre. He supposed there was an extra shilling for thatching, but the amount would then be only 9s. They ought to go to Kent, and take a lesson from that antediluvian county. Mr. Sherborn told them very much the same tale.

Mr. MAY said he believed that 10s. an acre was about the average, adding that men never earned less than from 6s. to 7s. a day.

Mr. C. S. READ continued—that meant nearly three-quarters of an acre per day and he thought that Norfolk men would not always do that during the time they were harvesting. As regarded beer he could quite agree with Mr. Bear and Mr. Charles Howard that farmers ought not to give beer; but he had found to his cost that if he did not give beer he did not get the same amount of work done. The wet groat went farther than the dry shilling. Of that he was positive. He had made a determination not to give beer but always to give money instead, and he knew that his neighbours who gave beer and did not give anyone extra money got their work done cheaper and better than his was done. Mr. Charles Howard said he had tried catch crops, and would not grow any more. He (Mr. Read) would have thought that if there was any county that was adapted for the growth of catch crops Bedfordshire was such a county. Such a declaration on the part of Mr. Howard was most serious, because that gentleman was a great sheep farmer, and because he also farmed such light land at Biddenham. He did not suppose anybody who was not a born fool would think of growing green crops on land of an opposite character, and he presumed it was such crops that Mr. Howard meant by "catch crops." (Mr. C. HOWARD: "No, no.") He had thought that by "catch crops" was meant rye, vetches, trifolium, and rye grass, grown before roots, which were fed off by sheep. He understood Mr. Howard, however, that he would not grow such crops after harvest in order that they might be fed off by sheep in the spring. He grieved to hear such an experienced agriculturist as Mr. Howard say that such crops would not pay, his land being exceedingly well adapted for them and he being also a great flockmaster, and so good a farmer.

Mr. C. HOWARD: My land is clean.

Mr. READ said no doubt that led him to remark that to move light clean land about in the autumn simply for the purpose of stirring it was, in his opinion, prejudicial to that land rather than the reverse. Mr. Rose referred in the course of his discursive and comprehensive paper, to the question of providing covered yards. Whatever else that term might embrace, it was not intended to embrace yards covered with glass. (Hear, hear.) Glass might be a very good material for vines, but it would be too hot for cattle even in the early spring. The best covering was dry pantiles, being so that there would be perfect ventilation: and if anyone advocated glass as a covering he must tell him that his experience in reference to such matters must be very limited. A covered yard was a great saving of litter, and considerably enhanced the value of manure. It was because Mr. Rose had introduced so many topics into his paper that he had been led to make these discursive remarks.

Mr. ROSE, in replying, said he must remind Mr. Sherborne, who found fault with him for not stating the actual cost of harvesting work in the county of Norfolk, that he had nothing at all to do with the cost or the method of harvesting, or anything of the kind, his subject being "Farm Work in Harvest." He had advocated in his paper the execution of farm work contemporaneously with harvest work, and he still did so. As to the complaint that he had deviated from his subject, he acknowledged that, and apologised for it in his paper, and he thought the importance of the question of contagious diseases of cattle formed some palliation for it. He also introduced the subject of covered yards on account of its great importance. In his county they had not anything like provision enough for the covering of their cattle.

Mr. J. K. FOWLER, in proposing a vote of thanks to Mr. Rose for his valuable paper observed that for two or three years past he had contracted to let the whole of his harvesting work at a certain amount, and in the last year the entire cost, including thatching and stacking was 15s. per acre. After he had engaged the men to do 200 acres, they immediately ordered 400 gallons of beer. He was quite sure that Mr. Head was right in stating that a wet groat went, as regarded the work done, quite as far as a dry shilling.

Mr. FINLAY DUNN, in seconding the motion, remarked that all who read Mr. Rose's paper would find that he had adhered pretty well to his subject, and had given a great deal of important and valuable information (cheers).

The motion was then put and carried, and

Mr. ROSE briefly returned thanks.

Mr. T. WILLSON, in moving a vote of thanks to the Chairman, remarked that his harvesting had been done for 11s. 6d. an acre; adding that for the last thirty years he had given his labourers malt and hops instead of beer.

Mr. F. STREET seconded the motion: As regards the beer question he thought a great deal depended on the custom of the neighbourhood in which you lived. While he lived in Bedfordshire he was obliged to give beer, but after removing into Huntingdonshire he did not give a single pint, but made money payment instead, and he believed that if he were to go back to Bedfordshire next year he would not be able to carry out his present plan very successfully.

The CHAIRMAN, in returning thanks, said he had abstained from making any remarks on the paper because he felt that the subject had been very fully discussed; but he wished to allude for a moment to another matter. At the last meeting a very able paper was read by Mr. F. Street; and, after the

discussion had closed, the meeting resolved itself, as it were, into a committee for the formation of an important association of great importance. He was glad to be able to state that in pursuance of what was done last month, a meeting had been held, the proceedings of which were of a very great interest to the breeders of cart horses in this country; and it must be very satisfactory to them to know that although the new association formed no part of that club it was originated on it, and the club was made a sort of nucleus by which that important project was set afloat. (Cheers.) He wished just to add that there would, perhaps, be some little variation from the words of the paper the next month. Whereas the subject on the card was "Local Government,

with special reference to Local Districts," it was probable that the discussion would turn very much upon the Government Bill relating to local government which was now before Parliament. That Bill was a most important one, and that he hoped that there would be a large meeting, and that the whole question would be thoroughly discussed. He held that in its present shape the Bill would be found totally unworkable, and would not be acceptable to the country, and that if it was to be passed it must be weeded and amended to a considerable extent. He had thought it desirable to mention that the subject would come before them in a different form from that in which it appeared on the card.

The meeting then separated.

## FARMERS' CLUBS.

### UPTON-ON-SEVERN.

Recently, a meeting of the members of this Club was held at the Star Hotel, Upton-on-Severn. The chair was taken by Mr. G. E. Martin, Vice-President.

The SECRETARY expressed regret at the absence of the Earl of Coventry and Sir Edmund Lechmere, Bart., M.P., and then explained the object of the meeting. He said it was called in connection with a resolution passed on the occasion of their meeting to hear the lecture of Mr. Bailey Denton. A preface to the resolution had been prepared, but it was thought there ought to be some modification of it, and this was what they had to take into consideration that day.

The CHAIRMAN read the resolution passed on the occasion of Mr. Bailey Denton's lecture, as follows:—"That the attention of the Council of the Royal Agricultural Society be respectfully called to the expediency of their taking such steps as may induce the Committee of the Privy Council on Education to include amongst the extra subjects to be taught in rural schools the elementary principles of practical agriculture, including the operations of farm labour; and that the Council of the Royal Agricultural Society be further requested to prepare and issue simple text books and charts, illustrating agricultural subjects, and especially mechanics as applicable to agriculture, with a view to their being adopted in elementary schools in agricultural districts." This resolution, Mr. Martin went on to say, was recently brought before a meeting of the committee of the club, and a kind of preface to it was drawn up by Sir Edmund Lechmere in consultation with Prebendary Brerton (who was also present when Mr. Bailey Denton's lecture was delivered). The preface was to some extent explanatory of the resolution; and what he understood to be the general feeling of the members of the club was that this preface should be slightly modified. He had seen Sir Edmund Lechmere once or twice since the committee meeting, and had mentioned the matter to him. Sir Edmund told him that he did not wish for a moment to lay any great stress upon what was said in the preface; he was only anxious that the committee of the club should deal with the matter as they thought best. For himself (the speaker) he thought the resolution was very explanatory in itself, and he did not think much would be gained by adding a very long preface.

The preface was then read by the SECRETARY. It was as follows:—

"Some disappointment prevails in the agricultural districts, particularly among the employers of farm labour, at the results of elementary education as tested by the value of the labour

of those who have enjoyed the full benefits of the improved schools. One inducement to the more liberal support of elementary schools through taxes, rates, and voluntary subscriptions has been the hope that with improved teaching not only learning would spread but that earnings might be raised, through the increased skill and intelligence of the educated labourer. It is found, however, that this is not generally the result, and whether or not the present schools are preparing children for other spheres, it is generally lamented that they fail to fit them for the most important of rural industries—farm labour. If this complaint is warranted—and it is certainly very prevalent—some effort should be made to counteract, or, at least, to mitigate, the evil. It is thought that something might be done by introducing into the schools lesson-books and illustrations which would have a direct tendency to awaken an intelligent interest in the observation of plants and animals, and the chief processes of agriculture. It is also thought that in connection with the training of teachers a certain amount of scientific acquaintance with agriculture might be required, and particularly it is believed that by some modification of the present educational system more inducements might be held out to the sons of farmers and other employers to enter the profession of schoolmasters, and so bring about a more economical appreciation of the ultimate value of skill and industry. It is thought that the council of the Royal Agricultural Society might consider it within their province to inquire into this matter, and to press its importance on the educational authorities of the country. The question has been raised by the Upton-on-Severn Farmers Club in Worcestershire, at which, after a very well attended meeting and full discussion (preceeded by a paper read by Mr. Bailey Denton, which has since been published), the following resolution was unanimously adopted." (Resolution given above.)

A brief discussion ensued as to the desirableness of modifying the preface with a view to its curtailment, the general opinion of the meeting being that its length, together with the resolution, would prevent its being inserted in the Royal Society's journal, and other agricultural newspapers, as desired.

The CHAIRMAN mentioned to the meeting that Mr. Bailey Denton had decided to publish his lecture in full, in the shape of a pamphlet, with a view to lay it before the Royal Agricultural Society, and to ascertain whether they would insert it in their *Journal*. He thought a shorter preface than the one before them would be more likely to gain the object they had

in view. The subject of Mr. Denton's paper was down for discussion at a meeting of the Royal Agricultural Society.

On the motion of the CHAIRMAN, seconded by Mr. WORK-

MAN, that portion of the preface from "It is thought" to "the educational authorities of the country" was struck out, and the other portion unanimously adopted.

## AGRICULTURAL SOCIETIES.

### BOROUGHBRIDGE.

A quarterly meeting of the Boroughbridge Agricultural Society was held recently, at Boroughbridge, when Mr. T. S. MASON, Fountainhall, read a paper on "The Capital Required in Agriculture." He said that the subject was one for serious consideration, particularly at the present time, when farmers were suffering from a succession of bad seasons. He was of opinion that a farmer must depend on his own power of calculation in fixing the amount of money he would require for the farm he was about to occupy. In making his calculations, he had had in mind a mixed farm in that neighbourhood of 300 acres, in fair condition—two-thirds arable and one-third grass, rented at 35s. per acre. Such a farm he calculated would require a capital of from £12 to £17 per acre. The half yearly rent and rates he estimated at £1 1s. per acre, valuation as tenant-right 18s., machinery and implements at 30s., horses £1 5s., stock £5, cake and artificial manure £1 5s., labour £1 5s., furniture and housekeeping £1 10s., repairs 3s., and 3s. per acre in addition, made up £14 per acre. With regard to the valuation as tenant-right, the sum he had set down was low, for it would undergo considerable change, according to the manner in which a farm had been carried on, and according to the nature of the holding. Few but those who had had it to do could estimate the cost of putting a farm in good condition which had been allowed to run back. Time and capital had to be expended which outweighed any amount of tenant-right. It was most essential that a correct idea of the value of the tenant right should be known before a farm was taken, so that no miscalculations might cripple the after management. Then machinery and implements were a great expense in the first year, but without them no farmer could make headway in the present day. This expense would be proportionately heavier on a small farm than on a large farm. He thought he had given a moderate estimate of the amount required for cake and artificial manures. The consumption of cake was, perhaps, the one grand feature in high-farming, and the more stock they could keep in an improving condition, the better for themselves and for the land. The item of repairs was sometimes forgotten, and although it was not a large payment, yet if it came without being calculated upon it was sure to be troublesome. They must bear in mind that this capital which was invested was only returned at long intervals, and some times they had to wait for better seasons and improved markets before they secured the whole of their capital with interest. It was in this waiting that the man without capital came to grief. No doubt there were instances where men with small means had been fortunate enough to meet with an exceptional season, and thereby raise money enough for the continuance of the farm, but these instances were rare. It was not to be understood, however, that capital was the only thing requisite. It must be coupled with practical knowledge and sound judgment. The want of practical knowledge and sufficient capital were the two great causes of agricultural failure. With regard to the question, does farming pay? he answered not at present. But it would pay when properly conducted. With freedom from imported disease, and

the evidence of that consideration which agriculture would really claim, the capital would not be wanting to improve the producing power of the land. It was in the public interest that the country should produce largely, and anything which hindered that production was an injury to the country.

Mr. BENNETT thought that the estimates set down in the paper were a little too low; but the cost depended very much on the locality. Most of them were of opinion that farming did not pay at present; but he did not think that that was owing to deficiency of capital. There were other reasons which accounted for it. Still, farmers were apt to take farms too large for their capital, for they did not consider, when taking them, that a very heavy tenant-right put so much per acre on the rent of the land.

Mr. BROGDEN thought that an estimate of £12 per acre was rather under than over-rating the cost. His own impression was that £15 an acre was required.

The Rev. C. H. SALE thought there was not so much more capital required for farming now than formerly, as many people supposed. If there was more required for machinery and implements there was a recompense in the work being better done; and though there was no doubt a heavier expenditure for cake and artificial manures, yet the farmer of the present day had the advantage of quicker returns.

The CHAIRMAN agreed with the last speaker that farmers in the present day could turn over their stock much more quickly than was the custom thirty years ago.

Mr. T. SCOTT said that profitable farming meant high farming. But the question of quick returns was not a matter of capital, but of profit. If they turned out this stock at an earlier age than was the custom formerly, yet they had to get them into condition by artificial means, and therefore there was the same amount of invested capital as if they kept the stock three or four years.

### ROYAL JERSEY.

This show was held on April 4th and 5th, and was quite up to the average, though in the opinion of some of the judges the cattle, taking them altogether, were not so fine as last year. Two yearling bulls exhibited were perfect pictures, and that it was a very near thing between them in the judge's opinion, is evidenced by the equal number of points awarded to each, viz.: 89. Mr. J. Le Brocq's brown yearling Snap, obtained the first prize, and a parochial prize, and his cousin, Mr. Francis Le Brocq, the second prize, the first herd book and a parochial prize. Mr. W. Alexandre's bull, Grey King, took the first prize in the two-year-old class, and was a very meritorious exhibit. There were only two entries in the three year old class and Mr. Pr. Le Masurier took the first prize with his fawn bull, Bobbie. A fair number of horses were shown, but the quality was not first-class, though some useful animals were exhibited. The pigs were up to the average, Messrs. Vercoe and Gumbrell showing some very nice animals. The attendance was very fair, and the prize winners attracted not a little attention at the hands of the cognascents, the yearling bulls holding quite a levee of their admirers.—*Jersey Times*

## LIVE STOCK NOTES.

I was under the idea (an idea that at least *has been* pretty well shared by others) that Mr. Bowly proposes to sell, on April 25th, only dairy stock, or at least things that he has casually picked up at stray sales, where he is ever so generous a bidder. Having just inspected his stock I am glad to be able to say that it is nothing of the kind. He has come to the conclusion, which many others hold, that one or two tribes of this essentially *composite* (the Shorthorn) breed of cattle is quite as much as a breeder can satisfactorily handle, unless he has several bulls to suit the various sorts. He has consequently thinned down everything to his excellent Gazelle tribe, *in the main* (keeping, of course, a few of his own peculiar Musicals and Rubies), for the origin of which that famous authority, the Rev. H. Berry, stands responsible. Of the Gazelles his reserved herd includes some very beautiful cattle, notably Gazelle 28th (the dam of Lord Fitzclarenc 24th in the sale), a cow that is a *model for youngsters to study* and which I hope no one will visit Siddington without observing. They will be all in a meadow at hand. He was averse to putting any of these pets up for sale, but when he found that they might be looked for, with characteristic chivalrous pluck he at once decided "Well, then I'll put in the best bred one I have," and so he has done! The Musicals hung fire for some reason last year. Let those who doubt their merit about to go first view the faultless White Minstrel 2nd in the reserve, and then go to her daughter, Lot 17 (Minstrel 5th), in which they will find a roan youngster by 3rd Duke of Clarence, having a beautiful head, fine soft hair, and great width over loin and crops. Lot 23 (Musical 18th) has a wonderful back. What a depth of Duchess crosses they have too! His Asia cow has slipped calf, and will not be included in the sale. Minnie, the second lot (of Hubback hue), had been long before going to bull. What she *can* breed Lot 29, Minnie 3rd will amply show, being an admirable heifer. The old cow is very stylish in character. Clove is a massive, deep cow, and as they require at Kingcote an excellent milker, the Dido lots being very level, and bearing the impress of the clever Weston Park management, should be secured by our buyers. Now that bulls of this best quality are so plentiful, new hands should secure good females, of the same family if possible. Climb as far as you can on the shoulders of others. Ever improving should be the rule of life. Remember some thirty years since the Wildeyes cows were worth about 30 guineas a-piece only, and yet hundreds of guineas had long before been paid for various other cows. And those admirable Silences, now worth a-piece about the orthodox three rings of ruby, diamond, and sapphire (which so many ladies covet, and so few can wear), why, these cows quite lately fetched less than £50 a-piece! In the future, with an increasing de-

mand, and an ever-widening love of the pursuit, you know not what may come to the front. Get hold of the good well-descended cows now as chance offers, nurse your selection well, and the future you may regard with more than hope. By this same rule one buyer ought to secure the Lady Weston's, lots 15, 24, and 25, all very taking heifers, and of good blood too. For the dam of lot 26 Mr. Bowly gave 100 guineas, and at the time was held to have bought a bargain. I was there to see. This roan daughter is capital all over, but especially about the quarters and twist. Such is but a fair account of Mr. Bowly's contingent.

Mr. Denis de Vitre sells the same day a fine Charmer cow, a very valuable animal also in Grand Duke's Butterfly, and a *treasure* in Siddington 10th. He, as Mr. Bowly, is thinning his herd to one sort mainly, and that is the celebrated Barmpton Rose tribe, of which he has now perhaps the best in the world, having assiduously gathered them up at Towneley itself, and wherever else he could. Siddington 10th is a remarkably handsome cow, very lengthy and low, has a beautiful head and full eye, is round-ribbed, has long quarters, and a greenish-white horn. She is a sweet specimen of the breed, and moreover is a heifer-breeder, having had three heifers out of four calves, one, now by her side, which her owner cannot make up his mind to part with. The only sister to this unhappily died, when well grown, from a chill. The cow is in calf to 2nd Grand Duke of Kent (28759), whose stock was so much admired at the Underley sale. Sir Joseph (39124), got by 2nd Grand Duke out of a pure Barmpton Rose cow, the daughter of the well known Rose of Lancashire, is a grandly grown young bull, roan in colour, and mellow to handle. He will be exhibited at Oxford, and it must be a good one to beat him I anticipate. This sale, then, is not quite a second-rate affair after all. Mr. Bowly has a large dairy farm well stocked with shapely cows, but there are none of them included in this published list.

Being upon the track, I proceed further to say that I have had recently the opportunity of inspecting the Rushden Hall herd, to be sold May 31st. Its owner, Mr. F. Sartoris, is well known in connection with the Surmises. It was he who put May Duke on the Silence tribe. It was he too who selected for the Duke of Manchester at the Dunmore sale in 1872 Princess (Lot 1) of this very tribe, and who has done wonders, having had lovely offspring of the Kimbolton herd. Mr. Sartoris is found, as he naturally would be from his comparative neighbourhood to the celebrated kine of Fawsley, of Knightley blood, and has managed to combine Bates and Knightley, with more equable and better effect than any one I know, except Mr. Sheldon of Brailles. Their systems however, has been similar. They have bred



in and in, and so well mixed the elements, which do not always blend quite kindly at first, any more than a spoonful of Gregory's powder in a tumbler of water. Mr. Sartoris has, amongst many other good cows, a very grand Surmise, a couple of excellent Waterloos, and three of the best Gwynnes one has seen anywhere. Beginners should lick up these. They will have to travel far to find better. There is a fine stylish Waterloo bull for sale, Lord Clarence Waterloo by 3rd Duke of Clarence, and for the purpose of those who are wisely trying to keep Fawsley cattle in their former fashion there remains at Rushden a bull as like old Touchstone in hue and general character as possible. Born in 1871, roan, and got by no less than 7th Duke of York (17754), out of Polythou, who was by 4th Duke of Thorndale (17750), out of the memorable Polytint, one of the best cows ever bred at Fawsley, he is very distinguished in appearance, is long and meaty, and should be secured by a breeder of Knightley cattle. A better chance of a bull for such use can seldom occur.

The 7th Duke cross alone is worth a goodly pearl, and the Rosy foundation of his dam a whole string of such.

Disasters seem to run in cycles. There was last year great complaint of cows "turning" on the bull. There is now much heard of abortion, and untimely births. Sometimes a deep watering place, sometimes being chased by a dog or young donkey, sometimes bad smells, some times the eating of mangels will do it. Anyhow, remove the sufferer as soon as possible, for the mischief is very contagious. Wash her with weak chloride of lime and water, and scatter disinfecting fluid all around. The ewes which some weeks since took to straining out their wombs quite gave over when removed to short keep. Too plethoric a state is bad for anything with young. Sows especially should be kept lean as rakes. It is the only way to save the litter. Feed well as soon as the youngster<sup>s</sup> can notice and take care of themselves.

VIGIL.

Jan. 13.

### THE BRINDLE COLOUR IN SHORTHORNS.

In "Vigil's" interesting "Live Stock Notes," published in this journal on March 18th, he remarks, as a curious fact, that the old "yellow-red" greatly preponderated in the colours of the young Shorthorn bulls recently exhibited for sale at Birmingham. He observed that the roans were, in nearly every instance, yellow or chestnutty about the heads. "Reading the catalogue backwards," he continues, "out of 126 calves under twelve months old, 54 were decidedly yellowish or yellow; whilst of 68 'exceeding twelve and not exceeding fifteen months old' there were 45 which could not have been painted without the artist using a considerable proportion of yellow ochre, or some kindred pigment, in his compound. Mr. John Outhwaite's handsome winner, very suggestive of the best Warlaby form, and handling superbly was in colour nothing more nor less than a *dark chestnut brindle*." "Vigil" considers this to be the more remarkable in consequence of the known aversion which some breeders entertain to this colour; and that it is difficult to understand how much more it has forced itself to the front of late years. "Like murder, it will out," he very suggestively remarks.

This is a most interesting subject, and the facts related above were not likely to escape the observation of such an ardent admirer of Shorthorns as "Vigil." Although he has challenged an expert to reply, and wondered what the wise would have to say about it, the interest taken in the subject by a plain observer like myself, who does not pretend to be either wise or expert, will, I trust, be considered an excuse for my presumption in offering a suggestion with regard to it.

I scarcely think "Vigil" attached any importance to the influence of light, and of climate, to which he alluded in connection with crops, and the variation in colour which has been noticed in breeding fowls. That light will

influence colour may be taken for granted; and that climate will determine the character and growth of hair is also an ascertained fact; but the variation in colour mentioned by "Vigil" would seem to call for a very different explanation. Arguing from analogies there appears to be good ground for attributing it to "reversion." Those who have studied Mr. Darwin's work on the "Variation of Animals and Plants under Domestication" will be familiar with the facts recorded therein respecting the tendency of mules, bred between the ass and horse, to exhibit stripes on the legs and shoulders, and with the deduction made therefrom by the great naturalist that the common progenitor of the horse and the ass was striped; also with the arguments used in the chapter on "Reversion," and throughout the volume, as to the reappearance of latent characters both in cultivated plants and domesticated animals. Mr. Darwin says:—"The cases of reversion may be divided into two main classes which, however, in some instances, blend into one another; namely, first, those occurring in a variety or race which has not been crossed, but has lost by variation some character that it formerly possessed, and which afterwards reappears. The second class included all cases in which an individual with some distinguishable character, a race, or a species, has at some former period been crossed, and a character derived from the cross, after having disappeared during one or several generations, suddenly reappears. . . . When two distinct races are crossed it is notorious that the tendency in the offspring to revert to one or both parent forms is strong, and endures for many generations. I have myself seen the clearest evidence of this in crossed pigeons and with various plants. Mr. Sydney states that, in a litter of Essex pigs, two young ones appeared which were the image of the Berkshire boar that had been used twenty-eight years before in giving size and constitution

to the breed. I observed in the farmyard at Betley Hall some fowls showing a strong likeness to the Malay breed, and was told by Mr. Tollet that he had, forty years before, crossed his birds with Malays; and that, though he had at first attempted to get rid of this strain, he had subsequently given up the attempt in despair, as the Malay character would reappear. . . . . But we must be careful not to confound these cases of reversion to characters which were gained by a cross with those under the first class, in which characters originally common to *both* parents, but lost at some former period, reappear; for such characters may reappear after an almost indefinite number of generations. The law of reversion is as powerful with hybrids, when they are sufficiently fertile to breed together, or when they are repeatedly crossed with either pure parent-form, as in the case of mongrels." The old yellow chestnut-brindle colour which "Vigil" speaks of as coming so persistently and unwelcomely to the front, must be a reversion of the second class if a reversion at all. The case in point does not necessitate the bold flight of a naturalist's imagination to discern an extinct particular-coloured ancestor in the far-distant pre-historic past, but simply a hark back to the pre-Collings era, or to the time prior to the advent of the orthodox Shorthorn Adam—whoever he may have been—to the time when the common progenitors of the Shorthorns were the best Durham or Teeswater cows which could be found. It will be admitted that one old and distinct breed of cattle, the Longhorns, are conspicuously of a brindled colour, and would require a large proportion of yellow-ochre or some kindred pigment to depict them faithfully. It will have been noticed, too, that the West Highland cattle are not unfrequently brindled; and, perhaps it will be conceded that brindle is a very common colour amongst common mongrel-bred cattle. The most bigoted partisan will scarcely refuse to admit that the Shorthorn breed is made up of heterogeneous elements; and this may account for the fact that the purest, "grandest old," blood of the most fashionable strains does not include within its prepotency the faculty of producing definite colour in the offspring. There is a great diversity of colour amongst Shorthorns; and, to my mind, a great diversity of character as well. At all the shows of pure-bred cattle I have ever attended this diversity of character has invariably attracted my attention. Take for instance the bulls "Sir Arthur Ingram" and "Telemachus 6th" at Liverpool, both as to colour and character, and contrast "Snowstorm" with "Rear Admiral," and "Lavangro" with "General Fusee;" each possessed the typical Shorthorn form, but the character was as diversified as the colours. This diversity of character may, perhaps, be accounted for by ascribing it to that "fashion" in breeding which has eliminated the characters of certain fancy strains with great pertinacity, and jealousy of pedigree, whereby the etchings, as it were, of the great masters have been carefully filled in; but the diversity of colour can, I think, only be accounted for by ascribing it to the

heterogeneous elements of which the breed has been built up, and which entered into the composition of its early progenitors. The prepotency of the Hereford breed *inter se* is of a nature to determine both form and colour in a very pronounced manner; the very outline of the white markings is tolerably constant, and the occasional appearance of a "grey" Hereford shows an erratic reversion to an element which at one time must have been more common to the breed, but there is very little diversity of character. Herd after herd of *bullocks* may be found "all alike," and this cannot be said of the Shorthorn. The Devons, again, are very true to form and colour, but the climate of South Devon has modified the form, size, and colour of the typical North Devon; still, there are no markings. The West Highlanders are true to form, and there is little, if any, variation in character; but the colour varies within certain defined limits. Here, again, is a marked difference to the Shorthorn breed, in which there is little limit to variation in character, and, apparently, none whatever as to colour; excepting, perhaps, in respect of actual black. Therefore, the hated brindle colour which crops up, like original sin, amongst their refined descendants, may also be due to a preponderance of that colour in the common stock from which those ancestors were selected. The question may thus resolve itself into a simple case of reversion to the markings of "old brindle" after many removes. "Vigil" will not take this as a reflection on, or detracting from, the merits of Shorthorn blood. But the fracture of a polished stone will reveal the nature of the rock from which it was hewn.

If the facts which "Vigil" has so carefully observed and described can be interpreted correctly by ascribing them to reversion, there are interesting deductions to be made from them. "Vigil"—who by his writing must be admitted to speak with considerable personal knowledge of Shorthorns, and an intimate knowledge of their pedigrees—distinctly states that the "old yellow-red" colour, which I take to mean a brindle with the markings more or less distinct, has occurred amongst highly-bred Shorthorns so frequently of late years that it has become noticeable. It is evident, too, that he does not consider it to be a desideratum with the generality of breeders; they do not try to obtain it. On the contrary, they would conceal it like murder; but it "will out." The actual brindle is commonly supposed to indicate an unkind disposition or bad back-breeding, and the objection to it on the part of Shorthorn breeders may possibly be explained by this phase of vulgar taste, which may be mere prejudice. Long accepted agricultural prejudice, however, is generally based on generalisations of facts, which, after all, are sometimes misunderstood. But "Vigil" states distinctly that in one instance a decided brindle was in point of form and quality all that could be desired, and I wish to be understood in making these remarks not to imply that the quality or intrinsic value of these objectionably coloured animals is necessarily lessened. To resume the argument, it may, I think, safely be assumed that if the variation of

colour is due to reversion, it does not stand in the position of a casual and erratic cropping up of a long-lost element, but in that of a regular and definable return to latent character. If this is so—I do not say that it is—but if it may be considered to be so, there should be something to be learned from it.

I have noticed, as "Vigil" has doubtless noticed, that when a pure-bred sire of one breed is used to a pure-bred dam of another breed—say a Shorthorn bull on an Angus cow—the offspring is different to either, and often a better butcher's animal than either; in other words a direct cross—figuratively speaking, neither oil nor alkali, but soap. The offspring of such offspring would be very uncertain; in fact would *revert to the latent characters* of both sire and dam. But if a pure-bred sire be put to a mongrel-bred dam, the offspring will show striking and typical likeness to the sire, apparently in inverse proportion to the admixture of blood of the same strain which the dam possesses. As a case in point I may mention circumstances which have occurred within my own experience of breeding cross-breeds and of breeding *inter se*. I used a pure-bred Hereford bull, purchased from the herd of one of the best breeders, on an out-of-district herd of Hereford cows; and this particular bull on the rank and file of the common dairy cows of the district. As bull calves were not reared from these dairies, I purchased all the males of his get which I could obtain to rear as bullocks. Out of twenty-six of these calves twenty-five were marked true to the Hereford type of colour, red with white faces, most of them of a lighter shade than the Hereford red, and most of them of Hereford type, but showing some character derived from the dam; that is to say, they were true to the colour type but not to the breed or form type of the sire. These calves came out of all sorts of mongrel-bred cows. Only one of the calves showed irregular white markings on the body; this calf I noted very particularly as having for a dam one of the best bred yellow-and-white Alderneys in the neighbourhood. Here, then, the prepotency of the sire was not so great; the blood of the dam was as pure as that of the sire, and the result was a direct cross in which the colour type of the sire was scarcely maintained, though predominant and the form type was nearer that of the dam. Now, with respect to the influence of this bull on the Hereford cows, which were of a lighter shade of colour than he was, and had been closely inbred—the offspring inclined in point of colour more to the dams than to the sire. In the matter of colour, then, the prepotency of this bull, which was absolute in the case of the mongrels, but subservient to that of the dams of the same breed as himself. These facts I carefully noted at the time as being highly interesting. Whenever an opportunity has offered, I have paid particular attention to prepotency in its influence on colour as well as on type. I have noticed generally, that, when sire and dam are of about equal prepotency there is a tendency in the offspring to revert to some type of form

or colour which is latent in one or both of the parents. I have remarked this in animals which are not closely related, or not related at all. But when a certain stage of close or in-and-in breeding has been reached I have noticed what has appeared to me to be a return to first principles, occasionally accompanied by malformation. As a case in point I may cite the instance of a breed of pigs which came recently under my observation. A gentleman founded a breed on the bases of Chinese and Essex blood; and these pigs, by being closely inbred, established a type which proved highly prepotent on the male side when the boars were used on other breeds and varieties. But after some years of continual interbreeding not only did they lose type of form, but became white—marked in a manner which seemed to indicate that the breed was resolving itself into very early elements, of which there was no indication whatever in the material of which it was formed.

Taking "Vigil's" account of the Birmingham Sale, there appears to have been no noticeable deterioration in the form and quality of the exhibits. On the contrary, he states, "After a brief survey, we arrive at the conclusion, which others seem generally to share, that it is the best lot of young bulls ever yet exhibited for sale here." Speaking of one particular animal in which the brindle colour was very prominent, he says it was handsome, and suggestive of the best Warlaby form, "handling superbly." So that there is nothing in "Vigil's" account, to which I must strictly adhere, which will warrant an assumption that, in point of form or character—which he distinctly states to have been "more even" throughout—there was anything detrimental connected with the tendency toward the particular colour of which he took such careful notice. He does certainly say "It was not the best-bred ones which showed the best;" but he at once explained that untoward circumstance by pointing out that the best breeders could not be expected to expose anything but the "culls of their herds" to the conditions of the sale. I am quite prepared to accept this explanation as correct; but there is a rumour abroad—which is, possibly, merely the ill-natured slander of the enemy—that the culls from fashion-breeders' herds are sadly out of all proportion to the successes. But in respect to colour, at Birmingham, "Vigil" says the judges were quite regardless of it, and "went altogether for shape and quality, . . . . and the winners in several cases verged absolutely on the hue of the Galloway." There is an old saying that a good horse cannot be a bad colour, and, in the light of Birmingham events, there would appear to be a possibility of the adage being adapted to the necessities of bovine as well as equine reputations. "Vigil" tells us that nearly one-half of the bulls at Bingley Hall had the brindle element more or less strongly developed; and in the absence of any statement to the contrary, it will be fair to assume that these animals were from diversified families of Shorthorns, which would be a direct confirmation of his statement that this colour "is forcing itself to the front." Now, the ques-

tions which naturally suggest themselves from this view of the subject are :

1. Do Shorthorn breeders admit that this brindled colour is showing an increased tendency to develop itself from all the families, generally, or from certain families particularly; or is this Birmingham circumstance merely a coincidence, and the tendency disputed?

2. If admitted, generally or particularly, can it be correctly explained by attributing it to reversion?

3. If attributable to reversion, other than of an erratic or accidental character, can it be shown in general or particular cases to be the result of close interbreeding?

4. Is the reversion to an elemental type of colour (if admitted) accompanied by any reversion to an elemental type of form or character?

As the subject can scarcely fail to be interesting and instructive I hope some one will reply.

OBSERVER.

## THE LAND AND THE PEOPLE.

(From the Echo.)

### No. IV.—PREVALENT LOW FARMING.

The average value per acre of the produce of the farmed land of the United Kingdom is estimated by the best judges to be from £5 to £5 10s. On land well farmed, and even over the whole of exceptional districts, the amount is probably double; so that, if we take these out of the sum, we must set the average of the remainder at even less than the low one of £5 per acre. This is a conclusive proof of the prevalence of inferior farming. But no one who knows anything of crops and cultivation needs an array of figures to convince him of this fact. A drive through any county, or even a flying journey in a railway carriage, shows him land foul, half cultivated, half covered with crops, and altogether poverty-stricken, with only a few oases in the desert; and the pasture land is every bit as bad as the arable. An objector argues against the fallacy of thinking that it is necessarily an evil that we send gold out of the country to buy corn, and contends that, as farming is the least remunerative of our industries, it is best that we should let our corn be produced abroad, and turn our labour to a more profitable account. I endorse no fallacy of this kind; but at the same time I maintain that to be obliged to import what we can profitably produce at home, while our labourers are leaving our shores by thousands annually, and thousands more are only half employed, is a dead loss.

This brings me to a greater fallacy than the one mentioned by the objector referred to. It has been taught by political economists, and accepted as an axiom, that the cost of producing a great crop is more in proportion than that of producing a small one. In a country where land can be had for next to nothing this may be true; but it certainly is not true of a country like England, where rents and all other expenses are high. To show this clearly, let us take the case of a farmer who buys a poor farm. I must take such a case, unfortunately, because under our atrocious Land Laws a yearly tenant who improves his farm is liable to be rented on his own expended capital, and a leaseholder the same, if he keeps on farming well up to the end of his term. But suppose that the purchaser of the poor farm mortgages it up to its full value, so that interest will stand in place of rent. The farm is in such poor condition that it grows on an average only five sacks of wheat per acre. Now, what will it cost the farmer to make it grow ten sacks? If it does not require draining, he will only have to keep sufficient stock, feeding them partly on purchased food. The stock, we may fairly suppose, will pay for all the food they consume, the cost of attendance, and interest on the capital invested in them, leaving their manure as the only profit to enrich the soil. I am assuming

that the farmer keeps stock of all kinds—not merely fattening stock, which will not always pay expenses. In a few years the crops on the farm will be improved. The change will be gradual, and it may take six years to arrive at the doubled produce of wheat. That makes no difference to my argument. Take whatever stage in the progress of improvement you please, and what do you find? The rent (interest) and the tithe are the same; the tradesmen's bills are no larger; the cost of horses is no greater; no more seed-corn has been used; and the miscellaneous expenses and the farmer's living (call it manager's salary) are no greater. Rates are a little higher; there is interest on a larger amount of capital to charge; and the cost of labour in harvesting, thrashing, and sending out the crop has increased to the extent of a few shillings per acre. The general labour has been rather less than greater, for it is well known that heavy crops cost less to keep clean than light ones. Now, anyone can see that the cost of producing the extra five, three, or two sacks of wheat per acre is less in proportion than the cost of growing the five sacks that were obtained by low farming. I am not here assuming that all the land of the country could be made to yield ten sacks of wheat per acre in an average of years. On the contrary, there is some land so "hungry" that it would swallow up any quantity of manure put upon it. Even such land, however, would be wonderfully improved by the "golden hoof" of the sheep, and whatever extra yield was obtained from it, I maintain, would be got at less proportionate cost than what is grown in the ordinary way. But in the case I am supposing it is not the corn crops only that would be increased. The roots, clover, grass, and other feeding crops would all be grown in greater abundance, thus producing more meat, and affording more home-grown keep for horses; so it is not in all cases necessary to double our corn crops in order to double our total produce. If my example-farm required draining—as land capable of producing ten sacks of wheat per acre and only growing five probably would—the profit on the high farming would of course be diminished; but as the draining would add to the value of the fee-simple, only the interest on its cost would have to be charged, and this would amount to no more than from four to seven shillings per acre.

Nor does the assertion that high farming pays better than low farming rest on any hypothetical case, however fairly drawn. It is the common teaching of experience. Wherever you find the best farming there, as a rule, you find also the best-paying farms. Unfortunately, however, it is not always

the improving tenant who reaps the fruits of his enterprise. Too frequently the landlord appropriates the results of his tenant's spirited and judicious outlay in the form of increased rent. Take the best-farmed districts of Scotland, for example. There high farming has undoubtedly paid well; but who has it paid? The tenants, sometimes, but not as a rule, I fear; as it is said to be the exception, and not the rule, for a tenant in Scotland to farm out his lease; and the recent farming failures in the Lothians and other districts tell a sad tale. Still, it has paid the tenants sometimes—and the landlords always. The rise in rents in Scotland during the past fifty years has been enormous. Tenants have taken farms on lease, have expended capital freely in good farming, and then have got into difficulties, having to leave their farms and their capital (and other people's as well but too often) sunk in the land, thus enabling the fortunate landlords to charge higher rents to the next comers. The Law of Hypothec is to a great extent responsible for this deplorable state of affairs. Under that abominable law a landlord is sure of his rent, and can safely accept any "man of straw" as a tenant. Thus men with insufficient capital take land, spend their money, and get into difficulties. Tradesmen, merchants, and bankers suffer; but the landlord is secure. The tradesman's implements and other goods, the merchant's cake and manure, the banker's cash—all is fish that comes into *his* net. Let the galled jades wince; *his* withers are unwrung. The Law of Hypothec holds him secure from all loss. It goes without saying that to tempt tenants to risk their capital on the chance of good seasons setting them well on their legs there must have been prizes gained by others before them. No doubt there have been, especially in that speculative business potato-growing. But there is far too much of the gambling spirit about this high-farming in Scotland, and only the landlords "stand to win." Lincolnshire supplies us with a more favourable instance of the advantages of high farming. There a system of tenant-right has prevailed for many years, and nowhere in England will there be found more prosperous tenants.

Go, on the other hand, into the worst-farmed parts of the country, and there, as a rule, you will find the poorest tenants,

The farms to let by the score, at greatly reduced rents, at the present time are not the farms where the most capital has been expended, but those where low farming has been the practice. It is comparatively seldom that a farmer who farms well, and who has capital enough to enable him to stand against a succession of bad seasons, fails to pay his way, unless he is over-rented, or "eaten up" with game. Why is it that, although high farming pays better than low farming, the latter chiefly prevails, I explained to some extent in my last letter. Until the capital of farmers is made more secure, either through their becoming their own landlords or by means of a compulsory law of compensation for unexhausted improvements, low farming will continue to prevail. It is not enough to show that those who farm best as a rule succeed best, in spite of the lack of security. Every now and then there is a warning which shows that to expend freely without legal security is unsafe, and capital, proverbially shy, skinks from such a risky investment. Confidence in a just landlord is generally justified as long as the landlord lives; but confidence, at its best, is not security, and the most honourable of landlords is mortal. An improving tenant is almost sure, sooner or later, to be rented on his own improvements, and although before the rise takes place he may have recouped himself liberally, the risk is too great for the majority of men to incur. A long lease is a security for liberal farming during all but the last few years of the term—that is, if the tenant is sure that his capital will hold out over a few successive bad seasons; but, unless it is renewed at the time when the prudent tenant would begin to "farm to leave," the condition of the land becomes rapidly worse until the end of the lease, and the next term of years has to be begun with a farm in low condition. To a limited extent, however, leases undoubtedly encourage good farming. This is proved by the fact that farms held on lease usually let for more than those held from year to year. But it has been estimated that three-fourths of the land in England is let from year to year without any security to the tenants for the value of their improvements. It is no wonder, then, that low farming chiefly prevails.

A FREE FARMER.

## IS BRITISH AGRICULTURE DECLINING?

Is the agriculture of this country declining? We fear we must admit that it is, though every one must hope that the retrogression is only a temporary one. A correspondent of *The Times* recently called attention to the fact that the crop returns of *The Mark Lane Express* for the last ten years show a great preponderance of "under-average" yields, and a contemporary about a year ago suggested that it might be necessary to lower those estimates of what constitute "average" crops. Now, everyone connected with agriculture knows that the seasons for the past ten—we may say for the past thirteen—years have been generally unfavourable. During the thirteen years under review we have not had more than three decidedly favourable to cereal crops. It is not necessary to conclude from

this fact that our climate has "permanently changed for the worse," as some one has suggested. Before now there have been cycles of bad seasons; as well as cycles of good ones, and no one can tell that the next term of ten or thirteen years will not be one of the most favourable on record. But, allowing that the prevailing bad seasons account to some extent for the preponderance of deficient crops, it has yet to be admitted that they do not fully explain the deficiency. A number of seasons can hardly be bad for all kinds of crops alike, and those who take the trouble to examine our summaries of crop returns will see that every one of our crops has been deficient in a large majority of harvests since, say, 1863. Besides this statistical evidence, we have the opinions of

numbers of experienced observers, who tell us that farming as a rule is not so well done now as it was twenty or thirty years ago, and that the condition of the land generally is obviously poorer than it was then. We may make a little allowance, perhaps, for the halo with which imagination surrounds all things connected with "the good old times;" but, having taken off the discount, we still have to admit with regret that the comparison, as stated, is in the main a true one.

What are the causes of this decline in our agriculture? With greater knowledge of the science of farming, with mechanical contrivances greatly improved, and with immensely increased facilities for obtaining extraneous manures and feeding-stuffs, an advance instead of a decline might, by the outside observer, be looked for. Those, however, who are "behind the scenes" know that there are various reasons for a falling-off in the cultivation of the soil, though they by no means all agree as to particular causes which have exercised the greatest influence. Some attribute the decline to bad seasons, others to loss of capital, a third party to the diminution of live stock, a fourth to the use of artificial manures, and others to the sale of straw and roots, or to other causes, or to a combination of those named. Now, we have already remarked that bad seasons alone will not account for the decline of agriculture, and even if we take with them the loss of capital, as partly their result, we are still unsatisfied in our quest for a sufficient explanation of the unfortunate state of affairs which we are considering. No doubt a series of bad harvests diminishes the farmers' capital more than any other cause, and thus tends to perpetuate the evil by wasting the resources which should be applied to prevent its repetition. For this reason we consider the cycle of unfavourable seasons that we have experienced as the most important in the series of causes of the evil we deplore; but we must give due weight to other influences. The diminution in the numbers of our live stock is partly the cause and partly the effect of the farmers' loss of capital, and as far as it is a cause it tends, as bad harvests do, to perpetuate itself. A farmer gets short of money, and cannot buy as many bullocks or sheep as he has been accustomed to keep. As a consequence, he makes less manure, or manure of an inferior quality, his farm suffers, and his crops are smaller. But it is quite as legitimate to put this part of the question in another light. Farmers lost capital through the devastations of cattle disease, and so had to do with fewer animals, and otherwise to spend less in farming; or, again, they were deterred

from keeping as much stock as they had been accustomed to keep by the fear of contagious diseases, their manure-heaps got smaller, and their crops smaller also, in consequence. As to the use of artificial manures, we need only point to Mr. Lawes's experiments, extending over thirty years or more, in order to prove that the judicious use of these manures not only does not diminish the fertility of the soil but, on the contrary, increases it. Where straw and roots have been sold off, and an insufficient quantity of artificial manures has been returned to the land, the result has, no doubt, been disastrous: but it must not be forgotten that from only a very small number of farms comparatively have straw and roots been sold. Amongst the other causes of poor farming not enumerated above some have mentioned the expense at which the farmers of the present day live, compared with that of the same class in former times. It is said that a farmer with a holding of a given size, although he possesses no more capital than his father had, spends a great deal more in household and personal expenses, and so has less to spend on the land. There may be something in this, but we think not much. Our forefathers probably wasted nearly as much as our extra expenditure amounts to: and when we call to mind the tales of the "three" and "four-bottle men," and of the two or three days spent "on the spree" at the frequent fairs then held, we are not inclined to feel very sure that our personal expenses are greater than theirs. The necessary expenses of farming have greatly increased, while the prices of our crops, on the average of a series of years, are about the same; and only the prices of meat and dairy produce have greatly advanced. The rise in the wages of labourers, and still more the unpleasantness which has recently been brought about in the relations of employer and employed, may be said to account for the foul state of a large proportion of our farms. This state of affairs, however, has not been of long enough duration to have contributed very materially to the decline of agriculture, which has been gradual, extending over several years. It may be said, generally, that expenses have increased out of all proportion to any increase in the returns, where that has existed, and this fact alone would account for a gradual loss of capital; but whether, under favourable conditions, farming, like many other branches of production, would not have risen superior to such adverse circumstances is another and a deeper question. That losses have been retrieved, and extra returns produced permanently to meet increased expenses, the experience of the successful

farmers who, after all, are not yet extinct, proves. Whether their experience would not have been general, instead of so lamentably exceptional as it is, if the conditions under which farming has to be carried on in this country had been more advantageous is, as we have intimated, a deeper ques-

tion, and one on which there exists an even greater difference of opinion than on the more palpable causes of a temporary decline of agriculture which we have been discussing. The consideration of that question we must reserve for a future occasion.

### IS THE FOLDING OF SHEEP ON TURNIPS THE BEST AND MOST ECONOMICAL SYSTEM?

We give a long-delayed abridgment of Professor Sheldon's paper, read at a meeting of the Kingscote Agricultural Association.

PROFESSOR SHELDON said:—The question of folding sheep on turnips is a difficult one to handle in a satisfactory manner, because the circumstances under which sheep are kept are so very various, and the variation is still further increased by the almost infinite variety of soils which this island contains. Consequently I shall not express dogmatic opinions of my own against this, that, or the other system of feeding sheep; but I will content myself with giving my own impressions on the points I may take up, in quoting the opinions and experience of various practical men, and in throwing out suggestions which will lead to a discussion of this important question. One of the chief reasons why sheep are folded on turnips, and it is a reason in favour of which a great deal of sound argument can be used, is that the consumption of a root-crop on the land is one of the best methods of manuring the land, and that if the turnip crop itself does not pay in the sheep it pays in the crop which follows. I do not intend to say a word against this position in reference to really light, dry, porous soils of any kind, especially sandy soils. On these soils the folding of sheep on turnips is not objectionable in any sense, because they never become wet and muddy, like the heavy soils, with the trampling of the sheep on them. It is moreover a great advantage to many light soils that they should be well trodden and solidified by some means or other, and sheep folded on the land perform this office in a very satisfactory manner. The manure question, as attached to the folding of sheep on turnips, is pretty much the same in reference to all soils on which sheep are folded at all, but the trampling of the soil is a very different thing; on some soils, which are of a naturally dense and sticky character, the treading is a very great injury; whilst on others, which are very dry and light, the treading is an important advantage. There are, between these, other soils called medium soils, which, though they may be none the worse for the treading, are certainly none the better for it. Therefore the manuring of the land in all cases, and the treading of it in many, include all the benefits which the land itself derives from the folding of sheep on turnips. I need not take up your time now by describing how the manure part of the question may be obviated by the use instead of artificial manures, to the crop which follows the turnips, even though not a single turnip is consumed on the spot where it is grown. And as for the treading, this is of less importance if a barley crop is taken after the turnips, and the treading can in some measure be done on the succeeding clover root, just before breaking up the land again. This, however, is a matter on which all farmers will be guided by what they consider their land requires. People generally seem to be agreed on this—

that the fattening of sheep on turnips in winter time, especially when the weather is wet and where the land becomes sticky and muddy with rain, is a great evil; but as yet no remedy has been found or, rather, adopted in this country which is not an expensive or laborious one. On farms which have more or less permanent grass-land the sheep may be more satisfactorily kept on the pastures and meadows, having the turnips brought to them; but on this system there is the trouble of carting the turnips off, which is no slight matter. It is, however, not an awkward thing either to cart an extra quantity when the weather is dry, to serve during rainy weather, or to have the roots pitted near to, one or other of the farm roads, or even inside the grass fields themselves, in which case the labour and mischief of travelling the carts over the turnip land in a wet time is avoided; and under any circumstances turnips are always better pitted whilst they are dry; and if they are carted at all before pitting, it is as well to deposit them in some place which is convenient for feeding them to the sheep under the most favourable circumstances. Mr. Beardall, of Bestwood Park, Nottingham, in a letter to me says: "On strong land I think the best plan is to cart all off by the middle of December, and when roots are intended to be eaten by sheep should be consumed on the grass land, which would be very much improved by this practice. In fact I consider it one of the most effectual ways of improving poor grass at a cheap rate. To the best of my knowledge there is an increasing indisposition to fold sheep on turnips at all on strong land—the turnips are either carted off or are not grown." On this point I quote also from a letter received a few days ago from Mr. Henry Smith, of Bingham, Nottinghamshire: "With regard to folding sheep on heavy lands my opinion is there is nothing got by it. The sheep do but little good on turnips on strong land; and if the weather is wet, and in fact if it is not, I find the following crop suffer very much from it. I see no reason why heavy-land farmers are obliged to grow turnips and fold sheep on them. I once grew an excellent crop of turnips on some strong land, and they were all eaten on the ground, with cake, in a very dry latter-end of the year: of course I expected a large crop of barley, but to my great disappointment, I had a very poor one. It is impossible for sheep, either hogs or wethers, to do any good when knee-deep in mud, and unable to rest. To my mind much of the land now sown with turnips would be far better without them; but, if the land is clean, I am a great advocate for sowing tares and feeding sheep upon them in summer. It is indeed distressing to see the poor animals standing about on turnip land in wet weather: they look as if they were in the last stage of misery and despondency, on the point of committing suicide if they had something at hand to do it with, and knew how. It is cruel enough in all conscience

to put fatting-sheep on turnips under such circumstances, and these are receiving a considerable quantity of corn all the time, which mends matters very much, but it is far more cruel and wasteful to have in-lamb ewes in turnips and in like conditions of weather. Morton and others have calculated that a breeding ewe will conume about one-fourth of her live weight of turnips, or 20 lb. to 30 lb. a day, of which more than nine tenths are water. In winter time this food is little above freezing point, and it is not difficult to conceive that the temperature of the animal's body will be very much reduced in consuming such a quantity of those deadly cold turnips; and that much heat will be absorbed, and consequently much food wasted, in raising this volume of water to the temperature of the animal itself. And raised it must be, or it will reduce the animal's temperature down to its own level, in which case death would soon ensue. Under any circumstances, therefore, the consumption by sheep of large quantities of turnips, especially in wet and cold weather, is sure to result in waste and not uncommonly in death; and even if the ewes themselves do not die they are far more liable to abortion, and all this means serious loss to the farmer. Sheep are not naturally great drinkers, they seem to require a proportionately smaller quantity of moisture than most other animals, and when feeding on good grass in summer time they seldom if ever drink water at all, unless the weather be hot. And if they require little if any moisture in summer time beyond what they derive from succulent grasses, it cannot but be an unnatural thing to force them to eat a large quantity of turnips in the cold weather of autumn and winter. It is a subversion of nature, in fact, and this is inevitably followed with more or less disaster. It seems to me that there is no room to deny the fact that the blood derived from such food as turnips is poor in quality compared with that made from good, sound, healthy, dry food; and it is in the case of in-lamb ewes that this fact is more distinctly traced in the results. The blood being of a poor quality, all the functions of the system are weakened and debilitated instead of being strong and vigorous. The lamb in the womb derives its nourishment from the blood of its mother, and if that blood is weak or impure, and deficient in vital power, the lamb fails to obtain the nourishment it needs, loses its vitality, dies, and is finally expelled from the womb, having in the failure of the course of nature become neither more nor less than a foreign body, which must be got rid of if the parent's life is to be spared. Thus abortion is one of the disastrous results of a food which, used too freely, becomes unnatural. Many of you will no doubt have read the excellent lecture which was delivered on the 28th of May last year, by Mr. Henry Wood, of Merton, agent to Lord Walsingham, on "Abortion and Mortality amongst Ewes." The large amount of evidence obtained by Mr. Wood from a large number of flockmasters and shepherds throughout the country proved unmistakably that the great bulk of deaths and abortions amongst the sheep are fairly attributable to turnips. Mr. Wood's opinion is to the effect that turnips now-a-days are less healthy than they formerly were as food for sheep, and this appears to be owing to the turnips being grown with *super-phosphate* and other artificial manures instead of with farm-yard manure as they formerly were. As a matter of course fattening sheep are much less liable than in-lamb ewes to disaster when on folded turnips. They are liberally supplied with hay, or chaff, or corn, having as much of the dry food as they care to eat, and eating turnips more from choice than necessity. It is of course strictly true

that sheep will fatten well and quickly under these conditions providing the weather is fairly good and the land sound. But, if the weather is wet and boisterous it is equally true that the fattening process is retarded, and goes on much slower than it does under favourable conditions; and a great deal of food is wasted in supplying the warmth which is reduced so much by the evaporation which is continually going on from the animals' skins in a wet time. Shelter from the elements, dryness and warmth are of great importance to cattle of all kinds, to horses and to sheep alike.

Mr. Robert Russel, of Kent, in a paper read before the Central Farmers' Club, in April last, says:—"After the ewes have lambed they require less anxiety, only plenty of food. I find thousand-headed kale the best thing for them. I have not had a sheep or lamb out of health for two months. Lambs do not require housing long, as they take shelter under the kale, every lamb having, as it were, his umbrella, and so they lie quite dry." I think there is very little doubt respecting the superiority of cabbage or kale over turnips as food for sheep and cattle alike. Cabbage is well adapted for carting off the land during autumn to any place where it may be required; and in all probability it would stand the winter in this dry climate as well, if not better, than swede turnips; at all events, the thousand-headed kale stands the winter well. I am not aware that any one has tried the experiment of pitting ox cabbage after the manner of turnips, but I think the experiment would be successful—stripping off some of the outer leaves, and pitting the "hearts" upside down, when they are dry.

In March of last year I was in North Germany, and during my stay there I visited the fine estate of Graf von Schlieffen, in Mecklenburg. The Graf has large flocks of sheep, which are mainly kept on the rotation grasses during summer, in the autumn on vetches, cabbages, &c., and in the winter every sheep is under cover, in huge sheds. At one of the Count's farms there were no fewer than 1,160 sheep housed in one vast building; they had been there throughout the entire winter, and I never saw sheep looking better, healthier, or more cheerful than they did. They are plentifully bedded in rye straw, and they eat pea straw from racks which ran across the building, and a little corn and chaff from troughs which are placed at convenient intervals. These sheep seldom go out of doors during the winter, except into the yard for exercise on fine days. A portion of the yard is hurdled off for this purpose, and well littered with straw. The sheds are exceedingly well ventilated, and though the atmosphere inside was warm, it was not by any means oppressively or unpleasantly so. You may say that the climate in North Germany is much colder than ours; true enough this, but it is not more oppressive or damaging to stock than our winters frequently are, for it is drier than our climate. Now, the Germans would as soon think of allowing their dairy cattle to be out of doors, exposed to the chilling blasts and rains of winter, as they would their sheep. And, indeed, their sheep are not delicate ones, they are small and hardy, very much resembling some of our larger mountain sheep. When I was in Mecklenburg the sheep were dropping their lambs, and I was much surprised to find their lambs so strong, big, and vigorous; and in addition, they were as cheerful and frisky as if it was the month of May. The system was a self-evident success; and I think we may make our minds easy on the score of its economy, for the Germans study economy in farm practice quite as much, if not more than we do. This turnip hobby is surely ridden to death. It is time their



true value as food was understood. I meant in that sheep— young ones particularly—should, by hook or by crook, be wintered on grass land; a few turnips carted out to them would then do some little good; they would waste less hay by trampling it under foot around the racks; and a much smaller quantity of dry food and corn would carry them satisfactorily through the winter; and they would come out in spring worth shillings a head more, while the mortality amongst them would be reduced to a minimum. There is so very great need of a reform in the way sheep are wintered on arable farms." Shortly afterwards I received, from Mr. Luchmann, of Chipping Campden, a letter, of a portion of which the following is a transcript:—"I have just read your graphic and truthful description of the misery endured by sheep when hurdled on roots, where the land is heavy or sticky, and as I have spent a good deal of time and thought in devising some kind of remedy for this acknowledged evil, I take the liberty of writing you a few lines on the subject. Four or five years ago I was in the habit of keeping a flock of young sheep on roots during the winter months, but it was a most unsatisfactory business, not only because the number of deaths was large, and the consequent cruelty very great even to those which survived till spring, but also because in wet winters my sheep were often lamner at the end of February than they had been in October previous, and the land, being heavy, was sometimes worse rather than better for the roots and corn being sown on it. I have therefore kept a few scores of tegs running on pastures through the winter, of late years, and with a little dry foot found them do fairly well; still even on the grass lands I find the heavy rains and storms very injurious to heavy-coated sheep. The remedy, however, which I mentioned, and which seems to meet many of the evils you describe, is a portable iron-house which I designed last summer. I have used it for the last two months on the turnip-land, and my bailiff and shepherd both think the tegs are doing very well indeed, and fattening fast; and I attribute to the fact that they can get shelter from wet or other storms thus they wish. I may add that the shed will be of great service either in winter or summer, because being moveable, it can be moved daily and

kept on the poorest parts of the fields, where the sheep's droppings will be most needed. Again, in summer especially, sheep will lie under it instead of boring under hedges as at present, seeking shelter from the heat, or under the trees, when these are available, where the grass is soured and spoiled by their dung. When sheep are on vetches, clover, &c., they can eat them under cover, and there is ample arrangement for currents of air which can be increased or diminished as may be required. The shed is also a good shelter for unshorn sheep, and it will be a good lambing-shed. It cannot be denied that shelter is a most important matter in the well being of all kinds of stock, and that it stands in the place of a given quantity of food. Mr. Sheldon, of Weston Underwood, near Derby, informs me that he bought sixty hoggets in the autumn of '68, when they were low in price owing to the dry summer of that memorable year. Of these hoggets some were weakly, so he picked out fifteen of them, leaving the remainder a good lot. All the sixty received exactly the same kind of food—as much of it as they could eat—but the fifteen had a shed to shelter under and in which they were fed. Mark the result—the fifteen, when spring came were the best hoggets of the lot! and this was owing to the shelter they had and to that alone. They soon learned to go into the shed of their own accord, and they continued to resort to it during the following summer, from pure choice, when the sun was hot. An instance is given by no less an authority than Mr. Childers, M.P., in the first vol. of the *Journal of the Royal Agricultural Society*, of an experiment made by him:—with forty hoggets, twenty of which were fed under cover and the remainder folded on turnips. The lots were weighed at the commencement and at the end of the experiment; the shed hogs weighed at the beginning an aggregate of 183 st. 3 lbs., and the folded ones 184 st. 4 lbs.; at the end, the first weighed 233 st. 9 lbs., and the second 220 st. 12 lbs. The shed hogs had increased 56 st. 6 lbs. in the interval, and the folded ones 36 st. 8 lbs., showing a gain in favour of shed feeding of 19 st. 12 lbs. And in addition to this extra gain in weight, Mr. Childers says the shed hogs "consumed nearly one-fifth less food, and made one-third more progress" than the folded ones.

## SWILL-FED CATTLE EXPORTATIONS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—There is so much interest taken by the English agricultural districts respecting meat exportations from this continent, and so many inquiries are addressed by people on your side to persons resident here as to the probable future of this new business enterprise, that I venture to send you some particulars bearing on the subject likely to interest your numerous readers. As regards exportations from the United States, I am disposed to agree with the conclusions adopted by the painstaking special correspondent of *The Scotsman*, and other investigators, that the probable competition, so far as the best quality of product (such as English agriculturists produce, and English consumers in general will alone use) has been much over estimated. It is certain that nothing but the best quality of beef will meet with favour, or prove remunerative. But the ordinary or "common" beef of

America does not come under this category, and therefore is not suitable for English markets. As my experience, however, lies more with this colony than with the States, and as I have paid attention to the meat question in this quarter since it presented itself, I address my remarks specially to the Canadian situation.

If the competition to which the English producer and butcher are likely to be subjected by the meat capabilities of the United States has been considerably overrated, it has been far more exaggerated respecting Canada; indeed, the exportation question in this colony may be said to have little or no interest for the mass of our farming population, for the simple reason that they have no live or dead meat to import. Some of the few large breeders we have, and a dozen or so speculative dealers, take an interest in it; but the section of the community which

watches the American meat exportation business most closely is not the agricultural. It is the numerous and astute class which has a constant eye on Britain for the introduction here, by hook or crook, of capital and labour. Canada, it must ever be recollected, is a borrowing country, and a country which, on account of the great annual exodus of its population—native and imported—to the States and elsewhere, would be numerically stationary, or even retrogressive, if it could not contrive, somehow or other, to fill up the gap. Mr. Charlton, M.P., an influential member of the House of Commons, in his place at Ottawa, not long ago, estimated that 500,000 Canadians left this country from 1860 to 1870, without reckoning the thousands of British settlers who had followed in their steps. Indeed, both in the Dominion and Provincial Parliaments, as well as in the independent Press, there are frequent ironical comments on the “delusion and dishonesty” of keeping up an enormously expensive Immigration Bureau by a country which “cannot find employment for its own people.” But this sort of talk is looked upon as simple heresy by the “interests” concerned in the introduction of capital and cheap labour, as well as by the Government, which never relaxes a moment in its efforts to secure immigrants, and so to order matters that—to use one of the official stereotyped phrases—“Canada shall stand well with England.” This is the cardinal principle here regulating all official and emigration literature. “To obtain immigrants,” said the Government organ some time ago, “it is indispensable that Canada be always made to stand well in the estimation of people in Britain.”

Nearly every important work in Canada is carried on by loans or joint-stock shares floated in England—as too many British investors are painfully aware. Nearly all the hard labour of the colony is done by imported hewers and drawers. These facts (perfectly understood here) are necessary in explanation of what follows. The emigration to Canada is at present at the lowest point it has been for many years. It was only about 11,000 in 1877 (though by a little statistical cookery it has been made to figure officially as 27,000). The whole country, in fact, is full of destitute and unemployed people. In Toronto alone, with a population of only 65,000, no less than 15,000 people—men, women, and children—got a dinner, or were otherwise assisted, on Christmas Day by the benevolent societies or charities. The prisons are so full of people (who, in the absence of a poor-law, have to be committed and maintained as “vagrants”) that a Bill has just been passed by the Ontario House authorising the municipal bodies to set these destitute unfortunates to work on the streets, &c.

Last year 6,000 emigrants returned to Britain from Canada. Their representation of the state of matters, and of the unreliable and deceptive statements of the paid agents and lecturers, has further depressed the importation exhibit; in fact, immigration is *in extremis*. Under these circumstances the Government agents, leaving for awhile, or compelled to relax in their efforts to

induce mechanics and labourers to emigrate, have got instructions specially to devote themselves to “small farmers” and “moderate capitalists,” on whose behalf a special kind of emigration “literature” has been devised and extensively circulated. One ingenious *modus operandi* is engaging people here to send letters to papers known to circulate largely in the English agricultural districts, which, if inserted, are cut out and reprinted by the Government and shipping agents in England, and circulated broadcast over the country. I have of late seen various letters of this kind in the English journals, and sincerely pity any British farmers, large or small, who may accept as gospel the specious, one-sided representations they contain, ignorant as the readers must be how they are got up and circulated, and that the authors of them are all in collusion with the immigration interests and officials here. Further, the agents in England now write little paragraphs, chronicling the arrival of every solitary pound of Canadian meat, keg of butter, box of eggs, &c., which they forward to such leading journals as will take them, ostensibly as articles of news, but intended, by constant iteration, and “keeping Canada continually before the public,” to impress gradually on the minds of English small capitalists the idea what a fertile and prolific country Canada must be, and what a fine field it must present for agriculturists and others! These paragraphs, in fact, are like the ten or twenty supernumeraries who, by marching off and on the stage over and over again are made to represent a great army. Therefore such of your readers as may have seen of late almost innumerable references to “Another extensive importation from Canada,” or, “Great increase of the Canadian produce trade,” and have been led to conclude that a prodigious supply of Canadian beef was pouring all last year into the English market, may be greatly surprised to learn that the whole year’s exportations did not compute probably more than about 7,000 head, and that this supply, largely consisting of “swill-fed” beasts, is about the length of the Canadian exportation tether.

I will endeavour, in a future letter, to say more on the question of Canadian cattle capabilities, as well as on Canadian farming and farmers, and on Canada as a field for English farmers. But at present I confine myself to the important point raised in the following paragraph from the Toronto *Monetary Times*, the leading financial journal of Ontario, and conducted with much ability and impartiality:—

The Board of Health in New York is making a great effort to put a stop to the use of swill-milk. A law has been passed forbidding the use of distillery refuse. A cow fed on this stuff will give four quarts a day more milk than when fed on healthy food; but the quality is so bad that it is reckoned unfit for human food. When a can of this milk stands for some time in a warm place it becomes very offensive to the smell. Swill milk is freely sold in the Toronto district, and much beef is fed on distillery grains and swill.

The *Monetary Times*, after referring to the serious damage the fact of the introduction of swill-fed animals

must cause to the Canadian trade with England in beef and cattle, advocates a scientific investigation of the effect upon the milk and meat of distillery refuse, with a view to preventive legislation if necessary. One cannot deny that a point of vast sanitary importance is raised by your Canadian contemporary. That the opinion current in New York is correct seems *à priori* established by the pernicious effect of "swill" upon the secretions of the cow which partakes of it; indeed, years ago, in England, Mr. Rugg, a Member of the College of Surgeons, after commenting on the injury to the system, and the many diseases which are sown in the first instance from milk adulterated or yielded by cows not in a sound condition instanced specially the evil effects of distiller's wash or "swill," both on the health of the cow and on the quality of her milk. Swill, Mr. Rugg points out, renders the milk not only watery but corrupt, stimulates the blood to an inflammatory and feverish condition, disorders the liver, and changes the milk into a fluid resembling matter, and smelling most offensively. The disease of the liver produced by the swill in cows is, he shows, analogous to the disease in the liver of a man who partakes too much of spirituous liquors. The swill cisterns also, he avers give out most foul exhalations—a statement amply borne out by the action of the municipal corporation of Toronto, which has a by-law prohibiting the swill-carts from passing along any save the back streets of the city. The swill traffic of Toronto—where there is a whiskey distillery said to be the largest in the world—is enormous. In *The Toronto Telegram* of December 17th last I noted the following item:—

There are now about 2,600 head of cattle being fed at the distillery byres on slops. They are held by two firms for export to England.

The same paper reports, on January 7th this year

The distillery slop sold daily to the owners of cows in and about the city realises 300 dollars a day. Over 60,000 gallons are thus disposed of, in addition to furnishing sufficient seed about 2,500 head of cattle at the byres.

The smell from these cattle byres is, I may note, one of the chronic grievances of the residents, and I have frequently read complaints on this subject in the Toronto papers.

It will be seen, therefore, that with only about 7,000 head of cattle to export yearly, and thousands of these not treated and fed on the careful, systematic scientific system prevalent in England, on healthy succulent food, but driven up, in a more or less lean condition, to Toronto in the Fall, there confined in close and often offensively-smelling sheds, and gorged with distillery swill, till the opening of navigation permits their shipment to England, Canada, at any rate, cannot, or should not, be a source of much apprehension to English agriculturists. I never touch the milk of swill-fed cows here myself. If I cannot get any other kind I go without, and it has for some time been a question with me whether the heavy infant mortality in Ontario—a mortality which the Registrar-General says must "at once strike every

reader of the death returns"—is not largely due to the vile stuff the cows produce, as certified by Mr. Rugg, and, indeed, evident to the eye and nose. Certainly, as *The Monetary Times* well says, a thorough investigation should be made in a matter so vital to the health of both Canadian and English consumers. The cattle in the Toronto byres are fed partly with hay, but the swill they largely consume is undoubtedly most prejudicial; and when we consider that, to quote from an Ontario paper, "100,000 gallons of refuse a day are converted, at the Toronto whiskey distillery into beef and mutton, thereby adding another branch of trade to Canadian enterprise," we cannot shut our eyes to the fact that this "enterprise" is an important matter to English consumers of those two products.

And here arises another important query. The Canadian official papers are indignant at the proposition for slaughtering all imported cattle at the port of debarkation; for, say they, Canadian beasts are notoriously healthy, and Canada cannot be called a "foreign" country, and so on. This, however, seems a somewhat untenable position. Cattle kept through the long Canadian winter in close, confined, and offensively-smelling sheds and stalls, and fed on hay and distillery wash until they astonish the natives on your side of the water by their gross unwieldy proportions seem to me to be just the class of animals likely to be subject to and impart disease. According to a speech recently made at public meeting here, by a promoter of the trade, the "cattle sent to the English market are taken from the farmers in a lean state about the end of October, and placed in stalls till June." No doubt they take on flesh speedily, while treated to swill, &c., in the Toronto byres; but as the correspondent of *The Scotsman* has pointed out, while the chief ambition of producers on this side seems to be to bring heavy cattle into the market, this piling on of flesh in a short time, after a period of leanness, impairs the animal's constitution, and also injures the quality of the meat.

But whether Canadian cattle are brought under legislative restrictions and slaughtered when disembarked or not it is clear that the healthily-treated English animals, fed on turnips, grain, linseed-cake, beans, oats, &c., in the winter, and in the summer on good succulent pasture, or fresh-cut grass, and good artificial food, can easily hold their own against their less healthy, less scientifically treated, "swill"-blown Canadian competitors. At least that is the conclusion I have come to after studying the subject, and, I may add, after years of painful experience of the tough, stringy, ill-mixed flesh which is sold by Canadian butchers for consumption here. You lately hinted that it would be as well to teach our Indian fellow-subjects to eat wheat instead of starving at home while exporting it. And certainly, I think Canadian farmers and dealers should give us good meat and butter for our own use before volunteering to supply distant localities.

I am, sir, &c.,

Ontario, Feb. 15.

HAMPSHIRE.

## THE EARTHWORM IN RELATION TO THE FERTILITY OF THE GROUND

From observations extending over a number of years, M. Hensen has been led to the conclusion that infertile under-soil is rendered valuable by the action of worms in two ways, viz., by the opening of passages for the roots into the deeper parts, and by the lining of these passages with humus. This will be more fully understood from the following facts regarding the life-habits of the worm (*Lumbricus terrestris*) given in M. Hensen's paper in the *Zeitschrift für Wissenschaftliche Zoologie*.

It is known that the adult animals in wet weather come up to the surface by night, and, with their hinder end in the tube, search the ground round about. They then draw whatever vegetable material they can find into their tubes—falling stems and leaves and small branches. In the morning one then finds little heaps of plant-fragments projecting at various parts of the surface, and each of them penetrating the tube of a worm. On closer examination it is found that the leaves have each been rolled together by the worm, and then drawn into the tube in such a way that the leaf-stalk projects. The portion of the leaf in the tube is moist and softened, and only in this state are plants consumed by the worm. There are distinct indications that the worm gnaws them and after some days the meal is ended. The food is never drawn deeper down into the ground. In digging the ground at various seasons it was only very rarely that plants remains were found in the subsoil, and probably they got there by accident.

With reference to the structure of the worm-tubes, some interesting facts were established in these researches. In humus their character is difficult to make out, owing to the looseness of the mass. In sand they proceed almost vertically downwards 3, 4, or even 6 feet, whereupon they often extend some distance horizontally; more frequently, however, they terminate without bending. At the end of the tube the worm is found with his head upwards, while round about him the tube is lined with small stones. On the sandy wall of the tube one observes more or less numerous black protuberances which make the sand fertile. These are the secretions of the worm, which, after being removed out of a tenanted tube, are found next morning replaced by fresh matter. They are observed after a few days, when a worm is put in a vessel with clean sand, and allowed to make a tube for itself. Older abandoned tubes are pretty regularly lined with the earth formed by the worm, and some passages are densely filled with black earth. This black substance appears to diffuse somewhat into the sand.

In about half of the tubes, not quite newly made, M. Hensen found roots of the plants growing at the surface, in the most vigorous development, running to the end of the tube and giving off fine root-hairs to the walls, especially beautiful in the case of cereals. Indeed, such tubes must be very favourable to the growth of the roots. Once a root-fibre has reached such a tube it can, following the direction of gravity, grow on in the moist air of the passage, without meeting with the least resistance, and it finds moist, loose, fertile earth in abundance.

The question whether all roots found in the under-soil have originally grown in the tubes made by the worms cannot be

answered with certainty. It is certain that the roots of some plants penetrate themselves the sand, but not to great depths. M. Hensen is of opinion that the tap-roots, and in general such root-forms as grow with a thick point, can force a path for themselves, while the fine and flexible suction-roots have difficulty in obtaining a path into the depths other than what has been previously made for them. Roots of one year's growth especially can penetrate deep into subsoil only where there are earth-worms.

A microscopical comparison of the earth deposited by the worm shows that it is like the two-year leaf-mould prepared by gardener for the filling of flower-pots. Most of the plant-cells are destroyed; still there are present some cells and shreds of tissue, browned and friable, mixed with many sand grains and brown organic fragments. The chemical composition of the earth-worm shows much similarity to that of fertile humus ground. Its fertility, therefore, cannot be doubted, though direct experiments with it are wanting.

With regard to the numerical value of this action of the earthworm, the following observations by M. Hensen offered some information.

Two worms were put into a glass pot  $1\frac{1}{2}$ -foot in diameter, which was filled with sand to the height of  $1\frac{1}{2}$  foot, and the surface covered with a layer of fallen leaves. The worms were quickly at work, and after  $1\frac{1}{2}$  month many leaves were down three inches deep in the tubes; the surface was completely covered with humus, 1 cm. in height (rather less than half-inch), and in the sand were numerous worm-tubes partly fresh, partly with a humus wall 3 mm. thick, partly quite filled with humus.

Counting, when an opportunity offered, the open worm-tubes in his garden, M. Hensen found at least nine in the square foot. In 0.15 square metre two or three worms were found in the deeper parts each weighing 3 grammes (1 gramme = 15 grains): thus in the hectare (1 hectare =  $2\frac{1}{2}$  acres nearly) there would be 133,000 worms with 400 kilos. weight. The weight of the secretions of a worm in twenty-four hours was 0.5 gramme. While these numbers are valid only for the locality referred to, they yet give an idea of the action of this worm in all places where it occurs.

The assertion that the earthworms gnaw roots is not proved by any fact; roots gnawed by worms were never met with, and the contents of the intestine of the worms never included fresh pieces of plants.

The experience of gardeners that the earth-worm injures pot plants may be based on the uncovering or mechanical tearing of the roots.

"Let us take a retrospective glance," concludes the author, "over the action of the worm in relation to the fertility of the ground. It is clear that no new manure material can be produced by it, but it utilises that which is present in various ways. 1. It tends to effect a regular distribution of the natural manure material of fields, inasmuch as it removes leaves and loose plants from the force of the wind and fixes them. 2. It accelerates the transformation of this material. 3. It distributes it through the ground. 4. It opens up the under-soil for the plant roots. 5. It makes this fertile.—*Nature*.

## FARM AGREEMENTS AND LEASES.

At a recent meeting of the Ixworth Farmers' Club Mr. W. Matthew, of Knottishall, read a paper on the above subject, after which there was an interesting discussion, which is very fully reported in *The Busy Post*. We can only find space for a copy of a farm agreement read and commented on by Mr. Matfield. It is mean and unfair enough, but not so mean and unfair in these respects as some present appeared to think. It is as follows:—

## THE ROUGHAM FARM AGREEMENT.

Memorandum of Agreement made the eleventh day of October, 1877, between the Honble. Harbord Harbord, of Ganton, in the county of Norfolk (hereinafter called the Lessor), as Receiver appointed by the High Court of Justice, in the action of Bennet v. Bennet, 1875, B 254, under an order dated the 27th day of May, 1876, in respect of the Bennet estates for himself or his successors of the one part, and of \_\_\_\_\_ of \_\_\_\_\_ in the county of Suffolk, hereinafter called the Lessee for him, or himself, their executors, and administrators of the other part.

The Lessor hereby agrees to let, and the Lessee to hire, from the 11th day of October, \_\_\_\_\_ for one year, and so on from year to year so long as the parties hereto may agree, all that Messuage, Farm Buildings, Stables, and Out-houses with the several pieces of land mentioned in the schedule hereto, containing altogether \_\_\_\_\_ acres, or thereabouts, situate in the parish of \_\_\_\_\_ in the county of Suffolk, and known as \_\_\_\_\_ Farm, with the appurtenances thereto belonging, at the yearly rent of \_\_\_\_\_, to be paid by the Lessee by equal half-yearly payments, on the 6th day of April and the 11th day of October in each year, without any deduction except in respect of land-tax and landlord's property-tax. The Lessee to pay all taxes rates, tithe rent-charge, and all other outgoings which shall, during his occupation of the farm and lands, be charged, assessed, or imposed thereon, or on the Lessor on Lessee in respect thereof, except as aforesaid. The Lessee to farm and cultivate all the arable lands hereby let in a good and husband-like manner in a proper four years' course or shift of husbandry, according to the custom of the country, and as farms and lands are usually farmed and cultivated on the \_\_\_\_\_ estates, and so leave the same at the end of the term, and not to plough or break up any of the pasture-land without the consent in writing of the Lessor, and to stack all the corn grown thereon during the term on some convenient part of the lands, at least 50 yards from any public road, and consume thereon all the hay, straw, fodder, and turnips, roots, or green crops grown thereon, being paid for all the unconsumed hay, turnip and root crops left at the end of the term, according to valuation in the usual manner, and according to the custom of the country. The Lessee not to part with the possession of the lands and premises, or any part thereof, under the penalty of immediate forfeiture by him and his assignee of his and their term and interest therein.

The Lessee to keep in repair all the gates, posts, rails, fences, drains, and water-courses on the land, and all the bolts, bars, locks, keys, windows, and all such matters and things on the messuage and premises as are usually kept in

repair by tenants, and so leave the same at the end of the term, being allowed by the Lessor sufficient rough wood fencing stuff, and rough materials for doing such repairs.

The Lessor to have the exclusive right to all the game rabbits, snipes, woodcocks, wild fowl, and fish on the premises, and also the right of entering upon the premises at all times to cut down, take and carry away the timber, trees, and wood-growing thereon, to get and carry away gravel and all other minerals, and to view and see the state and condition thereof, and also to have the exclusive right of shooting and sporting in, over, and upon the said lands and premises at all times during the term. And it is hereby agreed that in case the Lessee shall depart this life at any time after the 11th day of October in any year and before the 11th day of October in the following year during the term, the executors, administrators, or other the representatives of the Lessee shall give up the possession or occupation of the lands and premises to the Lessor on the 11th day of October succeeding the death of the Lessee, in the same manner in all respects as if the said term had been then determined by due notice to quit. But that £5 per cent. shall be allowed to the Lessee for all artificial and other manures bought and used during the year of his departure, likewise the covenant price for farmyard manure per load.

And it is further agreed between the said parties that this contract of tenancy shall remain and be unaffected by the Agricultural Holdings (England) Act, 33 and 39 Victoria, c 92 Witness the hands of the said parties the day and year first above written.

COTTINGHAM HORSE SHOW.—This annual show was recently held. The weather was very fine, and there was a large attendance of spectators. The following is the prize list:—Hunting stallions.—Mr. H. Trowell, Skidby (Pearl Finder); 2, Sir T. C. Constable, Bart. (Mountain Deer). Coaching stallions.—Mr. Fewson Roos; 2, Mr. George Holmes, Beverley, Richmond. Roadster stallions.—Mr. J. H. Burnham, Frodingham Hall (Lord Derby the Second); 2, Mr. W. Hayton, Shearman (Pluto); 3, Mr. Sonsett, Market Weighton (Weighton Merrylegs). Carting stallions.—1, Mr. Robert Barrett, Hesse Common (Master of Arts); 2, Mr. Dickens, Shipton (Honest Tom). Stallions, not exceeding 14½ hands.—1, Mr. G. Scott, Cottingham. Hunting mare or gelding.—1, Sir T. C. Constable (Pearl). Hunting mare or gelding.—1, Mr. Nicholson, Walton Grange (Lady Anne); 2, Mr. Cook, Hull (Porteus). Pony mare or gelding, not exceeding 13½ hands.—1, Mr. John Robinson, Hull; 2, Mr. James Wrehitt. Pony mare or gelding, not exceeding 13 hands, Walter Bailey Hull; 2, Miss Wilson, Trauby Croft. A whip for the best rider was awarded in this class to Maser Osgerby, of Beverley. The following were the judges:—Mr. W. Wright, Humbleton Hall; Mr. Jos. Thompson, Anlaby; Mr. Frank Jackson, Wawne.

A LITTER.—Mrs. Jolly, the wife of a steel-worker in Barrow-in-Furness, has just presented her husband with a tidy little family all at once, having given birth to four children, two boys and two girls. They are all living, and all healthy. Triplets have become so common it is hardly worth recording them now.—*Echo*.

## Miscellaneous.

A MODEL WIFE—Zachary Hodgson was not naturally an ill-tempered man. It was want of reflection, more than a corrupt and ungenerous heart, that led him to consider his wife in the light of an inferior being, and to treat her more like a slave than an equal. If he met with anything abroad to ruffle his temper his wife was sure to suffer when he came home. His meals were always ill-cooked and whatever the poor woman did to please him was sure to have a contrary effect. She bore his ill-humour in silence for a long time; but finding it to increase she adopted a method of reproving him for his unreasonable conduct which had the happiest effect. One day, as Zachary was going to his usual avocation after breakfast, he purchased a large cod-fish, and sent it home with directions to his wife to have it cooked for dinner. As no particular mode of cooking was prescribed, the good woman well knew that whether she boiled it, or fried it, or made it into a stew, her husband would scold her when he came home. But she resolved to please him for once, if possible, and therefore cooked portions of it in several different ways. She also, with some little difficulty, procured an amphibious animal from a brook at the back of the house, and put it into the pot. In due time her husband came home; some covered dishes were placed on the table, and with a frowning, fault-finding look, the moody man commenced the conversation.

"Well, Sally, did you get the fish I bought?"

"Yes, my dear."

"I should like to know how you have cooked it—I will bet anything that you have spoiled it for my eating. (Taking off the cover) I thought so. Why, in the name of common sense, did you fry it? I would as soon eat a boiled frog."

"Why, my dear, I thought you liked it best fried."

"You did not think any such thing. You knew better. I never liked fried fish—why didn't you boil it?"

"My dear, the last time we had fresh fish you know I boiled it, and you said you liked it better fried. I did it merely to please you but I have boiled some also." So saying she lifted a cover, and lo! the shoulders of the cod, nicely boiled, were neatly deposited on—a dish; a sight which would have made an epicure rejoice, but which, alas! only added to the ill-nature of her husband.

"A pretty dish this! Boiled fish? Chips and porridge? If you had not been the most silly of woman-kind you would have made it into a stew."

His patient wife, with a smile, immediately placed a tureen before him containing an excellent stew.

"My dear," said she, "I have resolved to please you. There is your favourite dish."

"Favourite dish, indeed," grumbled the discontented husband; "I daresay it is an unpalatable wishy-washy mess. I would rather have a boiled frog than the whole of it."

This was a common expression of his and had been anticipated by his wife, who as soon as the preference was expressed uncovered a large dish at her husband's right arm and there was a bull-frog of portentous dimensions, and pugnacious aspect, stretched out at full length! Zachary sprang from his chair, not a little frightened at the unexpected apparition.

"My dear," said his wife, in a kind, entreating tone, "I hope you will at length be able to make a dinner."

Zachary could not stand this. His sally mood was overcome, and he burst into an immoderate fit of laughter. He

then acknowledged that his wife was right, and declared she should not again have reason to complain of him; and he faithfully kept his word.—*Anecdotes of the Family Circle.*

"THE HOLY RABBIT."—A friend of the Anti-Game Law League, who lives in a game-ridden county, has printed and circulated an illustrated fly-leaf called "The Holy Rabbit." At the top is a rabbit surrounded by a glory; below, a cross, with this inscription, "Cuniculus supra Christi crucem." The body of the leaf-let is as follows:—

"The first duty of a Christian gentleman to his country is the preservation of the game.

"The second duty of a Christian gentleman to his country is the able destruction of the game.

"The first duty of tenant-farmers and labourers is the preservation of the game.

"The second duty of tenant-farmers and labourers is to avoid destroying the game.

"All else is vanity

"In these are contained all the Game Laws and the profits."

### LAMENT OF THE PRINCE OF CHOSHIN ON THE DEATH OF HIS WIFE.

FROM THE JAPANESE.

Waking at midnight when the world is still,  
Alone I seem to drift upon a tide  
Of dreary waters, while the dying moon  
Sinks slowly, gathering all her tender rays,  
And leaving the dark-visaged night forlorn;  
Moans the wild wind, the air is fill'd with frost;  
My eyes are dull, but solitude and cold,  
Like cruel-throated watch-dogs, scare away  
The timid traveller, Sleep.

I cannot rest;

A dear face shines upon me like a star  
Through death and darkness. Poor, sweet, lonely love!  
Oh! I would be the stone upon her grave,  
Or the least flower that blossoms on her dust,  
But for the blessed hope that I shall meet  
My darling somewhere in the silent land.  
The rock of death divides the rushing wave,  
But the twain streams shall surely meet again.

Through the dim world the village temple bell  
Touches my ears, and every solemn sound  
Repeats her name whose pensive thoughts were prayer.  
My arms are empty, but my heart is full,  
And shall be full of her for evermore.

—*Japan Weekly Mail.*

SELF-CONCEIT.—How many people are there who worship the god of self-conceit! That is what Æsop meant when he gave us the following fable:—Mercury, having a mind to know in what estimation he was held by men, disguised himself as a traveller, and going into a sculptor's workshop, began asking the price of the different statues he saw there. Pointing to an image of Jupiter, he asked what was the price of that? "A drachma," said the image-maker. Mercury laughed in his sleeve, and asked, "How much for this of Juno?" The man wanted a higher price for that. Mercury's eye now caught his own image. "Now will this fellow," thought he, "ask me ten times as much for this, for I am the messenger of heaven, and the source of all his gain." So he put the question to him, what he valued Mercury at. "Well," says the sculptor, "if you will give me my price for the other two I will throw you that into the bargain!"

## AGRICULTURE AND FORESTRY IN INDIA.

Much has been written lately upon the progress of agriculture, especially of corn-growing, in India, and official reports, when they come to hand, are often rather stale, though the information which they contain is too valuable to be overlooked. The last official report of the progress of our Indian Empire devotes a portion of its contents to the agricultural operations over that vast area where the harvests are mainly affected by the abundance or paucity of the rainfall in the different districts. The difficulties that await the cultivators in the pursuit of their calling may be understood from the description of the season 1875-6 and its effects. In Bombay the rainfall was considerably above the average, but was irregularly distributed, both as to time and locality. On the coast the monsoon opened with a faller fall than usual; but in the interior, while the early crops had to be re-sown in many of the western districts, owing to the first sowings having been destroyed by floods, further east the land remained unsown for want of moisture. After the first falls a more or less prolonged drought was experienced in some parts till September, when a very heavy storm passed along the coast districts and over the Guzerat country, flooding the rivers, and destroying the standing crops.

The rainfall 1875-76 in the Punjab was a very extraordinary one. It amounted in depth to 37 inches, being 12 more than in the previous year, and 10 more than the average of the five preceding years; and this extraordinary increase was confined to the months of August and September. The effect was in some respects beneficial, and in others the reverse; while on the one hand there was great destruction of crops, cattle, and house property, on the other hand the abundant autumn rains rendered a large additional area of land available for the ensuing spring crop. In the southern districts and in the Derajat there was a large increase in wheat cultivation. The year was a very unfavourable one for agricultural experiments, and the attempts made to popularise new staples met generally with little success. The season in the north-west provinces was not altogether unfavourable, but in north-westerly districts the rains commenced too late, and sowings were therefore retarded. In the autumn the heavy falls of rain did a great deal of damage to cotton and Indian corn, but then rains were favourable for the sowings of the rubbee (winter crop), and the harvests were generally satisfactory. In the Allahabad district a serious calamity occurred in the flooding of the Jumna, and of a mountain stream called the Tons. The confluence of the Jumna with the Ganges heaped up the waters of both to a height unknown before, which covered the lowlands of the station and entered the City of Allahabad; and only by increasing exertions were they prevented from extending much further. The floods subsided rapidly, and it was then found that 772 villages

had been destroyed or damaged, 181 lives had been lost, and 1,949 head of cattle and 826 sheep and pigs had been drowned. In British Burmah the rains in most places were both early and excessive, and there were vast inundations in the deltaic districts of the Peger division, which rendered large tracts of land unculturable; while the area already planted was so long submerged as to destroy all hopes of harvest.

The model farms temporarily established in Bengal, in consequence of the expense and the trifling beneficial influence, have been closed. The Poozah estate has been retained, but is not used for purposes of general agriculture; tobacco experiments are to be conducted there, and possibly an agricultural college for Behar will be established on it. The latter scheme is in abeyance, as an industrial school which has been opened at Patna will perhaps be found to supply in some measure the want of technical education in Behar. In Madras the Sydapet farms, while not a commercial success, are considered to have produced very valuable results in the way of agricultural experiments, which can be utilised for directing operations in the Presidency generally. It is intended gradually to open similar farms in the districts. A school of agriculture has been established at the experimental farm, with a view to the scientific and efficient training of young men. The lectures will be open to the public, and the course of instruction will extend over three years. As yet the Bombay Government has taken little active share in the introduction of higher farming, confining itself rather to experimenting on valuable crops and then recommending them for cultivation, a plan which has had marked success in leading to the improvement of the sugar-cane and the cotton plant. But, at no inconsiderable expense, this Government maintain three farms—one in Sind, one in Khandesh, and the third in Dharwar—for the purpose of trying new manures and plants upon Indian soils, of ascertaining the ordinary yield of various crops per acre, of distributing selected seed, and of endeavouring to secure workable machinery by adaptation of mechanical appliances to the rude agricultural instruments of the native farmer. An attempt has also been made to receive and train apprentices at these farms, and by their means and the issue of popular manuals, for which these farms are collecting materials, some good may be effected. But if the farms merely distribute large quantities of prepared seed they will amply repay their cost to the country, and as more experience is required, they may do this and yet cover their working expenses. The three model farms are considered to have done some useful work during the year. At the Salaru farm, in Sind, an acre was manured and ploughed with the English plough, and sown with Sind cotton in March or April, and the yield was 1,884lb. seed cotton, or 628lb. cleaned. Much injury was done to all the

cotton by the green fly. It is stated that the difference between fields ploughed with the English plough and those ploughed with the native implement is very marked, the latter never being free from grass.

The number of cattle and sheep in Bombay was maintained, but there was no improvement in quality. The disinclination of the natives to destroy life, and the neglect of gelding, led to the country being over run with inferior animals. The horses are rather better, but they have in great measure lost their value since freebooters and intestine troubles have ceased, and also in consequence of the large importation of foreign animals. Seven horse shows were held during the year, four of which were considered fairly successful. The scarcity of fodder at the beginning of the year, the destructive floods of August and September, and the general prevalence of cattle disease combined to make the season in the Punjab an unfavourable one for live stock. Attempts were made to improve the breed of sheep and horned cattle by the introduction of superior rams and bulls from the Hissar Farm. A new cattle fair was established at Hoshiarpur, with tolerable success. The horse fair held at Rawalpindia was much larger than in any previous year, which showed that good results were being gradually developed. A great drawback in the Punjab to the improvement of the breed is that the excellence of the provincial horses leads to a very early and rapid sale of the young stock out of the province. While this stimulates production, it removes much of the material from which improvement might be obtained. The show of mules at the fair was remarkably good. Mule-breeding is carried on exclusively in the Punjab, and supplies a great want in connection with the mountain train batteries. The live stock of British Burmah continue to multiply, although cattle disease was very prevalent in three districts. Buffaloes increased from 630,708 to 643,665. Horses are rare in the country, and are used exclusively as articles of luxury; but ponies increased by 640, and arab stallions were imported to improve the breed. Agricultural shows were held at ten stations, and were fairly successful. The scheme, however, had not yet come to be understood by the natives, and each competitor expected a prize.

The extensive forests scattered throughout the Peninsula form one of the most important branches for the Indian administration, for upon their existence the resources in timber, one of the most valuable productions of the country, and the humidity of the atmosphere, depend. In Bengal, while further progress was made during the year under review in the formation of reserves, attention was principally bestowed on the improvement and working of the forests. The area added amounted to 1,118 square miles, making altogether 2,585 square miles. The teak plantations in Chittagong were reported to be very promising. Two experiments were made in Darjeeling: one was the rearing of a number of seedlings of the *Ficus elastica*; and the other, the laying out of a small bamboo plantation, with the object of ascertaining whether the bamboo can be successfully cultivated as a material

for the manufacture of paper. Considerable progress was made in the demarcation of boundaries. The measures taken for protection from fire were in some cases thwarted by the excessive dry weather which prevailed during the early months of 1876. A case is mentioned of a nursery being entirely destroyed through a burning leaf, which dropped upon it in the presence of three forest officials, whose utmost efforts to check the conflagration were of no avail. It was decided to establish a school of forestry for training the natives of Bengal for this work, which, in respect of climate, is better suited to them than to Europeans. No natives will be employed in forestry except those who have passed through this school. In Assam two great dangers to which forests are exposed are "jhooning" and fire. The first of these is a method of cultivation adopted by the natives, namely, the application as manure to the fields of the ashes and charcoal from burnt wood. Nearly a whole reserve, and portions of two others, were consumed by fire in the Gowhatty division. The extent and luxuriant growth of grass make fire-protection a peculiarly difficult task. The fires just referred to came from outside, burning for miles, and could have been extinguished by the villagers long before they reached the reserves, indeed they would probably never have happened were not the villagers extremely reckless in letting fires spread from their fields or grazing grounds. The small establishments of the Forest Department were very active throughout the province, and in one or two instances the people from adjoining villages did their utmost to put out the fires, but in the majority of cases protection was effected by resort being had at the last moment to the extreme measure of setting fire to the grass outside the fire strips, and burning away from the forest. In the Berar districts the protection of forests from fire is said to have brought about a decided change in the climate, the excessive cold being now very trying to young plantations; but this is more than compensated for by the increased facilities for natural reproduction.

A SUFFOLK CURE FOR WHOOPING-COUGH.—I was told of a wonderful cure for whooping-cough lately by a woman in this place: Cut a slice of bread, wrap it up in a piece of rag, and bury it. When it has been buried three days take it up and eat it. This woman had buried three slices on three different days, and when the last one was buried she took up the first and gave it to her child, sopped in milk with sugar. "The bread has an earthy taste, which "does a deal of good." I wished to experiment on a black cat, who is afflicted with a bad cough, but N. said it was a foolish remedy, and moreover savoured of necromancy.—*Ipswich Journal*.

HOPS.—A return has just been issued of the quantity of hops imported into the United Kingdom in the year ending the 30th of September, 1877, and of the quantity exported from the United Kingdom during the same period. The quantity of hops imported was 103,618 cwt., of which 65,475 cwt. came from the United States, and 22,077 cwt. from Belgium. The quantity of foreign hops exported was 11,463 cwt., while of British hops the quantity was 20,431 cwt., of which 7,657 cwt. were sent to Australia.



## Miscellaneous.



**BREEDING DIFFERENT SEXES.**—According to promise, I give you my observations and experience in breeding the different kinds of live stock generally kept and raised by farmers, as regards the question of sex in offspring. When I commenced farming my intention was to raise all heifer calves, and in particular those dropped from the best milch cows, but, to my great astonishment, those cows which gave the most milk during the whole year usually dropped bull calves. I inquired of my neighbours and was informed by those who had more experience that the result in their herds was the same, but no cause could be given. Next I noticed that the earliest broods of chickens raised by most of my neighbours had from eight to ten males in every dozen; and later in the season the reverse. In pigs there was a still greater difference to be observed. I have seen sows with a litter of eight to twelve pigs and only a single female among them, and she was far inferior in size to all the rest. At other times these same sows would breed quite differently; often times the greater number were females. The same was noticed in the canine family, and all other live stock kept in my neighbourhood. I made an endeavour to find out the cause, but I could receive no information that appeared to give any satisfaction. I learned by experience that a natural law governs in breeding sexes, and that law can be controlled to a great extent by man. If for instance feed is abundant all the year round this law will have the tendency to increase the consumers by producing more females. If the reverse is true, as when feed is short, or not nutritious, the increase will always be males by a heavy majority, and thereby diminish the consumers. The male parent should be kept in condition fully equal to the dam, but the dam governs the sex more than the sire does. A well-fed sow will always bring more females at the first litter than at the second. Poor sows are sure to bring male pigs. A fine bitch is always fat, but she will not bring many male pups. Fowls kept on scanty feed will raise from eight to ten male chicks in every dozen during spring months, but later in the season, or from the middle of June till Fall, the reverse. The reason is because feed is abundant then on farms. With poultry fanciers, where feed is abundant all the year round, the first broods will nearly always average as many males as females and sometimes more.—W. G. H. in *Albany Country Gentleman*.

**BAD LANGUAGE A LA SPURGEON.**—Mr. Spurgeon's recent suggestion that the foul mouthed who wished "to come out strong, should use some big Greek or Latin word, which would relieve their feelings and do no harm," is likely to bear fruit, on account of its extreme practicability. We have probably only to wait till the next Great Peace Demonstration comes off in Hyde Park to hear some beautiful specimens of classic expletive. Won't they sound something like this?—First Jingo: Well, I'm X-nophoned! here's a hydrostatic sal Aricum of a Peace Party at by hisself, with a decandrium rag of a nil desperandum Russian flag! Second Jingo: Let's go for the monstrum horrendum, and give 'em a posse comitatus prop in the caput mortuum. First Jingo: S'elp me, heptagynous Alebiades! he's dropped me a modus operandi on the corrente calamo. Medical Student: Smash him over his pterodactyl jaw! Pickpocket: Slog 'em till I Poloponness well collar his brutum fulmru ticker! Peace Party (rising, and

collecting his fragments): Well, strike me dum vivimus vivamus, if ever I come across such a X-nomatic set of Sophocles CE plus Tyrannus in all my Cesar de Bello Gallico! Ho! pollon! if I did!—*Finnog Folks*.

## I NEVER LOVED TILL NOW.

## I. MAIDEN.

I woo and win her by the brooklet-side;

I watch her plaiting wreaths of wild white flowers:

We listen to the babble of the tide,

Which winds and winds through little coves and bowers—

So sit we 'two; my fingers twine her hair:

Ah! never was on earth a maiden so fair.

With a full heart, I vow—

I never loved till now!

## II. WIFE.

Sweet village bells ring out our wedding chime;

Sweet little birds sing, mating in the trees;

The world, all smiling with a golden clime,

Seems rich in sweet as honey-yielding bee.

For we are One; to live a blended life:

And when alone I clasp my blushing wife,

With fuller heart, I vow—

I never loved till now!

## III. MOTHER.

On our own hearth we talk, in lamp-light hours,

Of coming motherhood to my sweet queen;

I watch her needle stitching wild white flowers,

Wherewith to deck her babe, as yet unseen.

"We shall be Three," she saith, "some happy morn;"

And when, at length, to us a child is born,

With fullest heart, I vow—

I never loved till now!

—*St. James' Magazine*.

**SOLID HOOFED PIGS**—It is stated by Dr. Cones, of the U.S. Survey, that a breed of solid-hoofed pigs has apparently been established in Texas. The terminal phalanges of the toes are united to form a single broad plateau; above this, however, the other two phalanges of each of the two principal digits remain perfectly distinct. The hoof is perfectly solid, and on its sole there is a broad angular elevation of horny substance, which is curiously like the frog of a horse's hoof. The breed is so firmly established that no tendency to revert to the original and normal form is observable. It is further stated that in the cross of a solid-hoofed boar with a sow of the ordinary type a majority of the litter have the peculiarity of the male parent.

**THE AROMA OF BUTTER**—A better plan for improving the aroma of butter, in use in many parts of Switzerland, and noted for good milk and fine butter, is as follows: The milk, as soon as it is drawn, and while yet warm, is filtered through a sprig of washed dill-tips, the stem of which is inserted loosely and upright in the hole of the funnel. The milk deposits hairs, skins, clots, or gelatinous shinniness on the dill-tips. It has imparted to it a most agreeable odour, and does not readily turn sour. A fresh sprig should be used each time.—*Southern Traveller*.

**THE ONE THING NEEDED!**—Stableman of Sporting Recor.—"Dear Master's had advertised for a Curate. Must be orthodox—whatever that means."

Group of ditto.—"Means? Why, that he must know something or two about losses, in course! He'd never suit Master if he didn't."

—*Punch*.

## REVIEW OF THE CORN TRADE,

FROM THE MARK LANE EXPRESS FOR THE WEEK ENDING APRIL 22.

Although variable weather has prevailed during the past week, and a good deal of rain has fallen, the temperature has been mild and favourable to the rapid growth of vegetation, which has recovered from the temporary check it suffered from the recent spell of windy days and frosty nights. The heavy soils have greatly benefited by the increased moisture, which has improved the condition of the land and favoured the development of winter and spring-sown cereals. Grass, too, has made a fresh start after remaining nearly stationary for two or three weeks, and the pastures are beginning to furnish a more nourishing bite for cattle. The return of spring has been accompanied by occasional thunderstorms, the occurrence of which at such an early period of the year is considered by some to augur unfavourably for the continuance of seasonable weather, as it by no means unfrequently happens that electrical disturbance during spring is followed by a variable but generally wet summer. Little reliance can, it is true, be placed in weather forecasts in this country; nevertheless it is sincerely to be hoped that the agricultural outlook being more promising than has been the case at the corresponding time for some years past, farmers will not experience such weather during harvest as will disappoint the hopes raised during seed-time. Some damage has undoubtedly been done to the fruit-trees by the recent east winds, especially in the Southern counties, but it is satisfactory to observe that, from reports which have come to hand, the injury has not been so general as was anticipated. At the same time a warm temperature, with alternate sunshine and shower, is what is now wanted, as any return of harsh weather could hardly fail to be disastrous. Scotland has been visited by some heavy snowstorms, which have checked spring-sowing in the North, but this operation has been fortunately brought to a close in the central and southern districts, where farmers have been busy preparing the Turnip land and planting Potatoes. The winter-sown Wheat crop looks well, and the plant has recently thickened considerably, tillering having taken place early and well, especially on the highly-farmed land of the home counties. At the commencement of the week, it must be confessed, appearances were not in favour of Wheat holders, the weather having become more seasonable, and the prospect of higher prices rendered dubious by

the increased granary stocks, and the prospect of large arrivals during the spring. There was, however, more steadiness in the trade than might have been anticipated, although it was no doubt to some extent due to the presence of a large number of millers, who were obliged to attend market to make purchases, which the return of the Easter Holidays, and consequent cessation of business at Mark Lane, would prevent their doing for a week to come. Owing to this cause, there was a steady retail demand at prices which, if not quite equal to those of the previous Monday, were somewhat better than were obtainable on the preceding Friday. Business was, however, limited to the supply of immediate wants, and on Wednesday trade ruled very dull, although at the close of the day some important political news transpired which had the effect of strengthening the views of holders. Barley, Maize, and feeding corn, with the exception of Beans, which have again slightly favoured sellers, have sold slowly at rather less money, but sales have not been forced of any article, as the opinion still obtains that politics may at any moment exercise a hardening tendency on prices.

The sales of English Wheat noted last week were 36,319 qrs., at 51s. 5d., against 33,264 qrs., at 52s. 4d. in the previous year.

The imports into the kingdom for the week ending April 13th were 640,521 cwts. Wheat, and 129,156 cwts. Flour.

On Monday last the market showed a decided recovery from the inactivity which marked the trade, especially for Wheat, at the close of the previous week, and although millers did not seem inclined to operate as freely as holders desired, there was nevertheless a firmer feeling apparent, and some portion, at any rate, of the decline of 1s. per qr. which was quoted on the preceding Friday was recovered. The week's arrivals of English Wheat amounted to only 1,939 qrs., and for the small supply fresh up to market, factors asked the full prices of the previous Monday, but were only able to obtain them for the choicest parcels, secondary qualities being neglected, and the turn lower to sell. The imports of foreign slightly exceeded 20,000 qrs., a more moderate supply than for some months past, and somewhat remarkable from the fact that it included no arrival of American Wheat. Germany furnished about one-half the total quantity, the remainder consisting of Russian and

Australian grain. The week's exports were again heavy, in all 9,362 qrs., although when compared with the exceptional return of the previous week, they indicated a decrease of 6,452 qrs. in the outward movement. Owing to the near approach of the Easter Holidays the market was well attended by millers and country buyers, and a steady consumptive demand was experienced at about former prices, the intervening decline of the previous Friday being in some instances partially recovered. These were 2,210 qrs. of home-grown Barley, and 4,143 qrs. of foreign. Malting varieties were firmly held, and occasionally the turn dearer, but grinding sorts could only be moved at a reduction of 6d. per qr. The arrivals of Maize amounted to 31,564 qrs., about one-half of which was from Odessa. Old corn, from scarcity, maintained former currencies, while new gave way 6l. per qr. on the week. The imports of Oats were 47,427 qrs., and the demand was inactive at a decline of 6l. to 1s. per qr, the full reduction being felt chiefly on inferior descriptions. On Wednesday there were 100 qrs. of English Wheat, and 22,200 qrs. of foreign reported. The weather was wet nearly all day, and the market badly attended, but with some return of political apprehensions at the close, sellers preferred to hold rather than accept a reduction, and a light retail business was done at about Monday's prices. On Friday the corn exchange was closed, as customary on Good Friday.

The imports of Flour into the United Kingdom for the week ending the 13th of April were 129,156 cwt., against 159,788 cwt. in the previous week. The receipts were 15,201 sacks of English and 4,449 sacks and 9,040 barrels of foreign. A sufficiently steady tone has prevailed in the trade, but sales have nevertheless progressed slowly, quotations being nominally unaltered for both sacks and barrels.

The week's imports of Beans were 46,434 cwts., and of Peas 37,078 cwts., showing an increase of 27 cwts. on the former, and 17,098 cwts. on the latter. Last week's extreme prices have been maintained in both instances, and sellers have occasionally obtained 1s. per qr. more money for Beans.

The deliveries of Malt were 18,937 qrs., and the exports 621 qrs. Prices have undergone no alteration, and no fresh feature for comment has manifested itself in this branch of the trade.

A fair retail demand has been experienced for agricultural Seeds during the past week, and previous prices have been, as a rule, maintained. Trefoil has, however, given away 1s. per cwt., but there has been some inquiry at the reduction. With the exception of sowing Mustard and Rape-

seed, which have been in better request, all other varieties have sold slowly at former currencies.

Supplies have been rather more liberal than of late at the country markets, but provincial trade has ruled dull, and in some instances Wheat has receded 1s. per qr. At Liverpool, on Tuesday, the market was well attended, and there was a large demand for Wheat, especially Red American descriptions, at fully previous currencies. Flour was steady, and Maize in fair request at 26s. 3l. for dry mixed American, while Barley and Beans were the turn easier. The trade generally has been steady, but transactions have been to a great extent of a consumptive character. The week's imports included 59,000 qrs. of Wheat and 41,600 qrs. of Maize. At Newcastle there has been very little business passing in grain, and Wheat and Flour have given away 1s. per qr. and sack respectively. Maize has been firmly held, while Oats have been purchasable on rather easier terms. At Hull no alteration has taken place in the value of English Wheat, but foreign has slightly receded. Feeding corn generally has maintained last week's currencies, with a sluggish demand. At Peterborough the supply of Wheat from the growers has been fair for the season, and with a quiet trade prices remain unaltered for all articles.

At Edinburgh on Wednesday the market was fairly supplied with grain from the farmers, and both Wheat and Spring Corn sold slowly at last week's prices. At Leith the weather has been showery, but favourable for the growing crops. The Wheat trade has ruled quiet but in the moderate amount of business passing, previous currencies have been fairly supported. At market on Wednesday Scotch Wheat moved off quietly at former rates, while foreign was neglected, and a slight concession would have been necessary to effect sales. Flour was dull, and grinding Barley the turn cheaper, but other articles were unaltered. At Glasgow the week's arrivals from abroad have been very light of Wheat, but fair of sack and barrel Flour. Maize on the spot being rather scarce, 3l. to 6l. per qr. more money has been obtainable for mixed American, but with this exception the trade has ruled dull for Wheat and feeding corn, at nominally late rates.

At Dublin there has been rather more activity in the grain trade, and the Wheat market has been firm at last week's extreme prices. Maize has met an improved inquiry, and quotations have advanced 6l. per qr. At Cork the trade remains in an unsettled state, owing to continued political uncertainty, and a reduction of 6d. to 1s. per qr. has been necessary to effect sales of Wheat. Maize has

receded slightly, but scarcely quotably, as there has been a large consumptive demand, which has checked the downward tendency.

The following are the Reports from Mark Lane during the past month:

Monday, April 1.

The arrivals during the past week have been: English Wheat, 2,546 qrs.; foreign, 56,118 qrs. Exports, 7,915 qrs. English Wheat was again in short supply, and sale progressed slowly at an advance of 2s. per qr. on the week; of foreign the arrivals were fair, and with a good attendance of millers the trade ruled quiet at a similar improvement, some portion of last Friday's advance having been lost owing to the rather more peaceful aspect of politics.

Country Flour, 17,163 sacks; foreign, 1,980 sacks and 34,640 barrels. In moderate request at 1s. per barrel and 2s. per sack more money.

English Barley, 2,368 qrs.; Scotch, 87 qrs.; foreign, 13,607 qrs. Malting sorts ruled steady at fully late rates, while grinding qualities recovered 6d. to 1s. per qr. of the recent decline.

Malt: English, 17,866 qrs.; Scotch, 340 qrs. Exports, 376 qrs. The trade ruled quiet at last week's currencies.

Maize, 7,087 qrs. Exports, 2,518 qrs. Very firm, at an advance of 1s. per qr. on new, and 3d. to 6d. per qr. on old corn.

English Oats, 533 qrs.; Scotch, 43 qrs.; foreign, 22,401 qrs. All descriptions were 1s. per qr. dearer than on this day week, while the advance on the Orrels was occasionally rather more.

English Beans, 373 qrs.; foreign, 3,633 qrs. In moderate demand, but fully as dear.

Linseed, 9,351 qrs. Exports, 370 qrs. In good request, and 3s. to 4s. per qr. dearer on the week.

Monday, April 8.

The arrivals during the past week have been: English Wheat, 2,344 qrs.; foreign 37,200 qrs. Exports, 15,814 qrs. There was a small supply of home-grown Wheat at market this morning, and the trade ruled quiet at last Monday's prices; of foreign the arrivals were to a fair extent, and with a good attendance of millers and brilliant weather, a slow sale was experienced for nearly all descriptions, at about late rates. Indian varieties, however, from scarcity, realised 1s. per qr. more money.

Country Flour, 13,978 sacks; foreign, 3,702 sacks and 22,722 barrels. The trade was inanimate, and prices ruled the turn against sellers for both sacks and barrels.

English Barley 1,429 qrs.; Scotch 1,207 qrs.; foreign 1,064 qrs. Malting descriptions were dull, and grinding sorts the turn cheaper on the week.

Malt, English 14,187 qrs.; Scotch 570 qrs. Exports, 1,365 qrs. Quotations were unchanged, with a very moderate amount of business passing.

Maize 14,703 qrs. Exports, 177 qrs. Old corn was 6d. to 9d. per qr. dearer on the week, and there was a fair demand for new at fully late rates:

English Oats, 1,023 qrs.; foreign, 39,357 qrs. Exports, 39 qrs. The trade was quiet for all descriptions, and prices as a rule were the turn in buyers' favour.

English Beans, 487 qrs.; foreign, 4,028 qrs. A dull sale at about former currencies.

Linseed, 11,072 qrs. In moderate request, but not quotably cheaper.

Monday, April 15.

The arrivals during the past week have been: English Wheat, 1,939 qrs.; foreign, 20,627 qrs. Exports, 9,362 qrs. English Wheat was again in short supply at market this morning, and factors held for last Monday's prices, which were, however, only obtainable for the choicest samples; of foreign, the arrivals were light, and with a good attendance of millers a moderate consumptive demand was experienced at an occasional decline of 1s. per qr.

Country Flour, 15,201 sacks; foreign, 4,449 sacks and 9,040 bbls. The trade was dull for both sacks and barrels and last week's currencies were barely supported.

English Barley, 1,801 qrs.; Scotch, 409 qrs.; foreign, 4,143 qrs. Malting descriptions ruled slow, at about late rates, while grinding sorts gave way 6d. per qr.

English Malt, 18,707 qrs.; Scotch, 230 qrs. Exports, 621 qrs. The trade was quiet, and no quotable change occurred in prices.

Maize, 31,564 qrs. Old corn, being very scarce, maintained last Monday's prices, but new could only be moved at a reduction of 6d. per qr.

English Oats, 802 qrs.; foreign, 47,427. In limited request at an all-round decline of 1s. per qr.

English Beans, 12 qrs.; foreign, 226 qrs. A quiet but steady demand at fully former currencies.

Linseed, 2,208 qrs. Exports, 260 qrs. Dull, and 1s. per qr. cheaper to sell.

Wednesday, April 17.

The arrivals of English Wheat since Monday were 100 qrs., and the trade ruled slow without alteration in prices. The imports of foreign amounted to 22,200 qrs.; and the market was very thinly attended, but Monday's currencies were obtainable in the limited amount of business passing, and at the close of the day holders showed increased firmness, their views being strengthened by the less pacific aspect of political affairs.

There were 2,310 sacks and 13,680 sacks of foreign Flour reported. All descriptions were held for Monday's quotations, but the sales effected were not numerous.

The supply of Barley consisted of 870 qrs. of home-grown, and 2,120 qrs. of foreign. Grinding descriptions favoured buyers, but malting sorts were fully as dear.

The imports of Oats amounted to 23,640 qrs., and sales progressed slowly at Monday's decline.

The return showed 19,680 qrs. of Maize, and new corn was in moderate request at barely late rates, while old being very scarce commanded full prices.

The Malt trade ruled dull at former currencies.

There was no fresh arrival of Beans, but 420 qrs. of Peas were reported, both articles ruling steady at fully late rates.

Linseed was dull and the turn cheaper to sell.

The Agricultural Seed trade was quiet but steady, with a moderate retail demand for all the principal varieties at unaltered prices.

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JUNE, 1878.

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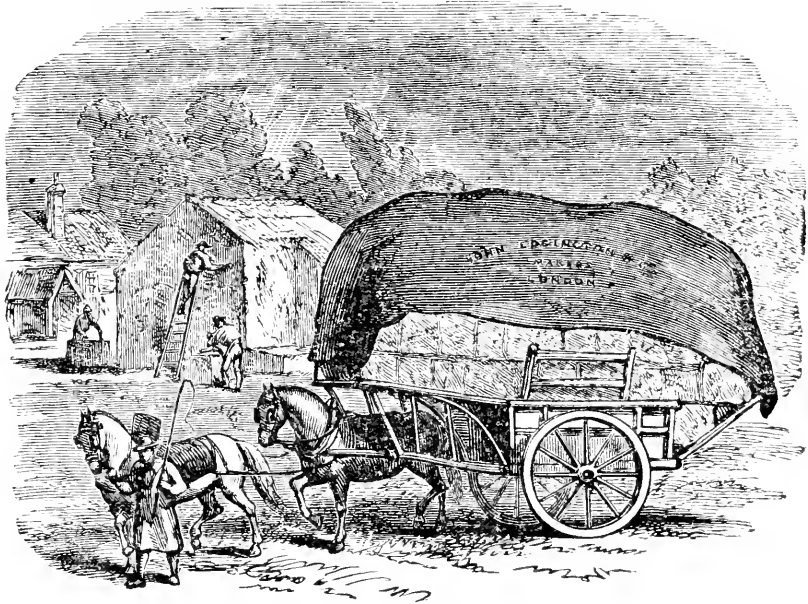
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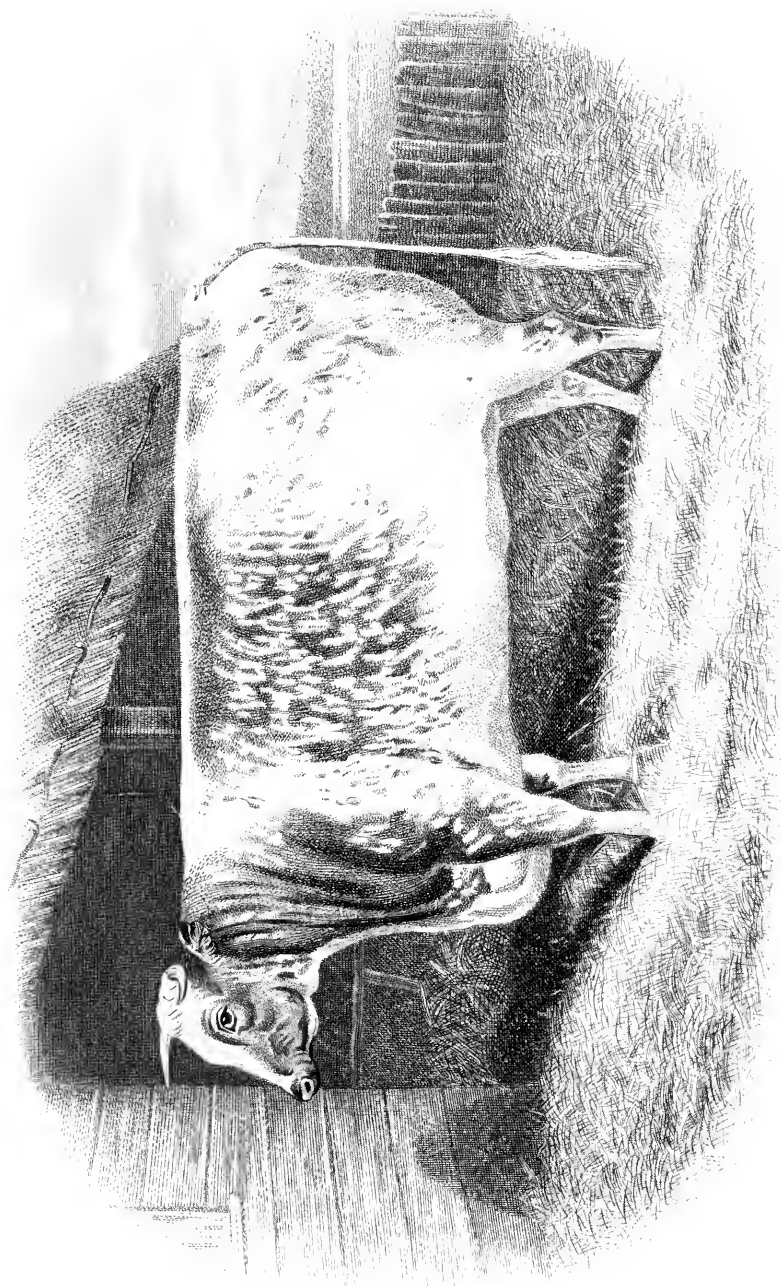
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1850

# THE FARMER'S MAGAZINE.

JUNE, 1878.

PLATE.

GRATEFUL.

THE PROPERTY OF T. H. HUTCHINSON, ESQ., THE MANOR FARM, CATTERICK.

Grateful, a roan heifer, calved in December, 1874, and got by M.C. (31898) out of Gerty 3rd by Knight of the Shire (26552), made her first appearance at Ripon in 1876 as a yearling heifer, where she took the first prize. The same year she was second at the Northumberland Show held at Berwick-on-Tweed, and second at Durham County (the first prize being awarded to White Rose, which also took the Champion Cup for the best female). Shortly afterwards, at the Richmondshire Show, Grateful was placed first and White Rose second,

and Mr. Hutchinson, feeling that Grateful was the better animal, turned White Rose out of training. In 1877 Grateful was second at Ripon, and second at the Royal Agricultural Show at Liverpool to Imperious Queen, but at the Great Yorkshire Show at York Imperious Queen played second to her. After this Grateful won the first prizes at Durham County, Northumberland, Bridlington, and Northallerton Shows, and in October produced a heifer calf which bids fair to rival its dam.

## IRISH AND FOREIGN CATTLE IMPORTATION.

The stock-producing industry of Ireland, in its relation to the food supply of Great Britain, has not, perhaps, been duly considered by those who regard the English consumer as being largely dependent on a foreign supply of meat. We have on a former occasion noted the serious falling-off in Irish exports of cattle and sheep to Great Britain during the year 1877, as shown by the table published in the recent Report of the Veterinary Department of the Privy Council, and do not hesitate to ascribe that falling-off to the presence and dread of contagious diseases, as being the one great and primary cause. The climate of Ireland is suited to the growth of grass to a degree not equalled in any other portion of the United Kingdom, and therefore Ireland is pre-eminently a stock-producing country. That is her great *forte*, her staple and most important industry. The best and cheapest course which can be pursued by Ireland is to get rid of the contagious diseases of animals at any cost, and by every means in her power to prevent their future introduction. To this obvious fact we have evidence that she is keenly alive, inasmuch as even English pedigree stock for breeding purposes are now strictly prohibited, although greatly needed. We have

therefore, every reason to believe that Ireland will cheerfully fall in with any national effort to eradicate the contagious diseases of animals.

From a table in the Report above mentioned it will be found that in the year 1877 Ireland exported to Great Britain 356,249 cattle classed as "stores," 7,706 "other cattle," and 38,788 calves; or 402,743 head of neat stock other than butchers' animals. Unfortunately for the English and Scotch graziers and feeders into whose hands these animals have gone, there has been a considerable importation of disease with this stock; but we are glad to see it recorded that there has of late been less disease in the Eastern counties arising from Irish importations. It is plainly evident that the health of Irish store stock is a matter of great interest and importance to British feeders and graziers, and to agriculturists generally. Another item of Irish stores will be found in 76,515 pigs, which are so classed in the table of imports. All these animals are, of course, merely so much home produce, moved from one portion of the kingdom to another portion of the same kingdom for the joint convenience of breeders and feeders, and which is ultimately consumed by the British public. This may

be considered as Ireland's indirect contribution to the British meat supply. But the figures which will appeal directly to consumers are those by which it is shown that Ireland sent to Great Britain in the year 1877—246,698 fat cattle, 431,129 fat sheep, 199,645 lambs and 508,912 fat pigs. The great bulk of these imports was consumed in the crowded industrial centres of the north of England and the south of Scotland, the numbers finding their way to London being comparatively small. Thus the direct contribution of Ireland to the British meat supply goes to meet the wants of manufacturing districts, where it is most needed. Taking the store and fat stock together, we find that Great Britain received from Ireland 1,865,642 animals during the year 1877.

Now, turning to another set of tables in the Report, we find it stated that there were imported into Great Britain from foreign countries during the year 1877 198,428 cattle, 872,159 sheep, and 19,572 pigs. These tables are evidently carefully compiled "from weekly returns furnished by her Majesty's Customs," and show the countries from which the animals were sent as well as the British ports at which they were landed. These numbers, however, do not quite agree with the Official Accounts of the Imports and Exports of the United Kingdom for the year ending December 31st, 1877; but the discrepancy may no doubt be accounted for, and is not material to our purpose. Nevertheless, it will be necessary to give the figures as they stand in the Official Accounts to show how the corresponding item to the 198,428 "cattle" of the Report is made up. Thus we find the numbers in the Board of Trade returns to be as follows:—

FOREIGN IMPORTS IN 1877.

		£
Oxen and Bulls	148,619	Declared value 3,243,125
Cows	25,404	" 444,456
Calves	50,172	" 130,132
<hr/>		
Total Cattle	204,195	
Sheep and Lambs	874,062	" 2,107,378
Pigs	20,037	" 87,599
<hr/>		
Total Animals	1,098,294	Total value 6,012,690

Setting aside the discrepancy of 5,767 in the numbers, as not affecting our argument, it will thus be seen that the 198,428 foreign "cattle" of the Report are represented in the Trade Returns by 204,195 head of neat stock made up of oxen, bulls, cows, and calves. The figures representing the "cows" must include the ten to twelve thousand dairy animals, which, according to the evidence given before the Cattle Plague Committee, are es-

timated to be imported yearly. Taking the lower figure, to be on the safe side, we find that after adding the then remaining 15,404 "cows" to the 148,619 "oxen and bulls" we have but 164,023 imported foreign butcher's beasts to put against 246,698 imported Irish butcher's beasts, also made up of fat "oxen, bulls, and cows." The following table will show the details of the Irish live stock importation in comparison with the details of the foreign live stock importation already given. The figures are taken from the tables in the Report which are compiled from "Returns furnished by Professor Ferguson, Director of the Veterinary Department, Ireland":—

IRISH IMPORTS IN 1877.

FAT ANIMALS.	STORE ANIMALS.
Oxen, Bulls, & Cows 246,698	Store Cattle ..... 356,249
Sheep..... 431,129	" Other Cattle"... 7,706
Lambs ..... 199,645	Calves ... 38,788
Pigs ..... 508,912	Pigs ..... 76,515
<hr/>	
Total ..... 1,386,884	Total ..... 479,258

UNITED TOTALS, 1,865,642 ANIMALS.

In order to contrast the total Irish import of live stock with the total foreign import of live stock we give another table:—

TOTAL IRISH IMPORTS IN 1877.	TOTAL FOREIGN IMPORTS IN 1877.
Cattle..... 649,441	Cattle..... 204,195
Sheep..... 630,774	Sheep..... 874,062
Pigs ..... 585,427	Pigs ..... 20,037
<hr/>	
Totals ..... 1,865,642	Totals ..... 1,098,294

EXCESS OF IRISH IMPORTS OVER FOREIGN IMPORTS 767,348 ANIMALS.

In this table the Irish imports are necessarily taken from the Veterinary Report, and the foreign imports from the Official Trade Returns, for the sake of uniformity with the preceding statistics.

It will thus be seen that the item of imported foreign "cattle," as it appears in the Veterinary Report, conveys an erroneous idea of the consuming value of the animals so designated. The "declared" money value of the foreign imports of stock is but an official estimate, and, so far as we are aware, the requisite data for forming anything like a correct estimate of these money values do not exist. The quality and weights of foreign stock, both as regards cattle and sheep, vary exceedingly; and, unless a trustworthy return of actual prices realised were made by salesmen to the authorities, we do not see how such values are to be assessed. Nevertheless, from the breeding and finish of the Irish cattle—for the production of which good English sires are largely used—we do not hesitate to estimate them as being, unit for

unit, of greater money value, and also of greater consuming value than the Continental cattle. But, taking the cattle units to be of equal value only, we find that Ireland contributes as nearly as possible one-third more fat cattle directly to the British consumer than is supplied from all foreign sources put together, the numbers being, as before stated, 246,698 Irish fat cattle as against 164,023 foreign fat cattle. Comparing the units of the total animals in each case those of the Irish imports are out of all proportion more valuable than those of the foreign imports. We leave our readers to judge from these facts and figures concerning Ireland alone, whether or not, if the United Kingdom were freed from the losses and the dread of losses due to contagious diseases of animals, our home stock-producing industry would not of itself easily suffice to supply an equivalent to the entire foreign import of live animals.

In connexion with the subject of foreign imports of live stock, we have compiled, from the figures given in the Veterinary Report, the following table for the purpose of showing the numbers and description of stock imported from each foreign country into Great Britain; but the totals in this case do not quite agree with those furnished by the Official Trade Returns, as previously pointed out:—

IMPORTATION OF FOREIGN LIVE STOCK DURING THE YEAR 1877.

CATTLE.		SHEEP.		PIGS.	
Denmark	50140	Germany	426905	Netherlands	11413
Netherlands†	44950	Netherlands	263264	France	4922
Schleswig-Holstein†	34112	Belgium	61481	Denmark	1759
Spain	27255	Schleswig-Holstein	50661	Canada	584
Portugal	14582	Denmark	42646	U. States	226
U. States	11538	U. States	13120	Spain	73
Canada	7649	Canada	10275	Germany	41
Sweden	4756	Sweden	1545	Belgium	27
France†	2804	France	1517	Russia	19
Belgium*	372	Uruguay	448	<i>Africa</i>	9
Germany*	155	Portugal	158	<i>Norway</i>	7
Norway	110	Russia*	124	<i>India</i>	5
Malta	3	<i>Norway</i>	7	<i>Ghana</i>	3
<i>Argentine Con-</i>		<i>Spain</i>	4	<i>Turkey</i>	2
<i>federation</i>	2	<i>Turkey</i>	3	<i>Portugal</i>	1
		<i>Malta</i>	1	<i>Italy</i>	1
<b>Total</b>	<b>198428</b>	<b>Total</b>	<b>872159</b>	<b>Total</b>	<b>19572</b>

The animals shown as imports from the countries which are printed in italics in the table are probably nothing more than surplus ships' stores. Schleswig-Holstein is given separately from the rest of Germany. Our chief object in arranging the figures in the above form is to show at a glance that those countries from which the importation of cattle is prohibited, which are

marked \* in the table, have, with the exception of Russia, sent us a large number of sheep; also to show that those countries marked † in the table, which are scheduled and their stock admitted for slaughter only at the ports of landing, have sent us very freely both cattle and sheep under those very restrictions to which Denmark, one of the free countries, declares she will be unable to adapt herself if the Contagious Disease (Animals) Bill becomes law. We think the patent evidence afforded by our importations of sheep from Germany, cattle and sheep from the Netherlands, and cattle from Schleswig-Holstein, under the restrictions, as shown by the above figures, sufficient to indicate that slaughter at the ports of landing will not tend to diminish our foreign supply of meat.

### ROYAL AGRICULTURAL BENEVOLENT INSTITUTION.

The list of subscriptions and donations to the Royal Agricultural Benevolent Institution, recently issued for the current year, is interesting as showing in what proportion the different counties contribute towards the support of this excellent charity. In the number of subscribers Essex stands first—her list filling 18 pages of the volume—followed by Middlesex, Hampshire, Kent, Norfolk, Northamptonshire, Derbyshire, Warwickshire, Herts, Leicestershire, Monmouthshire, Berks, Suffolk, and Gloucestershire, about in the order thus given. Bucks, Cambs, Cornwall, Surrey, Wilts, and Hunts come next, all having about the same number of subscribers. Lincolnshire is rather low down in the scale for a great agricultural county, having only about as many subscribers as little Bedfordshire; while Sussex has fewer, and Oxfordshire fewer still. Dorset and the Isle of Wight come next, with four pages each. Hereford shows up poorly, perhaps because in that rich grazing county the farmers have no fear of being candidates for the bounty of the Institution. Worcester-shire is not much more liberal; while gigantic Yorkshire is a mere dwarf of a contributor. Tiny Rutland stands out nobly with more than a page of subscribers—just about as many as rich Somerset produces. Shropshire has only a few more names, and Staffordshire about the same number as Rutland. Going lower still we come to mighty Lancashire, with only 28 subscribers, Notts with 16, Cheshire with only 15, Derbyshire with but 10, Cornwall with 7,

Cumberland and Durham with 3 each, and Northumberland with 2! In Wales there are 16 subscribers, in Scotland 2, in Germany and Guernsey 1 each, and in Ireland none.

### FOREIGN LIVE STOCK AND FOREIGN MEAT.

In the four months January, February, March, and April of the present and last two years we have imported live foreign animals as follows:—

Animals.	First four months of 1876.	Four months of 1877.	Four months of 1878.
Oxen and bulls .....	40,608	33,170	35,543
Cows .....	11,522	8,657	9,790
Calves .....	7,561	5,106	4,913
Total cattle .....	59,691	47,933	50,246
Sheep and lambs.....	298,716	277,859	235,255
Swine .....	7,927	3,15	3,795

As compared with 1876, the arrivals for four months are less by 4,865 oxen and bulls, 1,732 cows, 2,618 calves, 63,461 sheep and lambs, and 4,132 swine. And computing these at average dead weights of the oxen and bulls at 46 imperial stones, the cows at 40 stones, the calves at 7 stones, the sheep and lambs at 4 stones, and the pigs at 8 stones, the decrease is equivalent to 74,812 cwt. of meat.

What has been the course of the trade in dead meat in the same time? This shown by the following figures:—

Fresh meat imported.	Four months of 1876.	Four months of 1877.	Four months of 1878.
Fresh beef, cwts.....	32,555	181,445	193,648
Fresh mutton, principally Meat preserved otherwise than by salting .....	45,855	52,947	64,582
Fresh pork .....	64,520	153,732	126,629
Total, cwts.....	18,830	7,219	7,193
Total, cwts.....	161,799	398,343	392,957

Salted meat imported.	Four months of 1876.	Four months of 1877.	Four months of 1878.
Salted beef, cwts.....	98,572	81,000	98,819
Bacon .....	1,066,415	1,002,359	1,454,781
Ham.....	115,308	170,950	302,121
Salted pork .....	144,952	138,762	178,882
Total, cwts. ....	1,425,247	1,393,071	2,034,603
Total dead meat imported, cwts.....	1,587,046	1,791,414	2,426,660

Thus the increase in the four months of the present year, as compared with the same period of 1876, has been 230,255 cwt. of fresh and preserved meat, and 609,356 cwt. of salted meat, or a total increase of 839,614 cwt. of dead meat. This does not nearly more than compensate for the falling off of 74,812 cwt. of meat from live animals imported—indeed, the increase in animals of fresh meat alone, being 230,255 cwt., is more than

triple what we lost by diminution in the number of foreign live animals imported in the same time.

When will people, now led by the nose by parties interested in the present line of traffic with European countries, leave off making misrepresentations as to the vital importance of the live animal trade and the precarious and problematical character of the trade in dead meat?—*Chamber of Agriculture Journal.*

### AGRICULTURAL LABOURERS AND CHARITY LANDS.

Recently, a deputation from the National Agricultural Labourers' Union waited upon Mr. Cross to urge him to use his influence to stop the sale of charity lands by local trustees, and to make it compulsory upon the trustees to let such lands to the labourers in allotments, provided the labourers paid for them as good rents as are now obtained from the present tenants. Mr. G. Shaw-Lefevre, M.P., introduced the deputation, which consisted of about twenty labourers and officers of the Union from different parts of the country. Mr. Lefevre dwelt specially upon the case of Burghclere, in Hants, where the local trustees propose to sell more than 70 acres, with the sanction of the Charity Commissioners, although the majority of the labourers of the parish are opposed to such sale. From the statements made by Mr. Joseph Arch and Mr. Howard Evans, who subsequently addressed the Home Secretary, it appeared that the Allotments Act (Wm. IV. cap. 42) is so wide in its phraseology that, if it was fully carried out, it would enable the labourers to rent many thousands of acres of local charity land now in the occupation of large tenants, and that the charities themselves would benefit by an increase in the rents. The local trustees, however, throw every possible difficulty in the way of the men, and the Charity Commissioners construe the Act in question in the narrowest possible sense. The only remedy at present is by a mandamus in the Court of Queen's Bench, which is too expensive to be of any use. The speaker urged upon the Home Secretary either to enable the labourers to compel the trustees to let to the poor the lands which are their own property, or, at any rate, to stop any sales till the labourers had votes, when they would deal with the question themselves. Mr. John Todd, farmer, Cottenham, then detailed the obstacles thrown in the way of the men in his parish by the local trustees and the Charity Commissioners. Mr. Charlwood (Chipstead, Surrey) said that recently land had been sold in that parish, in spite of the protest of the men, who offered an increased rent; and Mr. A. James, of Burghclere, spoke of the feeling of the men in that parish on the proposed sale. Mr. Cross, in reply, expressed a general sympathy with the system of field-gardens, but intimated that the representations made to him ought more properly to have been made to the Duke of Richmond as President of the Council. He advised that the deputation should represent their views to the duke.

IMPORTATION OF FOREIGN ANIMALS TO GREAT BRITAIN.—The total numbers of animals imported into Great Britain from all countries in 1877 were as follows:—From European countries, 179,236 cattle, 848,315 sheep, 18,745 swine. From the United States and Canada, 19,187 cattle, 23,325 sheep, 810 swine. From the Channel Islands 2,638 cattle, and 2 swine; and from other countries 5 cattle, 440 sheep, and 17 swine. From Ireland 649,441 cattle, 630,774 sheep, 585,427 swine. Making a total of 2,958,441 animals, against 3,226,948 in 1876.



## AGRICULTURAL SOCIETIES.

## ROYAL OF ENGLAND.

The annual meeting of this Society was held recently, in Hanover Square, Colonel Kingscote, M.P., presiding. Among those present were the Earl of Powis, Lord Fitzhardinge, Mr. J. Torr, M.P., Mr. Neville-Grenville, Sir J. Heron Maxwell, Mr. W. Botley, Mr. D. R. Davies, Mr. T. Aveling, Mr. T. C. Booth, Mr. James Odams, &c.

After the usual preliminary business.

The Earl of Powis said the meeting was aware that it was proposed to hold the Show next year in the Metropolitan district. The site chosen for it was near Willesden, where it would be easily accessible both by railway and by carriage from the Metropolis itself, and the Council trusted that it would attract a considerable number of spectators and visitors and prove worthy of the Society and of the country, both in animals and implements. Under these circumstances the Society would naturally desire to secure for itself a President in whom the whole nation would place confidence, and hence it was a great satisfaction to him to be able to announce that His Royal Highness the Prince of Wales had intimated his willingness to accept that office (cheers). His Royal Highness had already been pleased to favour the Society with his services as President in the year in which the Show was held at Manchester, and in the present year they had all heard of the hearty good-will and satisfaction which his presence as President of the British Section of the Paris Exhibition had created among their neighbours across the Channel (cheers). It was quite unnecessary that he should say anything further in support of such a motion. He would, however, remind them that for the London Meeting they must endeavour to provide prizes of a higher character than usual, both as regarded number and quality, so as to attract animals from all parts of the United Kingdom and to stimulate the makers of implements and machines to assist in adding interest and dignity to the Show. There would, probably, be a considerable number of exhibitors and competitors from abroad, and the Council wished to offer prizes which would in some measure remunerate many of them for the trouble and risk of sending their cattle and implements to this country.

Mr. T. C. BOOTH said he had great pleasure in seconding the motion. When His Royal Highness was President before, he observed with great pleasure the interest which he took in everything connected with the welfare of the Society, while as regarded the Paris Exhibition he believed the Prince was going to it next week to superintend, if he might use that word, the exhibition of stock, which was looked forward to with great interest by many exhibitors belonging to this country. He (Mr. Booth) hoped that the great National Exhibition to be held in

London next year would excel all the meetings which the Society had hitherto held, not excepting that held at Battersea in 1862. Personally he felt great interest in the Exhibition of 1879, and he hoped to see there cattle from all parts of Europe, and even from America. As the question of the supply of food for the people of this country was agitating men's minds so much, it would be a great advantage to have an opportunity of seeing what had been done in other countries, and if they could convince foreigners that there were breeds of cattle in England which were superior to their own they might thus be led to endeavour to improve their own cattle, and thus to improve the quality of the animals which were exported to this country (Hear, hear).

Mr. W. BOTLEY supported the motion, and it was agreed to.

The Trustees and Vice-Presidents having been re-elected, the meeting proceeded to the election, through the usual form of voting-papers, of 25 members of the Council, the result being that two vacancies, arising from the resignation of Mr. D. R. Davies and Sir R. Musgrave, were filled up with the names of Mr. James Howard and Mr. W. Sheraton.

The SECRETARY (Mr. H. M. Jenkins) then read the Report of the Council, which was as follows:—

The Council of the Royal Agricultural Society have to report that, since the last General Meeting in December the following changes have taken place in the list of members—2 Governors and 42 members have died, 114 members resigned in the course of 1877, and the names of 37 others have been struck off the list by order of the Council. On the other hand, 189 members, and 3 honorary members have been elected—so the Society now consists of:—

31	Life governors,
72	Annual governors,
2,328	Life members,
4,130	Annual members,
25	Honorary members.

Total - 6,637

The Council announce with great regret the death of two valued colleagues, namely, Mr. T. Horley, Junr., of The Fosse, near Leamington, and Mr. Richard Hornsby, of Spitlegate, Grantham. These vacancies in the Council have been filled by the election of Mr. George Wise, of Woodcote, Warwick, and Mr. James Odams, of the Grange, Bishop Stortford. The Council have to report that they have elected Mr. George Fleming, veterinary surgeon, 2nd Life Guards, Professor G. T. Brown of the veterinary department of the Privy Council, and Dr. Burdon-Sanderson, F.R.S., Professor-Superintendent of the Brown Institution, honorary members of the Society in recognition of their eminent services to veterinary science. The accounts for the year 1877 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 Liverpool Meeting. The funded property of the Society remains the same as at the last General Meeting, namely, £26,511 11s. 5d. new three per cents. The balance of the current account in the hands of the bankers on the 1st instant was £3,638 12s. 8d., and £3,000 remained on deposit; these sums will eventually be required to meet the expenses of the Bristol Meeting. The increased and still increasing operations of the Society have led the Council to consider whether the Secretary and Editor is adequately remunerated for the additional labour and responsibility involved in the performance of his duties; and as an acknowledgment of the high sense entertained by the Council of the ability and energy shown by Mr. Jenkins in the performance of those duties, they have resolved that an addition of £200 per annum be made to his salary. The Bristol Meeting will be held on Durham Down, on July 10th, and four following days, and will be distinguished by an exhaustive trial of dairy appliances, the improvement of which is annually becoming of more importance to the English dairy-farmer, both on account of the great scarcity and increasing cost of skilled labour, and in consequence of the improved quality of foreign dairy products. The encouragement of dairy farming will also be promoted by the competition for the prizes offered by the Local Committee, not only for cheese and butter, but also for the best managed dairy farms in Gloucestershire, East Somerset, and North Wilts, for which there are 15 entries. For the prizes offered for arable farms in the same district only 3 entries have been made. The district assigned for the country meeting of 1879 comprises the counties of Norfolk, Suffolk, Cambridge, Huntingdon, Bedford, Buckingham, Oxford, Hertford, Essex, and Middlesex. At a public meeting held at the Mansion House under the presidency of the Lord Mayor, it was unanimously resolved that it was desirable to promote the holding of a great Agricultural Exhibition in London next year, under the auspices of the Society; and an influential committee was appointed to carry out that object and to co-operate with the Council. The Council have therefore decided that the meeting of 1879 shall be held in the county of Middlesex as near London as possible, and that it shall be planned on an extended basis and assume an international character. Under such its inductive and favourable circumstances His Royal Highness the Prince of Wales has intimated his willingness to accept the Presidency of the Society for the ensuing year. During the past half-year the Chemical Committee have had under consideration two special subjects of the greatest importance to the members of the Society. With regard to the first of these—the experiments at Woburn are being carried on satisfactorily, and a report of their progress has been lately published in the *Journal*. The Council regret that Mr. Lawes has retired from active participation with Dr. Voelcker in the management of the experiments, but they are happy to say that they will not be deprived of the great advantage of his advice and assistance. An expression of the Council's regret at Mr. Lawes's resignation, and a vote of thanks to him for the labour and time he had bestowed on the initiation and superintendence of the experiments was unanimously passed at the April meeting. The Chemical Committee, with the sanction of the Council, have drawn up some rules for the future management of Crawley Farm, and of the Experimental Field, the former being under the management of a Sub-Committee, the latter under that of Dr. Voelcker, and both under the control of the Chemical Committee. The second subject refers to the members' privileges of chemical analysis. The

Quarterly Reports of the Chemical Committee have demonstrated the necessity of purchasing artificial manures and feeding stuffs by guaranteed analysis, and of checking the quality of the bulk as delivered, by sending a sample of it to a qualified chemist for analysis. This practice, however, must entail an additional cost, which to the small purchaser would be an appreciable addition to the price of his manures and feeding stuffs. The Council therefore refer it to the Chemical Committee to consider at what cheaper rate than at present analyses of manures, feeding stuffs, and other substances used in agriculture could be made by the Consulting Chemist for the *bona fide* and sole use of members of the Society, if the Society provided the Chemist with a laboratory and staff entirely devoted to that purpose, and what additional cost such a plan would be to the Society. The Chemical Committee thereupon drew up a comprehensive plan, which has been adopted by the Council subject to its practicability being ascertained, whereby a laboratory and all its adjuncts will be provided for the Consulting Chemist in the Society's house, and the fees for analysis to be then charged to members of the Society will be reduced to about one-half of their present amounts. The experiments with respect to pleuropneumonia have been continued at the Brown Institution; and an exhaustive paper on the Pathological Anatomy of the disease, by Dr. Yeo, was published in the last number of the *Journal*. The improved method of inoculation for pleuropneumonia, with reference to its preventive efficacy, is about to be tried on a larger scale than has hitherto been possible, and in districts in which disease actually prevails. With this view the Council trust that owners of stock will co-operate with them by allowing their uninfected animals to be inoculated by the Society's officers, it being understood that compensation will be made by the Society for any losses arising directly from the inoculation. The Council have to report that four candidates competed for the Society's medals and prize offered to members of the Royal College of Veterinary Surgeons for proficiency in the pathology, causes, symptoms, and treatment (preventive and curative) of cattle, sheep, and pigs. The successful candidates were:—Mr. M. Hedley, 14, King Street, Stranraer, N.B.; Mr. T. Chambers, Nuneaton, Warwickshire; Mr. Robert E. Hoile, Lympne, Hythe, Kent. They have also to report that six candidates presented themselves last month for examination for the Society's Senior Prizes and Certificates, including the Life Membership of the Society. Of these, Mr. James Mollison, of the Agricultural College, Cirencester, was the only one who passed; and he obtained a first-class certificate, the Life Membership of the Society, and a prize of £25.

By order of the Council,

H. M. JENKINS,

Secretary.

Sir J. HERON MAXWELL, in moving the adoption of the Report, expressed his regret at the resignation during the year of 114 members, and at the necessity which had arisen for striking off 37 others, though the aggregate number at the end of the year was, he believed, about the same as that at the close of the preceding year. In view of the great national Exhibition of next year he hoped that many of the leading capitalists of London would give large subscriptions in order that it might be thoroughly successful. He had no doubt that the Bristol meeting would prove a success, especially as the Bath and Bristol Society was the parent of all the great agricultural

Societies of the country; but he especially congratulated the meeting on the prospect of a grand Show in London, and as it would be within two or three miles of the central parts of London, and there would be ample railway and other travelling accommodation to the vicinity of Kensal Green railway station, he felt confident there would be no lack of "gate" money. Many wealthy persons connected with the City of London seemed to imagine that if they put down their names for subscriptions the money would be asked for at once; but that was quite a misapprehension, the word of a London banker or merchant being quite as good as his bond. Although Mr. Lawes had retired from the Chemical Department of the Society he had no doubt that he would still render kind assistance to the Council when it was required. He was glad to hear what was said in the Report about improved methods of inoculation for pleuropneumonia, and he trusted the result would be that, as in the case of small-pox, the Council would be enabled, through those who acted on its behalf, to meet and conquer the disease. They all knew how much English owners of stock had suffered from pleuro-pneumonia, and he must say that the man who made an important discovery for checking it deserved a wreath from his country (cheers).

Mr. W. BOTLEY, in seconding the motion, and alluding to the increase of the Secretary's salary mentioned in the Report, remarked that it was warranted even by the improvements of the *Journal*, adding that after ten years' valuable services had been rendered by Mr. Jenkins he rejoiced to see such an addition made to his income.

Mr. NEVILLE-GRENVILLE, in supporting the motion, also bore testimony to the interesting and useful character of the *Journal*, and referred to some recent articles as proving its practical value.

Mr. MOORE, who in reply to the Chairman said he was a veterinary surgeon, explained in minute detail the system of inoculating cows which had been carried out under the sanction of the Council, and advocated the passing of a Bill which would compel every owner of stock to have young animals inoculated within three months after they were born.

The SECRETARY observed that if Mr. Moore read Dr. Burdon Sanderson's Report he would find what had been done clearly explained.

The CHAIRMAN added that the Council were obliged to entrust such a matter to others, and they had had the benefit of the services of some of the cleverest medical men in London.

On the motion of Mr. THORNTON, seconded by Mr. FRANKISH, a vote of thanks was given to the Auditors.

Mr. D. R. DAVIES then proposed a vote of thanks to the President of the Society (Col. KINGSCOTE), not merely, he observed, for taking the chair that day, but also for the able and efficient manner in which he had presided over the proceedings of the Council. They all

knew, he said, the value of the assistance which he was always ready to afford not only in connection with that Society, but in relation to all important matters which pertained to agricultural matters generally (cheers).

Lord FITZHARDINGE seconded the motion, which on being put by Mr. DAVIES was carried by acclamation.

The CHAIRMAN, in returning thanks, said he was always prepared to do anything which lay in his power on behalf of that great Society, which he regarded as a very important one to agriculture and to the country. What the Society especially needed was a large increase of the income arising from annual subscriptions. If it were not so dependent on shows the Council would often be enabled to expend money more beneficially for agriculture than could be done under the present state of things. The Society had, however, caused a good deal of enlightenment among agriculturists, especially during the last few years, and had been instrumental in the carrying out of many improvements in different branches of farm operations. The experiments at Woburn were particularly valuable, and he had no doubt that they would be continued in a satisfactory manner. He coincided in the hope just expressed, that, notwithstanding Mr. Lawes' retirement from the Chemical Department, the Council would continue to receive valuable assistance given him. As regarded the Bristol meeting he regretted that there were only three entries for the competition in arable farming, but he believed that the deficiency would be made up for by the interest attached to the competition in dairy farming. With respect to the London Exhibition, the Council desired to obtain liberal contributions from the Mansion House Committee and the Corporation of the City of London. He must say that he was astonished at the very keen interest with which the project was taken up when it was brought forward in the City. They now wanted numerous and liberal subscriptions to enable them to make the Exhibition far more successful than any preceding one, and he had no doubt that with such aid, if the world was only blessed with peace and good will among all men, it would prove a very great success (cheers). The Report mentioned the fact that four candidates had "competed for the Society's medals and prizes offered to members of the Royal College of Veterinary Surgeons, for proficiency in the pathology, causes, symptoms, and treatment (preventive and curative) of cattle, sheep, and pigs." That appeared to him a most valuable part of the Society's work. Although he did not wish in the least to throw any slur upon the veterinary profession generally, yet he must remark that they were all sensible that in many parts of the country competent veterinary surgeons, especially as regarded a knowledge of cattle, sheep, and pigs, were often very hard to find; and, therefore, anything which that Society could do to increase the amount of proficiency by offering prizes for it must be a step in the right direction (Hear, hear). He sincerely thanked the meeting for the manner in which the vote of thanks had been received (cheers).

The meeting then separated.

## DEVON COUNTY.

ANNUAL SHOW.

(Abridged from *The Western Times*.)

The seventh exhibition of the Devon County Agricultural Association was opened on Wednesday at Honiton, under a rather brighter sky than recent weather changes promised. The stock of all sorts displayed on the Heathfield inclosure bore striking witness not only to the improvements in agriculture and the enterprising spirit of the modern farmer, but to the mechanical genius which has been at work in contriving the endless variety of machines and implements not merely for the saving of manual labour, but operating on the soil in a fashion that could scarcely be accomplished by hand.

Devonshire men, as a rule, feel the greatest interest in the special breed of the county, and it is a matter of pride to all breeders of Devons to find that they this year make the largest show in the exhibition. Quality is in no degree second to quantity, for take the whole of the classes together we never saw a better lot. The only approach to a weak class is that of the old bulls, where there are but three entries. First honours are taken by Major Buller with an animal bred by the late Mr. Buller, and one which last year stood second in the younger class. Though of large size, yet he is not altogether handsome, for his sides are flat, and there is a deficiency in the hind quarters. He, however, is of excellent quality, and has a better barrel than Viscount Falmouth's Sirloin, a very compact beast, but not well enough up in the shoulder. Messrs. Leigh win third prize with a bull having a grand shoulder and fore-quarter, but he is hard fleshed and lacks form. The bulls between two and three years of age are a magnificent class, and the judges had a great deal of trouble in coming to a decision.

The first honours were given to Mr. W. Farthing for his Royal Aston. Major Buller won the second prize with a good and level bull, but, taken altogether, he is hardly up to the form of the Somersetshire beast, and has a rather awkward walk. The bulls between one and two years were an equally good lot, and they promise to produce stock of the highest form. The judging of the female classes in the Devons created a great deal of interest, and the judges had a very difficult task before them in making their awards to the cows. Eventually they brought to the front Mr. Walter Farthing's Pretty Face, a cow that took second prize last year, Mr. Smith's Rosalie being second, and Mrs. Langdon's Actress third, the reserved animal being a cow of Mr. Corner's which last year won third prize. The young heifers and the heifer calves were altogether wonderfully good classes. Mrs. Langdon was first in each class, and both classes were commended. Altogether it will be difficult for any future exhibition to beat the present show of Devons.

The South Devon cattle are not numerous, but they are still on the course of progress, and as a whole they form a very commendable show. The chief honours are taken by Mr. L. N. Oldrieve, and in the bull and heifer calves, as well as in both classes of heifers, he carries off the first

prizes. Mr. Peter Vosper, however, is the possessor of the best animal in the classes—a six-year-old cow, Young Beauty, which takes the first prize, and is undoubtedly the finest animal of the breed ever exhibited.

The Shorthorns make a good show in every exhibition, and they are now no exception to the rule. The judges expressed their opinion that the animals brought before them were a splendid representation of the breed, and that those entered for the Royal and Bath and West of England Shows will find no difficulty in holding their own. The old bull class now includes some who last year were but "youngsters," and among these is Oxford Duke 10th, sent by Mr. J. Cruse, of Brandiscorner, and which last year was first in the class not exceeding three years. He is a rough-coated, rather angular, and not altogether attractive-looking animal, but a close examination shows him to be a bull of magnificent proportions, one having a grand framework and every indication of a good, useful beast. He accordingly now wins first prize, passing the very handsome Gallant Gay of Mr. Butt's, which was first in this class last year, and also a Baron Wild Eyes, shown by Mr. Dunning, of Taunton. Among the bulls between two and three years Messrs. Hosken's substantial and nice-looking roan takes the lead, and second to him is Mr. Acker's Prince Georgia, which was last year first in the class under two years.

The Channel Islands Cattle attracted much attention, and there was a good deal of interest felt in the awards.

The Sheep classes are all well filled, and this department is spoken of as highly as the other branches of the exhibition. The Leicesters are a fair lot; there are some very good rams, but the ewes are hardly so good. Some Leicester breeders were complaining that size rather than form seemed the chief feature in the eyes of the judges. The South Devons are better in the male than in the female classes. The Devon long-wools are a most extraordinary show; they were the finest lot ever seen in the exhibition, and the hogg rams and ewe hoggs especially were the admiration of every one.

The Pigs do not make a very large show, but they deserve much attention for their excellent quality. In dealing with the large black breed the judges were placed in a difficulty in consequence of Berkshires and the ordinary long blacks appearing together, and we believe that the Stewards will recommend that next year the two breeds be divided. The prizes were given to the Berkshires, but the whole class was commended. In the small black breed the boars were the best, and Mr. Partridge, of Bow, succeeded in taking all the prizes. The white breeds are not popular in Devonshire, and the competition was confined to two exhibitors—Messrs. Duckering and Mr. Speneer, the latter a new exhibitor at this Show.

The Horse-ring was throughout the day the centre of attraction, but the Grand Stand was hardly so largely patronised as in some previous years. The agricultural horses are, as usual, of but moderate excellence, and there was a noticeable lack of anything above mediocrity in the class of stallions foaled before 1875. The younger stal-

lions included the animal that was spoken of as the truest-made horse on the ground—Young Sampson, owned by Mr. Nathaniel Cook, of Tiverton, and which ran away with the honours of his class without any trouble; at the same time Mr. Powlesland's Young Prince, which won the second prize, is a very fair animal. The best mare in foal is Mr. Powell's, of Crediton, and a very nice gelding is shown in the 1874 class by Mr. Evans, of Poltimore, and a fine bay colt of Mr. Cook's takes the first in his class. The hacks and hunters are altogether a very high-class lot. In the class for mares exceeding fifteen hands a remarkably nice one shown by Mr. Ashley, of Honiton, is first, and an exceedingly useful mare, shown by Mr. Joe Gould, and exceeding the first in size and power, to some extent rather lacking quality, takes the second prize. In the class under fifteen hands a very good mare, belonging to Messrs. Irish, of Totnes takes the honours. The mares and geldings over fifteen hands brought out as prize takers a black gray and a dark brown gelding, shown by Mr. G. P. Battams, of Tavistock, both of them remarkably fine hunters. In all the classes of hacks and hunters there was a good competition, many exceedingly handsome animals being shown. The cobs and galloways and ponies were equally deserving the commendation passed upon them, and the prize ponies were remarkably clever and with fine action.

The following is the prize list of the horses, cattle, sheep, and pigs:—

## PRIZE LIST.

JUDGES.—AGRICULTURAL HORSES: Mr. J. Chick, Maiden Newton; Mr. H. Biddell, Ipswich; Mr. H. Whippell, Barton, Exeter. HACKS AND HUNTERS: Mr. G. Turner, jun., Northampton; Mr. J. H. Hutchinson, Catterick; Mr. J. Hornsby, Grantham. DEVON CATTLE: Mr. T. Potter, Thorverton; Mr. E. Banton, Dorchester; Mr. J. Tapp, Southmolton. SOUTH DEVON AND CHANNEL ISLAND CATTLE: Mr. F. Coaker, Kingsbridge; Mr. W. T. Ewman, Yealampton; Mr. J. Rendell, Newton Abbott. SHORTHORN CATTLE: Mr. W. Finlay Dun, Portland Place, London; Mr. J. B. Lythall, Birmingham; Mr. W. H. Hewitt, Taunton. LEICESTER, EXMOOR, SOMERSET, AND DORSET HORN SHEEP AND PIGS: Mr. T. Cornish, Teignmouth; Mr. R. W. Cresswell, Ashby-de-la-Zouch; Mr. W. Hote, Cullompton. SOUTH DEVON, DARTMOOR, AND DEVON LONG WOOL SHEEP: Mr. J. Venn, Exeter; Mr. R. May, Tavistock; Mr. J. Cleave, Cullompton. WOOL: Mr. C. J. Upcot, jun., Cullompton. SHEEP SHEARING: Mr. G. Turner, Bowley, Tiverton; Mr. J. Mortimer, Barnstaple; SHOING SMITHS: Mr. D. R. Scrutton, Newton Abbot; Mr. J. A. Collings, Exeter.

## HORSES.

## FOR AGRICULTURAL PURPOSES.

Stallions foaled before the 1st January, 1875.—Prizes £15, £10, £5.—1, Mr. Beedell, Newton St. Cyres (Valeau); 2, J. Powlesland, Okehampton (Model); 3, J. Rew, Cullompton (Young Protection).

Stallions foaled on or after the 1st of January, 1875.—Prizes £10, £6, £3.—1, N. Cook, Tiverton (Young Sampson); 2, J. Powlesland, Okehampton (Young Prince); 3, G. E. Elliott, Devon (Iron Duke).

Mares in foal, or having a foal by their side.—Prizes £10, £6, £3.—1, J. Powell, Crediton (Diamond); 2, T. Godtree, Honiton (Frolic); 3, W. Fife, Branscombe (Duchess).

Geldings or fillies, foaled in 1874.—Prizes £8, £5.—1, J. Evans, Poltimore (Darling); 2, J. Gould, Broadclyst, Devon (Duchess).

Geldings or fillies, foaled in 1875.—Prizes £8, £5, £3.—1, J. Tidboald, Honiton (Short); 2, J. Tidboald, Honiton (Lotty); 3, G. Arden, Devon (Madam).

Colts, geldings, or fillies, foaled in 1877.—Prizes £8, £5, £3.—1, N. Cook, Tiverton (Young Nobleman); 2, C. Norris, Exeter (Beaconsfield); 3, T. Yeo, Barnstaple (Princess Maria).

Extra stock.—Viscount Sidmouth, of Uppottery Manor, Honiton, a chestnut gelding, Champion, aged 8 years, and a chestnut mare, Darling, aged 8 years.

## HACKS OR HUNTERS.

Mares in foal or having foal by side.—Prizes £12, £6.—1, E. Ashley, Honiton; 2, Joe Gould, Broadclyst (Nut Girl).

Mares in foal or foal by side.—Prizes £12, £6.—1, J. and T. Irish, Totnes (Charlotte); W. Shapland, Northmolton North Devon (Polly).

Mares or geldings, over 4 years old, exceeding 15 hands high.—Prizes £12, £6, £4.—1, G. Bland Battams, Tavistock (Ring Tail); 2, G. Bland Battams, Tavistock (Brown Stout); 3, T. H. Newman, Lewdon.

Mares or geldings, over 4 years old, not exceeding 15 hands high.—Prizes £12, £6, £4.—1, A. E. Gould, Poltimore (Little Lady); 2, H. C. Barrett, Totnes (Victory); 3, T. Yelverton Ottery St. Mary (Duchess).

Geldings or fillies, foaled in 1874.—Prizes £12, £6, £4.—1, G. Bland Battams, Tavistock (Look Sharp); 2, J. Cole, Bideford (The Czur); 3, W. Trist, Exminster.

Geldings or fillies, foaled in 1875.—Prizes £12, £6, £4.—1, G. Bland Battams (Lady Jane); 2, E. A. Saunders, Exeter (Post Haste); 3, W. Trist, Ivybridge (Polly Perkins).

Geldings or fillies, foaled in 1876.—Prizes £10, £6, £4.—1, T. Mortimer, Ken (Rhone); 2, E. G. Legg, Dorset (Hawthorn); 3, J. and T. Irish, Totnes (Phantom).

Colts, geldings, or fillies, foaled in 1877.—Prizes £10, £6, £4.—1, Rev. J. G. Copleston, Honiton (Gentle); 2, A. C. Sandoe, Bodmin; 3, W. Smith, Whimble (Lady Peel).

## COBS AND GALLOWAYS.

Cobs or galloways, of any age or sex, not exceeding 14 hands high.—Prizes £8, £4, £2.—1, C. P. Dyke, Lyme Regis (Otto); 2, J. Pethick, Plymouth (Fay Tommy).

## PONIES.

Ponies not exceeding 13 hands high.—Prizes £8, £4, £2.—1, D. Power, Ottery St. Mary (Aaron); 2, F. Finch, Bladon, Exeter (Fally); 3, F. Swabey, Axminster (Fanny).

## CATTLE.

## DEVONS.

Bulls exceeding 3 years old on the 1st June, 1878.—Prizes £15, £8, £4.—1, Major R. H. Buller, C.B., Crediton; 2, Viscount Falmouth, of Treozothnan, Probus (Sirlion); 3, H. and T. Leith, Sidmouth (Charlie).

Bulls above 2 and not exceeding 3 years old on the 1st June 1878.—Prizes £15, £8, £4.—1, W. Farthing, Bridgwater (Royal Aston); 2, Major R. H. Buller, C.B.; 3, W. Rolles Fryer, Dorset (Sultan), 2 years and 1 month, bred by himself.

Bulls above 1 and not exceeding 2 years old on the 1st June, 1878.—Prizes £15, £8, £4.—1, Viscount Falmouth, Probus; 2, Viscount Falmouth; 3, W. Farthing, Bridgwater (Cherry's Duke).

Bulls not less than 6 nor exceeding 12 months old on the 1st June, 1878—Prizes £10, £6, £4.—1, W. Rolles Fryer, Dorsset (Pasha); 2, Major R. H. Buller, Crediton; 3, Viscount Falmouth.

Cows exceeding 3 years old, in calf or having had calf—Prizes £10, £6, £4.—1, W. Farthing, Bridgewater (Pretty Face); 2, W. Smith, Whimple (Rosalie); 3, Mrs. M. Langdon, Northmolton (Actress 8th).

Heifers not exceeding 3 years old, in calf or having had calf—Prizes £8, £5, £3.—1, W. Farthing (Ladybird); 2, W. Smith, Whimple (Mudge); 3, Mrs. M. Langdon, Northmolton (Temptress 8th).

Heifers not less than 12 months nor exceeding 2 years old—Prizes £8, £5, £3.—1, Mrs. M. Langdon, Northmolton (Cherry 10th); 2, W. Farthing (Pretty Face 2nd); 3, Jackman and Bickle, Launceston (Violet 2nd).

Heifers not less than 6 nor exceeding 12 months old—Prizes £6, £3.—1, Mrs. M. Langdon (Temptress 12th); 2, W. R. Fryer, Poole (Kalmia).

## SOUTH DEVONS.

Bulls above 2 and not exceeding 3 years old—£15, £8, £4.—1, J. Adams, Ivybridge.

Bulls above 1 and not exceeding 2 years old—£15, £8, £4.—1, G. Dewdney, Plympton (Hero); 2, J. B. Oldreive, Dartmouth; 3, R. Cocks, Pennycross.

Bulls not less than 6 nor exceeding 12 months old—£10, £6, £4.—1, L. N. Oldreive, Dartmouth; 2, G. Dewdney, Plympton (Napoleon).

Cows exceeding 3 years old, in calf or having had calf—£10, £6, £4.—1, W. P. Vosper, Plympton (Young Beauty); 2, W. Harvey, Barnstaple, (Daisy).

Heifers not exceeding 3 years old, in calf or having had calf—£8, £5, £3.—1, J. B. Oldreive, Dartmouth (Crocus 3rd); 2, W. Harvey, Barnstaple (Rose).

Heifers not less than 12 months nor exceeding 2 years old—£8, £5, £3.—J. B. Oldreive, Dartmouth (Hilda 2nd); 2, G. Dewdney, Plympton (Daisy).

Heifers not less than 6 nor exceeding 12 months old—£6, £3.—1, J. Browse Oldreive, Dartmouth (Garland 5th); 2, W. P. Vosper, Plympton.

## SHORTHORNS.

Bulls exceeding 3 years old—£15, £8, £4.—1, J. Cruse, Brandiscorner, North Devon (Oxford Duke 10th); 2, J. S. Bult, Kingston, Taunton (Gallant Gay); 3, J. H. Dunning, Taunton (3rd Baron Wild Eyes).

Bulls above 2 and not exceeding 3 years old—£15, £8, £4.—1, W. Hosken and Son, Cornwall (Oxford Beau); 2, Mr. Benjamin, Gloucester (Prince of Georgia); 3, J. W. Paull, Ilminster (Lord Townsend).

Bulls above 1 and not exceeding 2 years old—£15, £8, £4.—1, D. R. Scratton, Newton Abbot (Lady Hillhurst) Duke 2nd; 2, W. Hosken and Son, Cornwall (Arch Duke); 3, J. S. Butt, Taunton (Duke of Hazlecote).

Bulls not less than 6 nor exceeding 12 months old—£10, £6, £4.—1, S. T. Tregaskis, Cornwall (Masterman); 2, W. Hosken and Son (Lord Wild Eyes 2nd); 3, B. St. John Ackers, Gloucester (Knight of the Diadem).

Cows exceeding 3 years old (in calf, or having had calf within 4 months preceding the first day of Exhibition)—£10, £6, £4.—1, W. Hosken and Sons (Carnation 4th); 2, R. W. Pollard, Paignton, Lady Oxford 2nd; 3, W. S. Gibbs, Taunton (Kentish Girl).

Heifers not exceeding 3 years old (in calf, or having had calf within 4 months preceding the first day of Exhibition)—£8, £5, £3.—1, J. S. Bult, Taunton (Annette); 2, J. S. Butt, Taunton (Bertha 3rd).

Heifers not less than 12 months, nor exceeding 2 years old—£8, £5, £3.—1, W. Hosken and Son (Sylvia 4th); 2, W. Hosken and Son (Countess of Oxford 7th); 3, S. T. Tregaskis (Queen of the Meadow).

Heifers not less than 6 nor exceeding 12 months old—£6, £3.—1, W. Hosken and Son (Rose of Oxford 3rd); 2, S. T. Tregaskis (Faith)

## CHANNEL ISLANDS: JERSEY OR ALDERNEY.

Bulls exceeding 1 year old—£6, £4.—1st, T. D. Eva, Cornwall (Tinker); 2nd, C. P. Dickson, Newton Abbot (The Emperor).

Cows exceeding 3 years old (in-calf, or having had calf within 5 months preceding the first day of Exhibition)—£6, £4.—1st, W. Hood Walrod, Topsham (Beauty); 2nd, Lord Poltimore, Exeter (Beauty).

Heifers not exceeding 3 years old (in-calf or having had calf)—£6, £4.—1st, Lord Poltimore (Hawthorn); 2nd, G. D. W. Digby, Sherborne (Primrose 2nd).

## GUERNSEY.

Bulls exceeding 1 year old—£6, £4.—1st, T. D. Eva; 2nd, W. H. Walrod (The County).

Heifers not exceeding 3 years old (in calf or having had calf)—£6, £4.—1st, R. N. G. Baker, Exeter (Crocus); 2nd, R. N. G. Baker (Lady Jane).

## SHEEP.

## LEICESTERS.

Yearling rams—£10, £6, £4.—1st, J. Rosewarne, Hayle, Cornwall; 2nd, J. Rosewarne; 3rd, G. Turner, Tiverton.

Rams of any other age—£10, £6, £4.—1st, T. Potter, Thorverton; 2nd, J. Rosewarne; 3rd, G. Turner.

Pens of five yearling ewes—£6, £3, £2.—1st, J. Rosewarne; 2nd, J. Broom, Sidbury; 3rd, J. Broom.

Pen of five ewes of two years old and upwards (to be shown in their wool and suckling their lambs)—£6, £3, £2.—1st, G. Turner.

## SOUTH DEVONS.

Yearling rams—£10, £6, £4.—1st, J. Fairweather, Kingsbridge; 2nd, J. Fairweather; 3rd, J. Fairweather.

Rams of any other age—£10, £6, £4.—1st, J. Badoock, Kingsbridge; 2nd, P. Stooke, Plympton; 3rd, H. Paine, Kingsbridge.

Pens of five yearling ewes (to be shown in their wool)—£6, £3, £2.—1, W. P. Vosper, Plympton; 2, R. B. Trant, Menheniot; 3, G. Dewdney, Plympton.

Pen of five ewes of 2 years old and upwards (to be shown in their wool and suckling their lambs)—£6, £3, £2.—1, J. S. Hallert, Plympton.

## DEVON LONG WOOLS.

Yearling Rams—£10, £6, £4.—1, Sir J. H. H. Amory Tiverton; 2, W. Cook, Tiverton; 3, Sir J. H. H. Amory.

Rams of any other age—£10, £6, £4.—1, W. Drakes, Launceston; 2, P. Venn, Ottery St. Mary; 3, W. Drakes, Launceston.

Pens of five yearling ewes—£6, £3, £2.—1, C. T. Ford, Exeter; 2, J. H. Amory; 3, R. Corner, Williton.

Pens of five ewes of two years old and upwards (to be shown in their wool and suckling their lambs)—£6, £3, £2.—1, C. Norris, Exeter; 2, Sir J. H. H. Amory; 3, H. Leigh, Silserton.

Pens of five D von Long Wool yearling ewes (to be shown in their wool, and to have been bred by the exhibitor within 14 miles of Honiton)—£5 5s.—1, C. Norris, Exeter.

## DARTMOORS.

Yearling rams to be shown in their wool—£10, £6, £4—1 and 3, J. Bremridge, Okchampton; 2, R. Palmer, Beaworthy, Exbourne.

Rams of any other age—£10, £6, £4—1, J. L. Bremridge, Okchampton; 2, W. Squire, Bridestow; 3, J. Knapman, Okchampton.

Yearling ewes—£9, £3, £2—1, J. L. Bremridge, Okchampton; 2, J. Knapman, Okchampton; 3, W. Squire, Bridestow.

Pens of five ewes of two years old and upwards, to be shown suckling their lambs—£6, £3, £2—1 and 2 J. Knapman Okchampton.

## EXMOORS.

Yearling rams—£10, £6, £4.—1 and 3, Lord Poltimore, Exeter; 2, Mrs. Langdon, Northmolton.

Rams of any other age—£10, £6, £4.—1 and 2, Mrs. Langdon, Northmolton; 3, Lord Poltimore.

Pen of five yearling ewes—£6, £3, 2.—1, Lord Poltimore; 2, Earl Fortescue; 3, C. Williams, Barnstaple.

Pen of five ewes, two years old and upwards; to be shown in their wool and suckling their lambs—£6, £3, £2.—1, Lord Poltimore; 2 and 3, Earl Fortescue.

## SOMERS T AND DORSET HORNS.

Yearling rams—£10, £6, £4.—1 and 2, H. Farthing, Bridgwater; 3, J. Culverwell, Bridgwater.

Rams of any other age—£10, £6, £4.—1, 2, and 3, H. Farthing.

Pen of five yearling ewes—£6, £3, £2.—1 and 2, J. Mayo, Dorchester; 3, W. S. Gibbs, Taunton.

Pen of five ewes of two years and upwards; to be shown in their wool, to be certified to have produced lambs the preceding season—£6, £3, £2.—1, W. S. Gibbs.

## PIGS.

## LARGE BREED (BLACK).

Boars not less than six months—£5, £3, £2.—1, C. Williams, Barnstaple; 2, Benjamin St. John Ackers, Gloucestershire; 3, N. Benjafield, Dorsetshire.

Sows of any other age in farrow or exhibited with their litters—£5, £3, £2.—1, N. Benjafield, Dorsetshire; 2 and 3, B. St. John Ackers.

## SMALL BREED (BLACK).

Boars not less than six months—£5, £3, £2.—1, 2, and 3, J. Partridge, Bow.

Sows of any age in farrow or exhibited with their litters—£5, £3, £2.—1, Rev. W. Hooper, Dorchester.

## SPECIAL LOCAL PRIZES.

## DEVON BULLS.

Devon Bull not exceeding 2 years and 6 months, to be kept for twelve months within the Honiton Union district—1, £10, W. Rolles Fryer, Poole, Dorset (Sultan).

Ditto, to be kept for service for twelve months within 3 miles of Honiton—1st, £10 10s., John Jackman and Bickle, Hexworthy, Launceston (Palmerston).

Devon long wool yearling ewes bred within 14 miles of Honiton.—1st, £5 5s., C. Norris, Exeter.

## JUMPING PRIZES.

Mare or gelding exceeding 15 hands high (the cleverest jumper).—1, £10, C. F. Rew, Bradninch (Royal George); 2, £5, Mr. White, Taunton (The Monk).

Mare or gelding not exceeding 15 hands (adjudged to be

the cleverest jumper).—1, £7, J. A. Collings, Exeter (Patty); 2, £3, W. Cook, Tiverton (Polly).

## SINGLE-HARNESS HORSES

Mare or gelding not under 14 nor exceeding 15 hands (cleverest single-harness horse).—1, £10, G. Davy, jun., Barnstaple; 2, £5, J. Moore, Exeter (Speculation).

## BUTTER AND CREAM.

JUDGES.—Mr. C. Ewins, Axminster; Mr. S. W. Lendon, Exeter.

2lbs. of Devonshire butter and 2lbs. of Devonshire clotted cream.—1, £5, the Hon. J. F. Clifford Butler, Shobrooke, produce of Jersey cows; 2, £3, W. Hood Walrond, Topsham, produce of Guernsey and Alderney cows; 3, £2, Wm. Harvey, Barnstaple, produce of South Devon and cross-bred cows.

## WOOL.

The prizes in three classes were awarded on Thursday—these were two competitions for unwashed wool, and there was a sheep shearing contest. The prizes for fleeces of long wool (Dartmoor excepted) brought out half-a-dozen competitors, but there was only one lot shown in the special Dartmoor class, and consequently only second prize was awarded. Seven sheep-shearers were at work. The judge of the wool was C. J. Upcott, of Cullompton, and the judges of the shearing were Messrs. G. Turner and G. Mortimer.

## UNWASHED WOOL.

Three fleeces of long wool other than Dartmoor—1, £5, F. Doble, Uffculme; 2, £3, C. Norris, Motion, Exeter; and 3, £2, J. Stooke, Plympton—all showing fleeces of Devon long wool. Dartmoor wool—£3, J. Knapman, South Tawton.

## SHEEP SHEARING.

Shearing a pen of three sheep entered for the wool competition—1, £2 10s., Robert Bessant, Motion, Exeter; 2, £1 10s., Wm. Morgan, Payhembury; 3, Mr. Tucker, St. Germans.

## HORSE SHOEING.

In the ring in which the Devon cattle were judged on Wednesday the smiths were to day at work. The competition lasted a very long time, there being nearly 40 competitors; the prizes were not awarded when the Yard was closed for the day.

FARMS IN NEW ZEALAND.—In the public interest we are pleased to learn that the proprietors of the Wantwood and Caroline Estates, Southland, consisting of eighty thousand acres of freehold, have determined to subdivide them into convenient-sized farms, with suitable dwellings and offices erected thereon, and to let them for 14 and 21 years at moderate rentals to agricultural tenants, which we feel assured, if properly understood, will not fail to attract the attention of a good class of tenant farmers in Great Britain, where young men entering into that pursuit require a very considerable capital, have to pay a high rent, and receive a very inadequate return for their toil.—*Otago Times*.

EMIGRATION TO QUEENSLAND.—The ship Sir William Wallace 986 tons, Captain Colville, sailed from Gravesend, on the 18th May, bound for Townsville, Queensland, and had on board the following number of emigrants, viz.:—39 married men, 38 married women, 133 single men, 52 single women, 58 children betw. the ages of 12 and 1, and nine infants, making a total of 328 souls.

## ALEXANDRA PARK HORSE SHOW.

The author of the history of the gradual development of the coachmakers' art from Paradise to Long Acre says: "To one great principle in our nature which impels us never to be satisfied with our present state, but ever to be seeking foreign aid and appliances is due the invention of breeches." Directly man pulled on a pair of breeches and found the pockets empty, to fill them invention followed invention, till at last he was obliged to make roads and conveyances to move them, and as our roads improved the sons of Nimshi increased the pace, but they could not keep it up without blood, consequently many heavy-hair — heeled nags have gradually been metamorphosed into those as fine in the leg as Eclipse himself, while the wheelbarrow that Adam fetched home his washing with and took Eve out for an airing in has at last taken the form of that bijou of a carriage in which one of her fairest descendants, "a lady of transcendent beauty," so gracefully lounges. And to this "one great principle in our nature" and breeches' pockets" we are indebted in the height of the London season for the Alexandra Park and Agricultural Hall Horse Shows. We place them thus, as Alexandra for her sixth annual show opened the gates of her park on May 24th to the 29th, a week or two before, instead of, as in previous years, two or three weeks after, the agriculturists had held theirs. That Londoners do not rush to witness the judging and scan the points of the horses, and in fact care little for anything but "the fun of the fair," the jumping, cannot be wondered at considering that every morning during the season—Sundays excepted—there is to be seen in Hyde Park the grandest show of hacks in the world, and in the afternoon the grandest show of carriage horses, while on Monday and Thursdays Messrs. Tattersall and Pain continually do cry over some crack stud of hunters, "Going! The last time! Run him down! Mind he'll kick yer!" Besides all this does not the Queen hold divers drawing-rooms in these months, on which days we can quietly and calmly scrutinize, as they stand drawn up in line for our inspection from St. James's to Grosvenor Place, horses, harness, servants, liveries, nosegays, carriages, armorial bearings, lovely women, jewellery, fine dresses, uniforms, and cocked hats? Then, if we wish to study the thoroughbred horse, cannot we get a peep at the sires, dams, and youngsters at the yearling sales of Eltham, Hampton Court, and Cobham? and if we want to see him in racing trim is not there the piddock at Epsom? Then, for all sorts and conditions of horses, from those of Barclay and Perkins to the pony in a basket carriage, have we not the streets? In a word, "there is no place like London," and we may add no prettier site for a horse show than Alexandra Park. But the sixth show of horses was poor indeed, the weather on the opening day wretched, and the attendance but so so. Let us hope that the weather will change to set fair, and

that Messrs. Bertram and Roberts will be amply rewarded for their liberality, if not for chopping and changing. A little after ten o'clock Messrs. E. Paddison, Lincoln, W. Young, Beverley, and J. Coates, Yorkshire, took in hand the judging of the thoroughbreds and roadster stallions and the hunting classes in one ring, and Messrs. R. Howard, Lincoln, W. H. Gaunt, Yorkshire, and W. Beever, Retford, the hacks, horses, cobs, and ponies in and out of harness in another ring and on the drives in the park. Scarcely ever have we seen so few country friends round the ring. What is the cause? Is it that they begin to find that minding the shop pays better than gadding about? Or is it due to the general slackness of trade, to meeting the same horses year after year, or was not the alteration in the time of holding the Alexandra Park meeting properly advertised? If we may judge by the getting up of the catalogue we should say it was the latter; for the gentlemen who superintended that must have as much idea of giving the pedigree of a thoroughbred horse as a thoroughbred horse has of giving his. It commences with that grand old Sultan and show-goer, "Citadel, ch., 19 years—his dam Sortie by Melbourne." Then we have "Newry, 6 years—by Lycades, dam Blanchette;" and "Amsterdam, 6, aged, by the Flying Dutchman." We presume that Citadel's sire is thoroughbred and Blanchette's, and that Amsterdam had a dam, and she a sire, which are to be found in the Stud Book; otherwise Citadel, Newry, and Amsterdam had no right to compete as thoroughbred stallions. What pains have we taken to teach secretaries and managers how to set about it, and how often must we repeat that the whole duty of a secretary and manager is not strutting about the ring, as he can always get a man with a whip and a bell tongue for a few shillings a day! Mr. Parrington, that model secretary and manager of the Great Yorkshire, is seldom or ever to be seen in the ring, and when we pay a shilling for a catalogue of 50 pages, containing 193 entries of horses, and many of these to be found in two and some in three classes to swell it up to that number, we expect to gain a little information from it. But time flies, and we must stick to the horses. There were only nine thoroughbred stallions to eighteen last year, and of these the great Citadel, the three cornered Pandanguero, the coaching-looking Claudius, with no place for a saddle, and pinched elbows, the corky-looking Amsterdam, whose well laid shoulders and withers Claudius wants to make a prize horse of him, Highlander, who reminds of the Melbournes and the days when we were young, and the elegant but French looking Barbilou, are all old stagers, and we think have shown before at Alexandra Park, if not there at some shows. The others were Newry, a strong compact built horse, and very taking, with good limbs but rather beefy shoulders, which were



loaded at their points—a moderate-looking chestnut five-year-old by Fortunio dam Miss Osborn (we have not time to look in the Stud Book to make perfect these pedigrees) and Chivalrons, a chestnut by Adventurer, out of Auld Acquaintance by Irish Birdcatcher, one of the most taking nags of the lot, which carried himself well, and although small to the eye at first glance, is full of muscle, and in a word, “a little big’un,” very compactly made and hardy-looking, two things which should not be lost sight of in breeding. Citadel, it will be seen, is not in the prize list, for the first time (we think) since he was victorious at Islington, the judges having discovered at last, like many a very big man, that with all his greatness he is only fit for a caravan. The roadster stallions of fifteen hands two inches high and upwards were not an imposing lot, the red rosette going to Great Shot, a red roan by Great Gun, and a horse of fair form and action, that we set down as the next best to that grand mover and neat roadster old Fireaway the Second, who, with his stout-built runner in knickerbockers picked up their feet from the slush in capital style; while Dexter which beat him for second honours, was not grand in form, but could step. Perfection, the representative of the Stand Stud Company, is more showy than useful, and is slack in his ribs, and has not roadster action; and Lord Lyon, the commended of an entry of eight, though by King Charlie, dam by Lord Derby, does not look like a patrician. Of roadster stallions under fifteen hands two inches high, eight very fair ones, out of an entry of nine, made their appearance in the lists, the absentee being that well known clipper of the Stand Stud Company, Star of the East. Mr. Groucock sent Prickwillow the Second, by Prickwillow, out of a mare by an Arabian, which is very handsome and can move; Mr. Bearts, Eclipse, a dark-brown three-year-old of promise; Mr. N. S. Brough, a very clever cob, Sultan, by Triffett’s Fireaway; Mr. Harrison, Yorkshireman, by Landseer, another stepper of good form; Mr. RENNISON, Sir Edwin’s by Roan Napoleon, a neat cob with action; Mr. Grout, Honesty, a very showy four-year-old cob; while Mr. Holmes’s, of Scarborough, Young Fireaway, was disqualified, being six years old instead of five, as entered. Sir Alfred, natty in form, with nice action, belongs to Mr. Wilberforce.

The four-year-old hunters did not mead matters, though some of them were promising, as many had mistaken their calling. Mr. Newton’s Golden Drop, a chestnut four-year-old, of neat hunting-like form and action, showing breed as a nag much smaller than the Golden Drop which won at Islington, but like him dropped in for the pounds; while True Blue, in close attendance, a nimble little chestnut, played second, the third being a useful bay, Graffham, by Young Touchstone. We recollect two or three of that name serving mares about the country, and a venerable groom taking us up in his arms and placing us on the back of a bay horse with black legs, standing sixteen hands high—of whose grand form when we see a print of Orville we are reminded—and saying, “There, sir, you can now say that you have been on the back of Master

Henry;” and on looking at our catalogue we think it possible and probable that some persons may not know that he was the sire of Banter, the dam of the horse for which the Marquis of Westminster asked the American dominions, showing that he, poor man, had his share of “the first principle of our nature” and coveted more dominion than he already possessed—for money is power, a thing which people at the present time seem very loth to part with—at least so the dealers tell us. The commended Snapdragon with his shoulders and pace put us in mind of the “slow shilling” as much as True Blue did of “the nimble ninepence.” Star of the East by Omen, dam Nelly Baker, was a blood-looking horse of nice, but not exactly hunting form; still he would leave a great many behind in a run if he has any notion of crossing country—he went through the dirt well. Mr. Saunders’ Nelson and Mr. Severne’s shelly-looking Colonel could also go, which is the great thing; for a grand-looking horse without action is like a rich man without liberality—which is a peroration worthy of a Dean. Thus endeth the class. The five-year-old hunters and upwards, up to not less than 12 stone or more than 14 stone, looked as if things were going to mend, as of the fifteen entries, not all in the flesh, the galloping Gleugyle and that sweet mare Rosamond, looking more beautiful than ever, and adorning the turf she trod, as with grace in every motion she reminded us of the poetry, were among the first to enter the arena, and though far be it from us to say a word against Messrs. Allen and Haines’s nice hunting-like horse Salem, possessing as he does form, breed, and actions, still we really think, without there was something beyond our ken, as many more did, she ought to have been asked to take a higher place. The mare never showed better, for she was as handy as a glove. The commended Trade Wind by Lightning, dam by Revenue, and bred in America, was very peacocky to look at, and we think that Messrs. Allen and Haines, neat, but shelly-brown-Luxury should have been before him and Mr. R. Gardner’s King of Trumps. Wonders will never cease; for in the five-years-old and upwards class, up to not less than 14 stone, was Tavistock, a horse of immense power, and that walked, trotted, and galloped well. He is by that unlucky horse Gemma de Vergy, but not a bit like him, which was once the property of Palmer, the poisoner. As he is a young giant, but five years old, he will take time to furnish and fill out, when if some very great man should pay Edwinstowe a visit in his caravan Mr. Bayly will be able to give him a mount, and should Tavistock happen to fall on him the Edwinstownians will never want pancakes. Of course there are different opinions; one great man likened him to Palmerston and another said he was “a magnified Beckford,” and many who wish to agree with every one said he was very like both, which reminds us of the late Lord Brougham, when there was such a rush to hear Irving preach at Hatton Garden. His Lordship said, “Irving was a very good likeness of the ‘apocalyptic angel,’” and many of

the multitude who had not the slightest idea of its meaning said they quite agreed with his lordship "Irving was indeed very like an 'apoplectic angel.'" The next to him, Tavistock, and not the apoplectic angel, was Mr Newton's c. h. g. 6 years old, a nice horse of some breed but not grand in form, nor did he move quite to our mind with his hind legs. Then came Mr. Smith's Statesman, a very handsome hunting-like horse and a capital galloper, which in the stiff going on Knaves' mire last year, beat Mr. Newton's crack bay four-year-old Sir George. So that if these were not a grand lot there were some plumes worth picking out. To these we may add the Duke of Hamilton's Winder, who for make and action, we have said before, is a model of a weight-carrier; but, by the side of Tavistock one looks like up to so many stones and the other tons of weight. Then Mr. J. Booth's Baldersby has thickened and improved wonderfully, and we must not be surprised if he does not move quite in so gay a manner as some of the others, as when his owner is up he has a steadier on his back, as he walks in his shoes 16 stone 4lb. What a treat for tender toes should the Squire of Bedale happen to make a false step. The best of the others were Mr. Budgett's King Lear, a well-built horse, but not up to the weight, Mr. Hetherington's Prince Regent, and Mr. Hogg's Duchess. For the cup for the best horse in any of the hunting classes, Golden Drop, Glengyle, and Tavistock competed, and when we came from the hack ring we were told that it had been awarded to "Muster Bayly's big 'un." In the hacks, harness horses, and pony classes, mustering in all, absentees included, seventy-four, there were some few remarkably good animals, many very middling, and some of the reserved numbers that the judges would not give a commendation to. In the hack and roadster classes Sir George Wombwell's very clever nag Sunbeam, having been ridden in Rotten Row and become accustomed to the usage of polite society, where nothing tells so much against man or horse as bad manners, settled down quietly in his paces and beat Charles the Second and Nobleman, which did not show like he did at Bath, where he trotted in grand style—in fact he would have been all the better for a week's schooling in Rotten Row; still with the park hacks and ladies' horses he cantered nicely enough to carry off first honours. Lady Anne in the hack and roadster class, up to not less than 12 stone, not under 14.2 or over 15.3 hands—what a condition for protests and wrangles—was a showy goer, but her head was badly set on, with the jowl too much into her neck, especially when handled. Lady Hayton was a compact strong-built one: Queen Adelaide was not up to the form of Mrs. Frisby's clever little nags Eclipse and Echo; Lottery and Matchless were also good; Expedition astonished a great many when set going, as did Patriarch, which was beautifully handled. There were some very good single harness horses exceeding 14 hands and not exceeding 15 hands, Vanguard, from Seymour Place being a very strong and remarkably fast goer, and Mr. Wilson's Fireaway knew the use of

his legs too, and Matchless, though overmatched, as we have said before, was very nice. Half-a-dozen decent ponies bring us to the jumping, which we did not see, as there was none on the first day, and we commend the management for settling the business before larking begins.

#### PRIZE LIST.

Thoroughbred stallions.—First prize, £50. H. W. Freeman, Newbridge Hill, Bath (Clandius); second, £20, G. Groucock, Hayward's Heath, Sussex (Newry); third, £10, the Duke of Hamilton, Easton Park, Suffolk (Barbillon).

Roadster stallions (15.2 hands and upwards).—First prize, £30, J. Tibbett, Doddington, Cambridge (Great Shot); second, £15, J. Hetherington, Red Hill, Edgware (Dexter); third, Enfield Stud Company (Fireaway the Second). Commended: N. S. Brough (Lord Lyons).

Roadster stallions (under 15.2 hands).—First prize, £30, N. S. Brough, Londesbro' Wold, Market Weighton (Sultan); second, £15, G. Rennison, Scoresby, Rexby (Sir Edwin); third, £10, M. Harrison, Galton, Driffield (Yorkshireman). Commended: G. Wilberforce, Pocklington, Yorkshire.

Hunters (four years old).—First prize, £30, F. P. Newton, Malton (Golden Drop); second, £15, T. L. Skipworth, Howsham, Brigg (True Blue); third, J. T. Blott, Great Houghton, St. Neots (Graffham). Commended: J. T. Daniell, Scarborough (Saapdragou).

Hunters 5 years old and upwards, up to not less than 1 stone or more than 14 stone.—First prize, £40, T. H. Hutchinson, Manor House, Catterick (Glengyle); second, £20, Messrs. Allen and Haines, Seymour Place, Bryanston Square (Salem); third, £10, W. Wright, Wollaston, Nottingham (Rosamond). Commended: F. M. David, New Club, Brighton (Trade Wind).

Hunters 5 years old and upwards, up to not less than 14 stone.—First prize, £50, T. H. Bayley, Edwinstowe (Tavistock); second, £20, F. P. Newton, Malton (ch. g. 6 years old); third, £10, J. Smith, Humberton, Helperby (Statesman). Highly commended: The Duke of Hamilton (Winder).

Cup for the best hunter in any of the classes.—T. H. Bayley (Tavistock).

Hacks and roadsters up to not less than 12 stone or more than 14 stone, not under 14.2 hands and not over 15.3 hands.—First prize, £20, Sir G. Wombwell, Portman Square, W. (Sunbeam); second, £10, J. Robinson, Cleveland House, Hull (Charles II.); third, £5, W. H. Cranswick, Burton Agnes, Hull (Merrymaid). Highly commended: J. Grout, Woodbridge, Suffolk (Lady Hayton).

Hacks and roadsters up to not less than 14 stone, not under 14.2 or over 15.3 hands.—First prize, £20, T. Nicholas, Walton Grange, Hull (Lady Anne); second, £10, J. Grout (Lady Hayton). Highly commended: J. Addie, Preston (Wouder).

Park hacks and ladies' horses—First prize, £20, T. H. Bayly (Nobleman); second, £10, B. Holt, Saville Row, W. (Lady Adelaide); third, £5, G. Hines, Scarborough (br. g. 5 years old).

Cobs or ponies not exceeding 14.2 hands.—First prize, £15, Mrs. Frisby, James Street, Buckingham Gate (Queen Adelaide); second, £10, T. S. Greenway, Bolsover Street, Easton Road (Elastic); third, £5, H. J. Hopkins, Cotton Gullsboro' Northampton (Sunbo). Highly commended: Lady E. S. Churchill, Manchester Square (Lottery.)

Ponies, not exceeding 12.2 hands high, to carry children.—A. Ashton, Park Field, Middleton (Tommy); second, £5, J. Walby, Codicote, Welwyn (Violet).

Pairs of ponies in harness (not exceeding 14.3 hands).—First prize, £20, Mrs. Frisby (Eclipse and Echo); second, £10, Lady E. Churchill (Lottery and Matchless).

Single harness horses, four years old and upwards, exceeding 15 hands.—First prize, £20, Stand Stud Company, Whitfield, Manchester (Expectation); second, £10, B. Holt (Patriarch); third, £5, P. Wyatt, York Gate, Regent's Park (Charlie). Highly commended: Miss I. Moffatt, Collingham Road, South Kensington (Violet).

Single harness horses, four years old and upwards, exceeding 14 and not exceeding 15 hands.—First prize, £20, Messrs. Allen and Haines (Vanguard); second, £10, C. Wilson, High Park, Kendal, Westmoreland (Fireaway); third, £5, Lady E. S. Churchill (Matchless). Highly commended: The Duke of Hamilton (chestnut mare).

Ponies in harness, not exceeding 14 hands.—First prize, £10, Mrs. Frisby (Queen Adelaide); second, £7, J. Wilson, Forley Hill, Enfield (Polly); third, £3, L. J. Drew, Victoria Street, S.W. (Polly).

## NATIONAL AGRICULTURAL LABOURERS' CONFERENCE.

The seventh annual Council of the National Agricultural Labourers' Union was held in the Lecture Hall of the Weigh House Chapel recently, under the presidency of Mr. A. Macdonald, M.P. Delegates were present from the various unions throughout the country.

The GENERAL SECRETARY presented the annual report, which stated that the Council regretted to have to record a slightly diminished number of members. The past year had been an exceptionally trying one to working men; the extreme depression of trade in all branches had told greatly against the trades, and as a natural consequence the agricultural class had suffered considerably, though, perhaps, not to the same extent as other classes who have been out of employment. Shortly after last harvest the farmers of some parts of Norfolk, taking advantage of that circumstance, attempted to reduce the wages of their men, and the Committee feeling that if that was submitted to it would in all probability be followed by a second reduction before Christmas, determined to resist, and several hundreds of men had been out of work all the winter, thus making great demands on the funds of the Union. The prompt action taken prevented a general reduction. The Committee

regretted the constant struggles, the effects of which were disastrous to both masters and men. The present number of members, so far as could be ascertained, was rather more than £2,000. The basis for sickness benefits, introduced at the last Council, had proved acceptable to a considerable number in many districts. About £5,784 19s. 1d. had been expended in relief, migration, and emigration during the year, and £77 5s. had been voted to other Societies in special need of help. The Committee had taken two or three small plots of land, and had made temporary arrangements for the working of a farm of 146 acres. With reference to the Eastern Question, the Committee felt that they should take some step, and they elicited an unanimous feeling throughout the country in favour of peace. The Conference held in London lately on the subject was a success. The Committee hoped that they discovered in the most recent actions of her Majesty's Government signs of a most peaceful policy, and if peace was established on a firm basis they believed it would be due entirely to the course taken by Mr. Gladstone, and rejoiced that the farm labourers had been able to render him a hearty assistance in his magnificent struggle.

The CHAIRMAN, in some few remarks, referred to the recent riots in Lancashire. He suggested that the Labourers' Union should draw up an address to the working men of Lancashire and advise them to keep peace and order, and if the dispute was to be continued it should be continued in a sensible and constitutional form. He thought it was a blot on their system that such a thing should have taken place. He did not believe that it was the industrious working men who had caused the riots, but the roughs and the lower classes. He had a very strong opinion as to the cause of the riots. They had been taught within the last few months to look upon riot as patriotism, and that all they had to do was to shout for a certain Prime Minister whose name was a mystification and a mystery. Referring to the increase of wealth in the country, he said it was not to be supposed that in a Christian country the labouring men should remain silent when they saw the wealth going into the hands of the few. He advised them to maintain their position and uphold their Society.

The Conference then proceeded to transact the business upon the paper, and the first question was with regard to *The English Labourers' Chronicle*, and a proposition was made "That the Union dispose of the proprietorship of *The English Labourers' Chronicle* for any sum above £2,000."

This Conference met on Wednesday for the second time at the Weigh House Chapel, Fish Street Hill. Mr. CHAMBERLAIN, M.P., presided, and in opening the proceedings said he regarded the Conference as the labourers' Parliament. Referring to the proposal that this organisation should be subdivided, and that in their several districts a fund should be appropriated for local wants, he said that seemed to him a sort of agricultural Home Rule, which was open to the same objection as Imperial Home Rule—namely, that it weakened the Empire. If the suggestions which he had heard were carried into effect their local treasurers would soon be bankrupt and unable to maintain a strike. He hoped they would soon be in a position to send their own representatives to the Parliament of the nation. He did not expect, nor did he wish, that the Tory Government should deal with the matter, because he doubted whether the Government would deal with it in a manner satisfactory to him or to themselves. The whole of the Liberal party, with a few exceptions, were pledged to support the claims of the agricultural labourers, and the next Liberal Ministry

which came into power—and that event, he believed, was not so far distant as their opponents imagined—was certain to concede their rights and satisfy the justice of the case. The Government had introduced the County Boards Bill, but it did not give what was necessary for the labourer. If the Bill went into committee he would endeavour to remedy this by proposing that the Boards should be elected directly by household suffrage. Hitherto he had had very little support in this matter from the other side of the House, nor did he expect much more in the future. With regard to the Eastern Question, the Prime Minister had told them on Monday night that the policy of the Government had been directed chiefly to the preservation of peace. It was not pretended that any direct interest of England was threatened, nor was it ever pretended that our Eastern possessions were in danger, because all danger to India vanished before the fact that in the moment of the greatest peril the Government found themselves able to reduce the Indian garrisons and bring troops into Europe. If we went to war it would be for some undefined and undefinable purpose, and for some grandiloquent phrases about law and order which had no meaning whatever, and for objects which in any case would not be worth the sacrifice of peace, prosperity, and valuable lives, and of hundreds of millions of the treasure of this country. He hoped they would lose no opportunity of clearing themselves of the responsibility of war, if it should ensue, and of claiming some voice in the decision of an issue in which they were so deeply concerned. The Conference then proceeded to the discussion of the purchase of land on the basis of co-operative farming. After a protracted discussion the following resolution was unanimously adopted. —“That this Conference, having heard the opinion of the solicitor to the Union, declares that the funds of the Union are not in future to be applied towards the hiring or taking of land, but considers that it is desirable that a Society should be formed, in accordance with the Industrial Provident Societies Act, 1876 for the purpose of hiring land to be farmed on the

co-operative or allotment principle.” The Conference then adjourned.

On Thursday morning the conference resumed its proceedings at the Weigh-house Chapel, Fish-street-hill under the presidency of Mr. John Banbury, of Woodstock. The first business discussed was a proposed grant of £30 to the distressed operatives in Lancashire, which was carried unanimously. The Conference having decided the previous day that a new Society should be formed under the Provident and Industrial Society's Act, 1876, with a view of purchasing land for the Labourers' Union, to be worked on the co-operative principle, a committee was appointed to carry the scheme into effect. The committee has since recommended, and it has been unanimously approved, that the Society should have a nominal capital of £100,000 in shares of 10s. each. When this decision was announced 400 shares were taken up on the spot. The raising of so large an amount among so poor a class as the agricultural labourers might, at first sight, seem somewhat remarkable, but it must not be forgotten that the Union has 20,000 members. It has always been the object of the Union to gain possession of land which might be cultivated for the benefit of the general body, but various obstacles have hitherto prevented the execution of this design. An experiment was, however, made last year, when a farm of 14 acres was purchased. The result, as stated by the committee, was a complete success, as out of the year's profits on the farm they are able to buy as many more acres. It is well known that the agricultural labourers have a strong desire to become landowners. In the present scheme they believe they have every facility for accomplishing their object. They consider, moreover, that this is one of the best and most satisfactory methods of settling the much-vexed land question, and that it will commend itself to the support of the bulk of the agricultural labourers of England. The remainder of the business was of a routine character.

**TOTAL NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN GREAT BRITAIN, ACCORDING TO THE AGRICULTURAL RETURNS TAKEN IN EACH OF THE YEARS 1866 TO 1877 INCLUSIVE.**

Years.	Horses.	Cattle.				Sheep.			Pigs.
		Cows.	Other Cattle.			One year and above.	Under one year.	Total.	
			Two years and above.	Under two years.	Total.				
Mar. 5. 1866	No. ...	No. 1,883,522	No. 1,298,514	No. 1,603,800	No. 4,785,836	No. 15,538,438	No. 6,509,843	No. 22,048,281	No. 2,477,619
June 25. 1867	...	2,038,692	1,266,753	1,688,189	4,993,034	18,449,005	10,470,096	28,919,101	2,966,979
1868	...	2,143,895	1,356,159	1,923,927	5,423,981	19,707,705	11,003,691	30,711,396	2,308,539
1869	1,461,061	2,135,070	1,359,369	1,819,934	5,313,473	18,985,541	10,552,600	29,538,141	1,930,152
1870	1,266,709	2,161,804	1,355,993	1,885,520	5,403,317	18,410,250	9,987,339	28,397,589	2,171,138
1871	1,254,450	2,091,433	1,356,777	1,889,549	5,337,759	17,571,552	9,548,017	27,119,569	2,499,602
1872	1,258,020	2,165,127	1,421,900	2,037,967	5,621,994	17,960,967	9,960,540	27,921,507	2,771,749
1873	1,276,444	2,237,514	1,419,789	2,307,246	5,964,519	18,777,756	10,649,879	29,427,635	2,500,259
1874	1,311,739	2,273,797	1,509,624	2,342,070	6,125,491	19,448,730	10,865,211	30,313,941	2,422,832
1875	1,340,129	2,253,241	1,585,213	2,174,370	6,012,824	18,774,734	10,392,704	29,167,438	2,229,918
1876	1,374,576	2,226,367	1,567,641	2,050,133	5,844,141	18,258,352	9,924,599	28,182,951	2,293,620
June 4. 1877	1,388,582	2,207,017	1,464,317	2,026,599	5,697,933	18,145,205	10,015,959	28,161,164	2,498,728

Statistical and Commercial Department, Board of Trade, May 10th, 1878.

NOTE.—In 1866 the acreage returns were only collected in Great Britain from occupiers of and above 5 acres of land, which was considered to be a limit low enough to include all land used for agricultural purposes. In 1867, as the acreage and live stock returns were both collected at the same time, it was necessary, in order to ascertain the number of live stock, to abandon the limit of 5 acres, and to collect the returns of both acreage and live stock from all occupiers of land. The number of pigs is exclusive of those kept in towns and by cottagers with less than a quarter of an acre of land.

## AGRICULTURAL SOCIETIES.

## ROYAL OF ENGLAND.

Monthly Council, Wednesday, May 1, 1878. Present: Colonel Kingscote, C.B., M.P., President, in the chair; the Earl of Feversham, Earl Cathcart, Earl Spencer, K.G., Lord Chesham, Sir A. K. Macdonald, Bart., Mr Aylmer, Mr. Bowly, Mr. Cantrell, Mr. D. R. Davies, Mr. Dent, Mr. Druce, Mr. Frankish, Mr. Bowen Jones, Mr. Leeds, Mr. McIntosh, Mr. Odams, Mr. Chandos-Pole-Gell, Mr. Randell, Mr. Ransome, Mr. Stratton, Col. Turberville, Mr. G. Turner. Mr. Wakefield, Mr. Wells, Mr. Whitehead, and Professor Simonds.

The following new members were elected:—

Battams, George Bland, of Kilworthy, Tavistock.  
 Bayly, Robert, of Torr Grove, Plymouth.  
 Bickerton, John E., of Saultford Hall, West Felton, Salop.  
 Booker, Josias, of Wessington Court, Ledbury.  
 Booth, John, of Haslington, Crewe.  
 Bowerman, Alfred, of Capton, Williton, Taunton.  
 Calmady, Vincent P., of Teletcot, Holsworthly, N. Devon.  
 Canning, Wm. Browne, of Elston Hill, Devizes.  
 Castle, Abercrombie, of The Oaks, Burgess Hill, Sussex.  
 Clark, John, of Ox-close House, Shadforth, Durham.  
 Connell, Thomas, of Sunk Island, Hull.  
 Corner, Richard, of Torweston, Taunton.  
 Cruickshank, Edward, of Lethenty, Inverurie, Aberdeenshire.  
 Cuffe, Joseph P., of 11, Mountjoy Square, Dublin.  
 Davies, Moses, of Llanfyllin, Mont.  
 Farrer, Oliver Cooke, of Binnegar Hall, Wareham.  
 Green, Daniel Abbott, of East Donyland, Colechester.  
 Hardwick, J. D., of Stoke St. Milborough, Ludlow.  
 Harrison, Jonathan, jun., of Brandesburton, Hull.  
 Hughes, Owen, of Bodycetyu, Ruabon.  
 Hett, Charles Louis, of the Androlme Foundry, Brigg.  
 Lewis, Jacob, of Radyr Farm, Llandaff.  
 Marshall, Frederick, of Broadwater, Godalming.  
 Micklethwait, Frederick Nathaniel, of Taverham Hall, Norwich.  
 Nettleingham, Frederick B., of 4, Marine Parade, Gravesend.  
 Perry, Peter James, of The Nurseries, Banbury.  
 Peter, John, of Kingscote, Wotton-under-Edge.  
 Redgate, William, of Scarthing Moor, Newark.  
 Richardson, John H., of King's Standing, Burton-on-Trent.  
 Roberts, James Herbert, of Fenn's Wood House, Whitechurch.  
 Sheppard, Osborne, of Rhesla, Neath.  
 Sheriff, Alexander Tom Arthur, of Crogen, Corwen.  
 Smith, E. Bremner, of Oswestry.  
 Southard, Arthur, of Fern Lodge, Bracknell.  
 Spencer, Joseph E., of Fommon, Cowbridge.  
 Sutton, Martin John, of Reading.  
 Thomas, George, of Riga, Russia.  
 Tinning, William, of Blue Gades, Ipswich.  
 Walker, of Newnham Grounds, Daventry.  
 Walmsley, Vivian Oswald, of Wolverton, Pershore.  
 Wearmouth, Charles T., of Old Wingate, Trimdon, Durham.  
 Williams, William, of Splott Farm, Cardiff.

## FINANCES.

Mr. RANDELL 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 £3,668 12s. 8d., £3,000 remaining on deposit at interest. This report was adopted.

## GENERAL BRISTOL.

Mr. RANDELL reported the recommendations of the Committee that 12,000 stock catalogues and 6,000 implement catalogues of the Bristol meeting be printed; that advertisements not exceeding 50 pages in extent be admitted at the end of the stock catalogue; and that both the implement and stock catalogues be bound separately in a stiff wrapper. The usual arrangements were made with reference to the engagement of police, and to advertising the exhibition; and an application to fix a telephone in the show yard was acceded to. A proposition made by Messrs. Fox, Walker, and Co., to work a steam tramway in the space between the implement sheds and the machinery-in-motion sheds was recommended for adoption, provided that the regulations considered necessary by the stewards for the protection of the public were acceded to, and that the charge to the public for using the steam car did not exceed two pence per head for each journey. The committee had prepared a programme for the Bristol meeting, which they recommended for adoption. This report was adopted after a conversation in reference to the absolute necessity of preventing the danger of accidents to the public from the use of a steam tram car in the show yard.

## CHEMICAL.

Mr. WELLS (chairman) reported that the Committee had received a communication from Dr. Voelcker with reference to the Woburn experiments and the appointment of a Superintendent of the Crawley Farm.

In consequence of the favourable opinion expressed by Dr. Voelcker, the Committee, under the power given them by the Council in March, had decided to appoint Mr. Malden, jun., to be Superintendent at Crawley Farm. The Woburn Sub-committee had reported that they had made arrangements for the cropping and cultivation of certain fields on the Crawley farm, and that Mr. Charles Howard and Dr. Voelcker went over the farm, with Mr. Malden, jun., and his father, to give the former an insight into his future duties. Mr. Lawes having expressed a wish that the experimental field should be inspected by the Committee before his resignation of his joint superintendence, it was proposed that on Saturday, June 1st, a visit of inspection be paid, in which any members of the Committee were requested to join. The Committee had received some suggestion from their surveyor for modifying the plans and arrangements for a new laboratory, but before coming to any decision on the subject they recommended that the secretary communicate the fact of the proposed scheme to Lord Harewood, and offer to give any explanation of the plans to him or his surveyor. This report was adopted.

## SEEDS AND PLANT-DISEASES.

Mr. WHITEHEAD (Chairman) reported that the Committee had carefully considered the proposal made by Mr. Bowick at the last general meeting, and resolved to request Mr. Bowick to submit a definite statement as to the manner in which he proposes that the object he has in view should be accomplished, so as to benefit the agricultural community at large and not individual members or traders. A communication from the meteorological office in reference to the weekly weather reports was considered. While recognising the great importance of these reports, the Committee resolved to defer any recommendation with regard to them until they had before them the results of one year's observations. With regard to a letter from the Secretary of State for the Home Department, asking for information as to the effect of legislation in the matter of the adulteration of seeds, the Committee resolved to reply that very few cases of adulteration of seeds, had come under the notice of the officers of the Society since the passing of the Adulteration of Seeds Act, until recently. Late proceedings in the police-courts had shown that a flaw in the Act had been turned to account by dishonest traders; but it was hoped that legislation now in progress would give the necessary security to the purchasers of seeds.

The Committee had received the following report from the Consulting Botanist:—

"I have met with no cases of 'doctored' seeds in the samples submitted to me for examination by the members of the Society. Nor has there been any case requiring special notice.

"Among the clovers several samples were examined in which the germinating power was very low—in some cases as low as 70 and 75 per cent., but the seeds that failed to germinate had not been tampered with, their state being due either to bad harvesting or to their age.

"Among the samples of wheat submitted I met in one case with ears infected with vibrios, and two samples in which specimens of bunted ears occurred.

"Several samples of Italian rye-grass seed have been examined by me that have been carelessly unclean, having a considerable portion of weeds that could easily be separated by any of the machines in use for cleaning seeds."

This report was adopted.

## SHOWYARD CONTRACTS.

The SURVEYOR reported that the contractor was entitled to payment £1,500 on account of the works connected with the Bristol showyard, which were being satisfactorily proceeded with. This report was adopted.

## JUDGES SELECTION.

Mr. H. CHANDOS-POLE-GELL reported the recommendations of the Committee as to the nomination of judges of Dorset and Devon long-wool sheep, and of cheese and butter, for the Bristol meeting which had been received from the Bristol local committee; also their recommendations of jurors for cattle, sheep, pigs

and poultry, at the Paris exhibition, at the request of His Royal Highness the Prince of Wales, President of the Royal British Commission. This report was adopted.

## METROPOLITAN SITES.

Professor SIMONDS reported that the Committee had had an interview with Messrs. Cluttons, who are agents to the Ecclesiastical Commissioners, with reference to the proposed acquisition of a piece of land at Broudesbury as a site for the metropolitan exhibition next year. The site comprises ninety-one acres, and it is bounded on the north by the North London Railway, on the south by the London and North Western main line, on the east by a road now in process of construction (which will soon form a direct line from Edgware Road, to Kilburn Lane, and eventually to the Harrow Road), and on the west by a road leading from the Harrow Road to Kensal Green station on the North London line. To secure easy access to the site from the Kensal Green station it will be necessary to rent a field, 8½ acres in extent, in addition to the site itself. The Salisbury Road station, on the North Western Railway is also nearly contiguous to the site on the opposite side. The Committee recommended that subject to the sanction of the Ecclesiastical Commissioners, the Secretary be empowered to enter into an agreement (to be prepared by the Society's solicitors) with Messrs. Cluttons for the use of the land just mentioned.

This report was adopted, after a conversation as to the cost of the site and other additional expenses to the Society which the metropolitan meeting will involve being recouped by the subscriptions now being raised by the Mansion House Committee.

EDUCATION.—Mr. DENT, Chairman, reported that six candidates had presented themselves for examination for the Society's senior prizes and certificates. Of these, Mr. James Mollison, the only one who passed, is entitled to a first-class certificate, the life membership of the Society, and the first prize of £25.

The examiner in agriculture (Mr. Charles Howard) reported that the whole of the papers were highly creditable, four of them being most excellent, and reflecting great credit upon the training of the candidates. The *visu vivo* examination was most satisfactory with all the candidates. He particularly mentioned Mr. Mollison, who, although he did not answer some of the questions in his paper, was found upon examination to be well acquainted with the subject, and had he answered all the questions in the same style he would have commanded a very high position. Although the Society might be congratulated upon the general excellence of the candidates of this year, it was somewhat discouraging that so many of the young men who are being trained to agricultural pursuits should neglect so fine an opportunity of distinguishing themselves by competing for the Society's prizes and certificates. The examiners in chemistry (Professor Liveing and Dr. Voelcker) reported that the candidates had not done well in this examination as a whole. The failure of the candidates, except Mollison, in general chemistry, was conspicuous, and they had not made up for

ther deficiency in this respect by much proficiency in the more technical part of the subject. Professor Twisden, the examiner in mensuration and surveying, and in mechanics and natural philosophy, reported that all the candidates obtained the qualifying minimum in the former subject, but only two in the latter. This could not be regarded as a satisfactory result, but it was rendered necessary by the sort of answers that were sent in. Every question was attempted, and for the most part by all the candidates; but the answers were only partial, and often incorrect. The omissions were the most numerous in the paper on mechanics and natural philosophy, but the failures in it were due not to omissions but to the inaccuracy of the answers that were sent in. However, Mr. Mollison's answers were fairly good, and showed a certain acquaintance with the elementary parts of the subject, and some of Mr. Ruzo's answers were accurate and clearly expressed. The examiner in botany (Mr. Carruthers) reported that the papers were not very satisfactory, the two candidates who passed not having secured very high marks. Professor Simonds, the examiner in anatomy, reported that not one of the candidates had obtained anything like the number of marks constituting the pass number. This was certainly surprising, considering that the questions were by no means difficult ones; and, indeed were, in his opinion, much too simple. Professor Morris, the examiner in geology, reported that of the four candidates who presented themselves for examination, three might be considered to have passed satisfactorily, the answers generally indicating a fair knowledge of the subjects. With regard to the practical knowledge of the specimens submitted to them, they were not quite so successful.

The following tabular statement gives the marks assigned by the examiners to the work done by each candidate who passed in the several subjects:—

SUBJECTS.	MARKS.							Total Marks.	Age of Candidates.
	Agriculture.	Chemistry.	Mechanics.	Book-keeping.	Land Surveying.	Botany.	Geology.		
Maximum number of Marks.	200	200	200	200	100	100	100	100	
James Mollison*	165	148	132	116	79	60	78	772	21
	196	105	*	100	56	55	79	29	20
	100	*	*	*	66	*	*	21	29
	120	105	107	*	*	*	*	28	28
	180	*	*	*	61	70	*	21	21
	170	*	*	105	51	*	*	28	28

\* First class certificate, life membership, and first prize of £25.

\* Failed. — Did not attempt.

The Committee recommended that the thanks of the Council and the usual honorarium be forwarded to the examiners. This report was adopted.

SELECTION.

Earl CATHCART (Chairman) reported the recommendation of the Selection Committee that H.R.H. the Prince

of Wales be recommended to the general meeting, on May 22nd, as President of the Society for the ensuing year, and that the President (Col. Kingscote, M.P.) be requested to communicate with H.R.H. in reference to the recommendation. The resignation of Sir Richard Musgrave from the Council and therefore as a steward of live stock was received and accepted; and Mr. Whitehead was recommended as steward of live stock in his place. The Committee recommended that Professor G. T. Brown and Dr. Burdon Sanderson, F.R.S., be elected honorary members of the Society, in recognition of their eminent services to veterinary science. This report was adopted.

The following list of members of Council, who retire by rotation, and the nominations which have been received by the Secretary, in accordance with Bye-law 13, Sec. a, was laid before the Council:

ATTENDANCE, FROM THE RISING OF THE BIRMINGHAM MEETING IN 1876, TO THE PRESENT TIME.

NAMES.	Mon. Councils, Total.	Committees.	
		No. of Meet-ings.	At-tend-ances.
Amos, Charles Edwards, 5, Cedar's Road, Clapham Common, Surrey.....	1	31	5
† Arkwright, J. Hungerford (elected March 7th, 1877), Hampton Court, Leominster, Herefordshire.....	6	3	3
Booth, Thomas Christopher, Warlaby, Northallerton, Yorkshire.....	11	87	69
† Bowly, Edward, Siddington House, Cirencester, Gloucestershire.....	9	32	13
Davies, David Reynolds, Agden Hall, Lynn, Cheshire.....	1	—	—
† Druce, Joseph, Eynsham, Oxford.....	7	9	2
Edmonds, William John, Southrop House, Lechlade, Gloucestershire.....	5	35	10
Egerton, The Hon. Wilbraham, M.P., Rostherne Manor, Knaustford, Cheshire.....	9	42	28
† Frankish, William, Limber Magna, Uleby, Lincolnshire.....	10	41	28
† Hemsley, John, Shelton, Newark, Nottinghamshire.....	11	59	41
Laves, John Bennett, Rothamsted, St. Alban's, Hertfordshire.....	1	20	13
Leicester, Earl of, Holkham Hall, Wells, Norfolk.....	2	—	—
Lindsay, Colonel R. Loyd, M.P., Lockinge, Wantage, Berkshire.....	3	19	—
Masfen, R. Hanbury, Pendeford, Wolverhampton, Staffordshire.....	6	43	12
* * * * *	4	30	4
Odams, James (elected March 13th, 1875), The Grange, Bishop Stortford, Hertfordshire.....	—	—	—
† Randell, Charles, Chadbury, Evesham, Worcestershire.....	11	49	30
† Rawlence, James, Bulbridge, Wilton, Salisbury, Wiltshire.....	6	9	—
Sanday, George Henry, Wensley House, Bedale, Yorkshire.....	11	53	35
Shuttleworth, Joseph, Hartsholme Hall, Lincoln.....	13	47	34
Straton, Richard, The Duffryn, Newport, Monmouthshire.....	9	38	16
Turbervill, Lieut. - Colonel Picton, Ewenny Abbey, Bridgend, Glamorganshire.....	9	45	31
Welby-Gregory, Sir William Earle, Bart., M.P., Newton House, Folkingham, Lincolnshire.....	8	37	21
† Whitehead, Charles, Barming House, Maidstone, Kent.....	7	65	12
Wise, George (elected March 13th, 1875), Woodcote, Warwick.....	—	—	—

\* (a) A list of the Members of the Council who retire by rotation, but are desirous of re-election, showing the number of attendances at Council and Committee Meetings of each of such Members during the past two years, shall be pre-

Candidates proposed for the Council :

James Howard, proposed by Earl Cathcart, seconded by Mr. G. Turner.

The Lord Moreton, proposed by Colonel Kingscote, seconded by Mr. W. Wells.

Mr. W. Sheraton, proposed by the Earl of Powis, seconded by Sir Watkin W. Wynn.

The Earl of Ellesmere, proposed by Colonel Kingscote, seconded by Mr. Chandos-Pole-Gell.

On the motion of Mr. DENT, seconded by Mr. BOWLY, it was decided to hold the country meeting for the year 1878 in the county of Middlesex. It was also resolved that the country meeting for the year 1880 should be held in the district comprising the counties of Northumberland, Durham, Cumberland, and Westmoreland.

A letter was read from the secretary of the Tunbridge Wells Farmers' Club, inviting the Society to hold a show in that neighbourhood at an early date, and the secretary was instructed to reply that the district including Tunbridge Wells would come in rotation in the year 1882.

A letter from the secretary of the Upton-on-Severn Farmer's Club, with reference to the agricultural education of children in rural districts was referred to the Education Committee.

The Report of the Council to the general meeting to be held on the 22nd inst., was prepared.

The Council then adjourned to Thursday, June 6th, at 12 o'clock.

### A Y R S H I R E . ANNUAL SHOW AT AYR.

This important exhibition of farm stock, &c., was recently held, and it has been altogether a most successful meeting. It was anticipated with a lively feeling of interest as the first great show of the season.

The show on Wednesday was one of the most interesting that we have seen in any part of the country.

The judges of Ayrshire stock began their arduous work at nine o'clock with the Derby class. They had to select thirty-five prize animals out of a show of eighty, and as the cattle were more equal in merit than in former years the work required time. None of the class equalled the leading animals in 1876 and 1877, but the selected lot as a whole was probably superior to the prize-winners at any former Derby. The first-prizes were taken by farmers who have dairies of moderate extent—the Duke of Buccleuch being only sixth on the list, notwithstanding the extensive purchases of his skillful overseer. Nobody grudges, however, the numerous prizes which are taken by the noble Duke, as he is a

pared at the April Council, and published immediately in at least two agricultural papers. Any two Governors or Members may nominate in writing to the Secretary before the first day of May following a Member or Members of the Society desirous of being nominated for election on the Council; these nominations, with the names of the proposer and secondor, shall also be added to the previously published list, and the entire list shall be published in the same agricultural papers immediately after the May Council, and be also printed for the use of Members at the General meeting in May. *Bye-law 13, Sec. a).*

† These gentlemen have attended Special Councils (total 1),

most liberal patron of successful breeders. The first prize for the cow in milk was carried off by the Duke with the Derby winner of last year, after a close competition with a veteran Ayrshire exhibitor, Mr. Wilson, Carnigillan. The cows in calf were a choice class. The first cow was the winner of the Derby in 1876, and she is perhaps as fine an Ayrshire cow as ever has appeared at a show. Some onlookers thought she was in rather high condition. The second, also a superb cow, was second in last year's Derby. The two were bred respectively by Mr. Brown, Cartleburn, Kilwinning, and Mr. Andersen, Barneil, Kirkmichael, and are now both in the famous Drumlanrig dairy. Class after class was scanned with care in the judges' ring, and amongst much that was noteworthy many spectators will recall to memory the lot of five in the fourteenth class which carried the sweepstakes to Drumlanrig. The show of bulls was the best we have had in Ayr. The first three aged bulls were exceptionally fine, and the show of two year olds was extensive and exceedingly good. The young cattle in all the classes give promise of excellence at future shows.

The Clydesdale horses are next in importance and general interest to the Ayrshire stock, and they were wonderfully well represented. A few choice brood mares were shown, and there was a grand class of three-year-old fillies. The two-year-old fillies were also very superior. It is said that Mr. Picken paid £300 for the winning three-year-old, and we dare say large sums would be required to induce the owners of some of the two-year-olds to part with them.

The show of fat cattle is never extensive at Ayr, but some remarkable animals were brought forward yesterday. The three-year-olds exhibited by Lord Galloway were objects of great interest, and Mr. Bryce Wright showed what may be done with an Ayrshire cow. People were disinclined to believe that she was a pure bred Ayrshire, but we understand that the fact is unquestionable. She has been shown formerly as an Ayrshire dairy cow. Certainly the finish approached perfection. The yearling cross-bred cattle belonging to Messrs. Bone, Challoch Park, are likewise worthy of special notice. Skillful men are really doing wonders in the way of bringing fat stock to early maturity. The prize hogs gave good evidence of this fact. Better cross-bred hogs than Mr. Millwright's are rarely seen, and other pens belonging to Mr. Bryce Wright and Mr. Cross of Knockdon reached the highest order of merit.

The blackfaced sheep made a fine show, as they have long done in Ayr, though they were not specially good this year. After long waiting there is an improvement in Cheviots, but the show is indebted to the Southern counties for the best specimens. In the Leicesters, however, the credit of Ayrshire is stoutly upheld by Mr. Wallace, Auchenbrain, Mauchline, who carried all before him in those classes.

The pigs were fewer in number than we like to see at a large show in this great dairy county, but they were of the right sort. The old coarse breeds have disappeared



from the show-ground, and are yearly becoming fewer in number throughout Ayrshire. Farmers know that the fine breeds economise food, and leave a profit upon their management.

**JUDGES.**—**AYRSHIRE DAIRY STOCK:** Section I.—A. Allan, Carbarns, Wishaw; Hugh Kirkwood, Glasgow; John Meikle, Seafield, Bathgate. **DAIRY STOCK:** Section II.—J. Fleming, Strathaven; W. Fleming, Dumbarton; Jas. Hamilton, Carnwarth. **HORSES (Mares and Fillies):** J. Young, Paisley; T. Kerr, Sanquhar; D. McGibbon, Campbeltown; A. Pollock, Renfrewshire; O. Brown, New Galloway; J. Park, Glenshinnoch; A. D. Tait, Kilmarnock; W. Baird, Ayr; Col. Hay Boyd, Symington; W. Stewart, Ayr; G. Stoddart, Netherton. **BLACKFACED AND CHEVIOT SHEEP:** J. Watson, Kilmarnock; J. Greenshields, Lesmahagow; J. Craig, Strathaven. **SUORTHORN CATTLE, LEICESTER AND CROSSBRED SHEEP, FAT STOCK, AND PIGS:** A. Smith, Gifford; J. Lees, Haddington; Deans, Dalkeith.

#### AYRSHIRE CATTLE.

The Derby of April, 1878.—First prize, £21, A. Steel, Burnhead, Darvel; second, £15, R. Caldwell, Knockshoggle, Stair. Aged cow, in milk, and aged cow in calf on day of exhibition.—First prize, £14, and the Highland Society's Silver Medal, Duke of Buccleuch; second, £10, H. Wilson, Carnigillan, Tarbolton.

The following premiums were for those in calf:—First prize, £7, Duke of Buccleuch; second, £4, Duke of Buccleuch.

Three-year-old cow in milk, and three-year-old cow in calf on day of exhibition.—First prize, £6, A. Steel, Burnhead Darvel; second, £4, R. Caldwell, Knockshoggle.

In-calf.—First prize, £3, Duke of Buccleuch; second, £2, Mrs. Douglas, Kilmalcolm.

Lot of three cows from one dairy, three-year-old and upwards, the property of and bred by the exhibitor, in calf or in milk on day of exhibition.—First prize, £15, J. Howie, Galston; second, £5, J. Ritchie, Coylton.

Pair of aged cows in milk, being the *bona fide* property of the exhibitor.—First prize, £5, J. Howie; second, £2, H. Wilson, Carnigillan.

Pair of three-year-old cows, in calf or in milk on day of exhibition, being the *bona fide* property of the exhibitor.—First prize, £5, D. Hunter, Gultreehill; second, £2, Wm. Brown, Cartleburn.

Aged bull, above two and not exceeding eight years.—First prize, £6, and the Highland Society's Medium Silver Medal, D. Keir, Buckleyvie, Stirling; second, £3, D. C. Willison, Sanquhar.

Two-year-old bull.—First prize, £9, W. Hunter, Craighead, Abington; second, £6, P. Coul, Wattieston.

Bull stirk.—First prize, £8, W. Boyd, Bougang; second, £6, D. Parker, Broomlands.

Pair of two-year-old queys, neither in calf nor in milk.—First prize, £8, Duke of Buccleuch; second, £5, A. Allan, Munnoch.

Single two-year-old quey, neither in calf nor in milk.—First prize, £3, Duke of Buccleuch; second, £2, R. Meikle, Clockston.

Pair of quey stirks.—First prize, £3, J. Murray, Carston; second, £2, J. McCartney, Wraithill.

Single quey stirk.—First prize, £3, J. Allan, Westmains; second, £2, J. Murray.

#### FARISH SWEEPSTAKE COMPETITION.

Five cows, Ayrshire breed, any age.—First prize, the whole of the stakes, Duke of Buccleuch; second, Silver Medal, J. Howie.

#### SHORTHORN BREED.

Bull under five-years-old.—First prize, £3, R. F. F. Campbell, Craigie; second, £1, T. F. Kennedy, Dunure.

#### FAT STOCK.

Three-year-old ox or heifer, pure or cross.—First prize, £5, Earl of Galloway; second, £3, J. Cunningham, Trees.

Two-year-old ox or heifer, pure or cross.—First prize, £5, Earl of Galloway; second, £3, R. Jack, Hoodston.

Fat cow of any age of the Ayrshire breed.—First prize, £4, B. Wright, Dowhill; second, £2, J. Boyd, Girvan.

Two-year-old ox or heifer of the Ayrshire breed.—First prize, £4, R. Cadzow, Lanark; second, £2, W. Kay, Mussend.

Pair of one-year-old bullocks or heifers, pure or cross, intended for feeding purposes, and bred by the exhibitor.—First prize, £3, M. and J. Bone, Girvan; second, £1, R. F. F. Campbell.

#### HORSES.

Brood mare for agricultural purposes, in foal, or having had a foal in the season of 1878.—First prize, £10 and silver medal, J. Cunningham, Tarbreoch; second, £7, L. Drew, Merrytown.

Yeld mare for agricultural purposes, four years old and upwards.—First prize, £4, H. Crawford, Kilbarchan; second, £2, D. Cross, Knockdon.

Three-year-old mare for agricultural purposes.—First prize, £5, J. Picken, Craigie; second, £3, J. Howie, Langtown.

Two-year-old filly bred by and the *bona fide* property of the exhibitor on the day of exhibition.—Prize, £10, D. McKinnon, Poteath.

Two-year-old filly for agricultural purposes.—First prize, £7, D. McKinnon, Poteath; second, £5, S. Hunter, Whiteleys.

One-year-old filly.—First prize, £4, A. Montgomerie, Bolland; second, £2, A. Montgomerie.

Sweepstake competition, open to members wherever resident. Pair of agricultural mares or geldings for agricultural purposes. (Stake, 10s. for each entry). First prize, two-thirds of the stakes, and £1 10s., L. Drew, Merryton; second, one-third of the stakes and £1, D. Cross, Knockdon.

Gelding for agricultural purposes, four years old and upwards.—First prize, £3, C. Campbell, Glasgow; second, £2, D. Robertson, Paisley.

Three-year-old gelding for agricultural purposes.—First prize, £3, M. Henderson, Ardrossan; second, £2, J. Wyllie, Gallowberry.

Two-year-old gelding for agricultural purposes.—First prize, £2, R. F. F. Campbell, Craigie; second, £1, J. Templeton, Carnochan.

Two-year-old entire colt bred by and *bona fide* property of exhibitor on the day of exhibition.—Prize, £15, A. Archibald, Cleaves.

Two-year-old entire colt.—First prize, £10, and silver medal, J. Johnstone, Lochbirmie; second, £5, A. Archibald, Cleaves.

One-year-old entire colt.—First prize, £5, J. Greig, West Kilbride; second, £3, T. Lindsay, Craigie.

Sweepstake Competition. Pouy, exceeding twelve and a-half, and not exceeding fourteen and a-half hands. (Stake 10s.).—First prize, two thirds of the stake, J. Clelland,

Knockinlaw, Kilmarnock; second one-third of the stake, W. Kay, Mossend.

Sweepstake competition, not limited to members. Pony, not exceeding twelve and a-half hands. (Stake, 10s.) First prize, two-thirds of the stakes, J. Dunlop, Bringan; second, one-third of the stakes, C. Hendrie, Ayr.

Sweepstake competition, open to members wherever resident. Saddle horse (mare or gelding). (Stake 10s.) First prize, two-thirds of the stakes—A. Gemmell, Ayr; second, one-third of the stakes, W. C. Graham, Broom.

Yearling colt or filly, likely to make a good hunter (and got by a thoroughbred horse), having been the property of the exhibitor from the 1st of January, 1878, to the date of competition. First prize, £5, J. Williams, Wishaw; second, £2, T. Andrew, Monkton.

Two-year-old colt or filly, likely to make a good hunter (and got by a thoroughbred horse), having been the property of the exhibitor from the 1st of January, 1878, to the date of competition. First prize, £5, J. Williams, Wishaw; second, £2, J. Hutchison, Ayr.

Three-year-old colt or filly, likely to make a good hunter (and got by a thoroughbred horse), having been the property of the exhibitor from the 1st of January, 1878, to the date of competition.—First prize, £5, R. Dykes; second, £2, W. Wilson, Sanquhar.

Three-year-old colt or filly, got by a thoroughbred horse, and bred by a farmer.—First prize, £10, R. Houston, Lugton-ridge; second, £4, R. Dykes, Hillhouse.

Colt or filly having the qualities of a good hunter, four-years-old and upwards (and got by a thoroughbred horse) having been the property of the exhibitor from the 1st of January, 1878, to the date of competition.—First prize, £8, Hon. G. R. Vernon, Auchans; second, £4, A. Gemmell, Ayr.

Mares capable of producing first-class hunters or saddle horses, having been the property of the exhibitor from the 1st of January, 1878, to the day of competition. Must be in foal, or have had a foal in 1878, or be, or have been, intended for breeding from in 1878.—First prize, £10, S. Beattie, Annan; second, £5, J. Williams, Wishaw.

Weight-carrying hunter, suited to carry about 14 or 15 stones. Competition open to all comers.—First prize, £10, W. Baird, Ayr; second, £5, D. Riddell, Paisley.

Light-weight hunter, suited to carry about 11½ stones. Competition open to all comers.—First prize, £10, Lord Oranmore and Browne, Kilmarnock; second, £5, F. E. Villiers, Closeburn.

Weight-carrying or light-weight hunter.—First prize, £10, W. Baird, Cambusdoon; second, £5, Lord Oranmore and Browne.

#### SHEEP.

##### BLACKFACED.

Aged tup.—First prize, £5, F. Thomson, Muirkirk; second £2, J. Loudon, Overmore.

Two-year-old tup.—First prize, £3, D. Craig, Barr; second, £2, T. McMin, Wellwood.

Tup hogg.—First prize, £3, J. Craig, New Camnock; second, £2, D. Craig, Muirkirk.

Five ewe hoggs.—First prize, £3, J. McKersie, East Glenbuck; second, £1, J. Loudon, Overmoor.

##### CHEVIOTS.

Aged tup.—First prize, £2, D. C. Willison, Dalpeddar; Sanquhar; second, M. S. McKerrow, Dumfries.

Two-year-old tup.—First prize, £2, M. S. McKerrow.

Tup hogg.—First and second prize, £2, D. C. Willison Dalpeddar.

Ewe hoggs.—First prize, £2, R. McGregor, Belridding second, M. S. McKerrow, Dumfries.

##### LICEESTERS.

Tup, two-year-old and upwards.—First prize, £3, R. Wallace, Auchenbrain; second, £2, W. Todd, Auchness.

Tup, one-year-old.—First and second prize, £3, R. Wallace, Auchenbrain.

Two ewes, not exceeding five years old, with their lambs.—First and second prize, £2, R. Wallace, Auchenbrain.

##### CROSSES.

Five wedder or ewe hoggs, a cross betwixt the Cheviot and Leicester. First prize, £4, D. Cross, of Knockdon; second, £2, B. Wright, Girvan.

Five wedder or ewe hoggs, a cross betwixt the Blackfaced and Leicester.—First and second prize, £4, J. McIlwraith, Ayr.

Five wedder or ewe hoggs, of any cross.—First prize, £2, B. Wright, Dowhill; second, D. Cross, Knockdon.

##### PIGS.

Boar of any breed.—First prize, £4, J. Duncan, Benmore Kilmun; second, £2, Capt. Hamilton, Rozelle, Ayr.

Breeding sow of any large breed, in pig, or not in pig.—First prize, £4, R. Wallace, Auchenbrain; second, £2, R. Wallace.

Breeding sow of any large breed, with her pigs receiving her milk at the time of competition.—First prize, £4, R. Wallace; second, £2, R. Lees, Carnigillan Tarbolton.

Breeding sow of any small breed, in pig, or with her pigs receiving her milk at the time of competition.—First prize, £5, R. Wallace; second, £3, J. Duncan, Benmore.—*Ayr Advertiser.*

## ROYAL DUBLIN. SPRING SHOW.

It is not to be denied that the exhibition of young bulls under the wing of this pre-eminently useful institution is more numerous than it has ever been before, is capital throughout, but deficient of any one startling constellation. The way to decide it is this: There was no one animal of the male sex shown in which you could fail to observe at least a fault or two. Well, if there be animals in which you can find no fault at all, forming instinctively your judgment as you unconsciously do on fixed principles, why, then it follows that the stock exhibited must in the one case be superior to that in the other. Bulls we have seen in which you could spot scarcely anything, if indeed anything at all wrong, but this was not the case here today. A yearling heifer there was of Mrs. Pery's, who is going into Shorthorn breeding with a woman's pluck which could fairly challenge censure, and come out of the fire scatheless. She is calculated to run Mr. Kennard's famous team hard, and we hope to see her in the arena at Bristol. She may certainly in the interval be sold, for there were sundry shrewd ones with an eye to business after her, and we heard of two hundred guineas being offered for her to no avail within a few moments of her being pronounced the best in a good class, although she was many months younger than her competi-

tors. Her frame was deep and full, and evenly round as a garden-roller. Her head and eye were pleasant and intelligent; her front wide; her carriage graceful. One hopes that her owner may decide to keep her and manage to win many prizes with her yet. It will be shortly known. The cows and heifers throughout were greatly superior to the bulls, of whom the aged class was out and out the best. Standing at ease in a row they did not at first so much impress you, but when they came to pace grandly round the ring you saw at once their merit and stature. The champion bull here is Anchor, a mellow-yellow roan, bred by Mr. Chaloner, got by King James, Jun, Alma the Second, and the third bull is Royal Arthur, also bred by Mr. Chaloner, also got by King James, grand dam Alma the Second. This bull won the Challenge cup last year, and the year before, Anchor having won it the year before that and this year, so that it is a case of honours divided, Mr. Chaloner failing to recover his cup, which as the breeder of both he still more than deserves. The rough starvelings you see in your railway passage across Anglesea exhibit thoroughly the want which this exhibition of noble improved bulls has supplied and continues to supply throughout the length and breadth of Ireland. The Herefords were few in number, the old bull especially good, got by the five-hundred-guinea Horace, so celebrated in his native district. The Kerries were dear little lawn pets, superior in every way to goats. It is a race yet capable of personal improvement, although a cow or two and the prize bull were quite models of a miniature race. The judges took every possible pains, and their decisions were generally acquiesced in, although stock looks very different in the stalls and on parade. The aged Shorthorn cows were a lot of handsome relics, and must have been excellent in their best day. The pigs were mainly white Yorkshire, what we call middle breed, and Berkshires; not a single aboriginal "jintleman who pays the rent" to be seen. The poultry pens are empty, and a glass, porcelain, tweed, &c., business fills the galleries beside them.

## PRIZE LIST.

JUDGES.—SHORTHORNS: H. W. Beauford, Sudborough House, Thrapston; L. C. Crisp, Hawkhill, Alnwick; J. W. Cruickshank, Sittony. HEREFORDS AND MIXED BREEDS: G. Bedford, Peabridge, Herefordshire; J. F. Bomford, Garadice, Killock; J. Keating, Moynalty. KERRIES AND DEXTERS: B. Hayden, Greagh, Fossa; L. Christy, Carrigans, Limerick; G. Hewson, Ennismore, Listowel. FAT CATTLE: H. Shepard, Oatlands, Wicklow; J. Simson, Cloona Castle, Ballinrobe; A. Darker, Burn Hill, Clonsilla. PIGS: A. Warburton, Kill, Straffin; A. Darker, Clonsilla; J. Bruce, Charleville. TWEEDS: G. Sykes, Dame street; S. McComas, Lower Sackville-street.

## CATTLE.

The Chaloner Plate, value £155.—T. K. McClintock, Bunbury, Lisnavagh, Tallow, county Carlow; Shorthorn roan bull (Anchor).

Challenge Cup, value 10 guineas, for the best Hereford bull over two years and under six years of age—Captain Kearney, Milltown, Clonmellon; Hereford bull (Truro); also winner of the Society's £20 prize,

Best of all the fat oxen, £5.—Marquis of Headfort, The Lodge, Virginia; fat bullock.

Best of all the prize fat cows, £5—Lieutenant-Colonel J. S. Tighe, Rosanna, Ashford, county Wicklow; Shorthorn cow.

Best of all the prize fat heifers, £5—W. P. Radcliff, Hendlestown, Kells, county Meath; Hereford.

## BREEDING CATTLE.

Shorthorn bull, calved in 1877.—First prize, R. J. M. Gumbleton, Glanatore, Waterford (Lord Beaconsfield); second F. W. Low, Kilsbane, Tipperary (Sunrise).

Shorthorn bull calved in 1876.—First prize, R. Chaloner, Moynalty (Whiteboy); second, B. J. Greene, Lecarrow, Roscommon (Prince Rupert); third, A. S. Montgomery, Kilmier, Meath (Rascal).

Shorthorn bull, calved in or prior to 1873.—First prize, T. K. M'C. Bunbury, Tallow (Anchor); second, Earl Fitzwilliam, Coollatin, Shillelagh (King Lud).

Shorthorn heifer, calved in 1877.—First prize, R. J. M. Gumbleton, Glanatore, Waterford (Emma Opopanax); second, D. Gibson, Roscrea (Dewdrop the Third).

Shorthorn heifer, calved in 1876.—First prize, Mrs. P. S. Pery, Foxford, Mayo (Lady Violet); second, H. Smith, Mountmellick (Queen of Castleback).

Shorthorn cow, of any age, either in calf or having had a living calf within twelve months preceding the date of the show.—First prize, B. Hannan, Riverstown, Killucan (Jenny Lind the Eighth); second, A. Bole, Tashimny (Ruby the Second).

Hereford bull, calved in 1877.—First prize, G. N. Purdon, Lisnabin, Killucan.

Hereford bull, calved in 1876.—Prize, G. A. Stephens Greenwood, St. Dolough's (Royal Duke).

Hereford bull, calved in or before 1875.—Prize, Captain Kearney, Clonmellon (Truro).

Hereford heifer, calved in 1877.—Prize, G. A. Stephens, Greenwood, St. Dolough's (Pet).

Hereford heifer or cow, either in calf, or having had a living calf within twelve months before the date of the show.—Prize, Captain Kearney, Clonmellon (Cherry Blossom).

Polled Angus bull, calved in or before 1875.—Prize, J. A. Farrell, Moynalty.

Polled Angus heifer or cow, any age, either in calf, or having had a living calf within twelve months preceding the date of the show.—Prize, W. Owen, Blessington, Wicklow (Black Bess).

Ayrshire heifer or cow, of any age, in calf, or having had a living calf within twelve months before the date of the show.—Prize, J. D. Paul, Ellenfield, Dublin.

Kerry bull, any age.—First prize, J. Robertson, Malahide (Busaco); second, same (Dardanelles).

Kerry heifer, calved in 1877.—Prize, Earl Clonmel, Bishopscourt.

Kerry heifer, calved in 1875, giving milk or in calf.—Prize, J. Robertson, Malahide (Rosebud).

Kerry cow, either in calf, or having had a living calf within twelve months before the date of the show.—First prize, Earl Clonmel; second, same (Mistletoe).

Dexter heifer, calved in 1875, giving milk, or in calf.—Prize, Rev. F. C. Hayes, Raheny, Dublin (Nelly).

Dexter cow, either in calf or having had a living calf within twelve months before the date of the show.—First prize, Earl Clonmel, Straffin; second, W. G. Henry, Sandymount, Dublin (Gyp).

West Island heifer or cow, of any age, either in calf or having had a calf living within twelve months before the date of the show.—Prize, W. P. Radcliffe, Hindlestown, Meath.

Alderney (or other Channel Island) bull, of any age.—Prize, C. W. Wise, Cahir, Tipperary (Emperor).

Alderney (or other Channel Island) heifer, giving milk or in calf.—Prize, G. A. Stephens, Greenwood, St. Dolough's (Daisy).

Alderney (or other Channel Island) cow, of any age, either in calf or having had a living calf within twelve months before the date of the show.—Prize, G. A. Stephens (Lady Alice).

#### FAT CATTLE.

Shorthorn ox, calved in 1876.—Prize, Major H. L. Barton, Straffan Station, Kildare.

Shorthorn ox, calved in 1875.—Prize, H. P. Truell, Clonmannon, Ashford.

Shorthorn ox, calved before 1875.—Prize, Sir C. H. Coote, Bart., Mountrath.

Shorthorn cow, of any age.—First prize, Lieut.-Col J. S. Tighe, Ashford, Wicklow (Rosanna); second, Earl Caledon (Vesta).

Shorthorn heifer, not exceeding four years old.—First prize, Earl Caledon (Verbona); second, Marquis of Drogheda-Monasterevan (White Rose).

Hereford cow, of any age.—First prize, R. W. Reynell, Killynon, Killucan (Cherry); second prize, R. W. Reynell (Ashton Maid).

Hereford heifer, not exceeding four years old.—First prize, W. P. Radcliff, Kells, county Meath.

Devon cow, of any age.—First prize, G. A. Rotheram, Kilbride, Meath, Devon.

Kerry cow, of any age.—First, Earl Clonmel, Straffan; second prize, N. Hone, St. Dolough's.

Kerry heifer, not exceeding four years old.—First prize, Earl Clonmel.

Ox, of any other pure or cross breed (not included in the foregoing sections), calved prior to 1876.—First prize, Marquis of Headfort, Virginia; second prize, F. O'Reilly, Kells.

Heifer of any other pure or cross bred (not included in the foregoing sections), calved prior to 1876.—First prize, G. N. Purdon, Killucan.

Pair of fat oxen, of any breed that have been fairly and *bona fide* worked as plough bullocks up to May, 1877.—First prize, H. B. Truell, Clonmannon; second prize, Lieut.-Col. J. S. Tighe, Rosanna, Wicklow.

#### BREEDING PIGS.

N.B.—The ages of pigs are to be computed up to date of the show. Coloured breeds.

Boar, six months, and not exceeding 12 months old.—First prize, Lord Clermont, Newry; second, J. Molloy, Dublin.

Boar, exceeding 12 months and not exceeding 24 months old.—Prize, H. Waterhouse, Claremont.

Breeding sow in pig, or having had a litter within six months.—First prize, J. Molloy, Dublin; second, Earl of Erne, Newtownbutler.

Litter of not less than six pigs, not exceeding five months, accompanied by sow.—First prize, Captain Thompson, Hollywoodrath, Dublin; second, H. Waterhouse, Killeeney.

#### WHITE BREEDS.

Boar 6 months, and not exceeding 12 months old.—First prize, J. L. Naper, Loughcrew, Oldcastle; second, Earl of Clonnel, Bishopscourt, Straffan.

Boar exceeding twelve, and not exceeding twenty-four months old.—First prize, J. L. Naper, Loughcrew, Oldcastle; second, T. W. Webber, Huntingdon, Portarlinton.

Boar exceeding twenty-four, and not exceeding thirty-six months old.—Prize, Earl of Clonmel.

Breeding sow in pig, or having had a litter within six months.—First prize, J. Molloy, Dublin; second, Earl of Wicklow, Arklow, Wicklow.

Three breeding pigs, of the same litter, under ten months old.—First prize, J. Peake, Monaghan; second, Earl of Clonmel.

Litter of not less than six pigs, not exceeding five months old, accompanied by the sow.—First prize, Earl of Wicklow, Arklow, Wicklow; second, J. L. Naper, Loughcrew, Oldcastle.

### COUNTY OF CORK.

The spring show of this Society was held on Friday, Feb. 12. The entries consisted of 30 Shorthorn bulls and 12 stallions. From the little interest which this show appears to excite we fear it is going down. Some of the entries were not brought forward, in particular some bulls from Ashfield. The judges were: Mr. Fox, Cumberland; Mr. Allen, Unicarville; and Mr. Luke Clements, Carrigan, Croom. Mr. Power's York took first prize in the class of thoroughbred stallions; Mr. Irvine was the winner in the Clydesdale class; and Mr. Heffernan in the class of cart stallions of any other breed than Clydesdales. The following are the names in the bull sections:—

Yearling bulls.—First prize, Francis W. Lowe, Kilshane Curragh (Wideawake 2nd); second, R. J. M. Gumbleton Curragh, Co. Cork (Lord Beaconsfield).

Two-year-old bulls.—First prize, Fitzwilliam Welsh, The Chalet, Nenagh (The Major); second, William Hutchinson Massy, Mount Massy, Macroom (Red Wood).

Aged bulls.—Prize, Marmaduke Coghill Cramer, Rathmore Kinsale, Co. Cork (King Alfonso).—*Irish Farmers' Gazette.*

### RIPLEY.

The eighth annual exhibition of horses, cattle, poultry, &c., under the auspices of the above Society, was held on the Easter Fair Day (Wednesday) at Ripley. The existence of the show is due to an effort made by some gentlemen living in the neighbourhood who viewed with regret the decline of the Easter Fair, and amongst the numerous expedients suggested to revive it they adopted the plan of forming an agricultural society, and offering prizes to exhibitors as an inducement to them to send their horses and cattle to the fair. The effort has been so far so successful that the annual meeting seems to be fairly re-established, whilst the Association has the satisfaction of seeing its exertions meet with a greater degree of success as years go on. The show this year exceeded by far its predecessors in the number and quality of the exhibits. The horses were confined chiefly to those of the agricultural class, and although the numbers were not large, there were some animals of fine appearance and substance on view in the Market-place. In the landlords' class for cattle there were some excellent specimens of Shorthorn bulls and cows. In other departments were to be seen sheep of superior quality and numerous pigs.

## PRIZE LIST.

## CATTLE.

Landlords' Class.—Best bull, any age.—Prize, C. Chamberlain.

Best milking cow.—Prize, C. Chamberlain.

In-calf cow.—Prize, C. Brewer.

Best heifer.—Prize, C. Chamberlain.

Pair of stirks.—Prize, C. Brewer.

Yearling calves.—Prize, C. Brewer.

Tenant's Class.—Best bull over two years.—First prize, A. Taylor; second, T. Evans.

Bull under two years.—First prize, A. Taylor; second, P. Clarke.

Milking cow.—First prize, A. Taylor; second, Geo. Evans.

In-calf cow.—First and second prizes, A. Taylor. Highly commended: Mr. Atkinson and J. Briddon.

Heifer.—First prize, A. Taylor; second, J. Briddon. Highly commended: Atkinson and T. Evans.

Stirk.—First prize, W. Taylor; second, A. Taylor. Highly commended: N. Bennett (2), Mr. Atkinson, J. Briddon, T. Evans, W. Bostock, and G. Evans.

Yearling calves.—Prize, A. Taylor.

Cow calf.—Prize, W. Smedley.

Bull calf.—Prize, W. J. Caudwell.

## SHEEP.

Ram.—First prize, H. Hepworth; second, Mr. Atkinson.

Ewe and lambs.—First prize, H. Hepworth; second, J. Briddon.

Hog.—First and second prizes, J. Webster.

## PIGS.

Boar.—First and second prizes, W. J. Caudwell.

Sow and pigs.—First prize, J. Briddon; second, W. J. Caudwell.

In-pig gilt.—First prize, W. Fletcher; second, M. Challinor.

## HORSES.

Landlords' Class.—Pair of agricultural horses.—Prize, C. Chamberlain.

Nag-horse.—Prize, C. Chamberlain.

Tenants' Class: Pair of agricultural horses.—First prize, W. C. Haslam; second, J. Briddon.

Nag-horse.—First prize, T. Webster; second, James Flanders.

Pony, 13½ hands and under. First prize, H. Webster; second, A. House.

Brood cart mare.—First prize, W. Ford, Denby; second, J. Rooth.

Tradesmen's horse.—First prize, J. Ontram; second, M. Challinor.

Any class entire horse.—Prize, J. H. Kyte.

Entire roadster.—Prize, J. Nix.

—Derby Reporter.

## SHORTHORN.

A meeting of the Council of this Society was held at the Society's rooms, 12, Hanover-square, W. Present: Mr. H. Chandos-Pole-Gell, in the chair, Colonel Kingscote, C.B., M.P., Mr. B. St. John Ackers, Mr. Hugh Aylmer, Mr. Edward Bowly, Mr. J. W. Crnickshank, Mr. D. McIntosh, Rev. T. Stainforth, and Mr. G. Murtton Tracy.

The following new members were elected:

Briggs, David Grant, Kelstern Grange, Louth.

Harker, Robert, Kirkby Stephen, Westmoreland.

Harvey, Frederick, Churcham House, Gloucester.

Robinson, J. Salkeld, Mount Falinge, Rochdale.

Stopford Sackville, Mrs., Drayton House, Thrapstone.

Scott, Sir William, Bart., Ancrum, Jedburgh, N.B.

Wheeler, A. C., Upton Hill, Gloucester.

Williamson, Colonel D. R., Lawers House, Crieff, N.B.

EDUCING COMMITTEE.—Mr. H. CHANDOS-POLE-GELL reported that the Committee had had before them the pedigrees of several animals sent for insertion in volume 24 of the Herd Book, and had directed the Secretary to send suitable supplies.

This report was adopted.

GENERAL PURPOSES COMMITTEE.—Mr. D. MCINTOSH reported that the accounts for the months of March and April had been examined by Messrs. Quilter, Ball, and Co., and the Committee, were found to be correct; that the Secretary's petty cash account had been examined and passed, and showed an expenditure of £16 12s. 8d. during the past two months, that the receipts for the same period had been £186 19s. 6d.; the balance of the Society's current account at the banker's being £592 12s. 1d., and £700 on deposit; and that the Committee recommended that cheques be drawn for various accounts amounting to £275 15s.

That the Committee suggested that at the Council meeting in June, the list of retiring members of the Council and a list of a like number of life members of the Society proposed by the Council to fill the vacancies, should be settled; and a copy sent to each member of the Society, as provided in article 22 of the Articles of Association.

This report was adopted.

A letter of thanks from Lord Polworth, on his election as a Member of the Council was read.

The next meeting of the Council was fixed for Tuesday, June 4th, at 3.30 p.m.

BIRMINGHAM SEWAGE FARM.—In accordance with the decision of the Birmingham Sewage Board, a set of Messrs. Howard's steam-ploughing tackle has been purchased for use on the Sewage Farm, with a view not only to deeper and more efficient cultivation, but to the saving of some hundreds a year in manual labour. A deputation, consisting of the engineer, farm manager, and a member of the Council visited a few days ago Messrs. Howard's works and steam-cultivated farms at Bedford, and also went to see a set of their tackle at work in the fens, under conditions similar to those existing on the Sewage Farm. The tackle purchased is on the well-known roundabout system, and combines a specially-constructed plough, cultivator, harrow, and roller, as well as Messrs. Howard's new patent self-moving anchors, which work automatically, and save the expense of two men in working.—*Midland Counties Herald*.

## CHAMBERS OF AGRICULTURE.

## DEVONSHIRE.

A meeting of the members of this Association was held recently at the Half Moon, Exeter. Mr. J. Veun (vice-chairman) presided.

Rev. T. B. MELHUSH read a paper on the new Highway Bill, in the course of which he pointed out what appeared to him to be the defects in that measure. It appeared to him to form really a part of the proposed County Board Bill than an amended Highway Act. In the first place it contained unsatisfactory provision for the building of bridges, and so far was highly defective. Leaving out of the question the large bridges which came under the class of county bridges, any new Act should contain provision for building smaller bridges. It might be desirable that it should be compulsory on each Highway Board as a district charge, to build one or two in each year, and in this way in a few years, and at a very gradual cost, a great inconvenience and frequent source of danger would be removed. These bridges could not be built by the individual parishes on each side of streams, but must be a district charge, and where parties specially interested subscribed one-half of the cost they should be entitled to claim that such bridge should be one of those to be built in the year. A discussion ensued but no resolution was passed.

The next business was to consider the valuation of Property Bill, which Mr. C. T. D. Acland had engaged to read a paper upon, but the CHAIRMAN informed the meeting that Mr. Acland was unable to attend, and the subject was adjourned.

## NORFOLK.

A meeting of this Chamber was held recently, to consider the Highways Bill. The Chairman (Mr. R. T. GURDON) moved the following resolution:—That this Chamber approves generally of the two Highway Bills before Parliament, and hopes they will be passed forthwith; but at the same time emphatically regrets that no provision is made in them for meeting the injustice by which the whole expense of the maintenance of the highways is thrown on real property, and declares it will never be satisfied until some material alteration is made in that direction.

Mr. C. S. READ, M.P., said that while generally agreeing with the Government measure, he regretted that personal property as well as real property was not to be taxed for the maintenance of the highways. He thought that some taxes, and particularly the tax upon locomotion, should be given to the counties to assist in maintaining the main thoroughfares of a district. He also thought that the receipts from the dog tax and from gun licences should be paid to the local authorities in England, as was done in the case of the dog tax in Ireland. He further contended that quarries and mines, the products of which caused considerable damage to roads in their conveyance from place to place, should be assessed at the same rate as agricultural land. After some further discussion the resolution was adopted.

## SOUTH WILTS.

A meeting of the members took place recently at Warminster, Mr. W. Stratton, of Kingston Deverill, President for the year, in the chair. Mr. STEPHEN

BRACHER introduced the subject of the Contagious Diseases (Animals) Bill, now before Parliament, remarking that the grass was growing rapidly, and dealers were bringing foreign beasts into the South Wilts district from various quarters. His great fear was that as those beasts got distributed disease would be extended, and that in the course of a very few weeks. Feeling strongly as he did that the proposed Bill would be of great advantage to them all, he begged to move "That this Chamber cordially approves of the Contagious Diseases (Animals) Bill, and while thanking Her Majesty's Government for their prompt introduction of the measure trusts that no material alteration may be made in its provisions, and that it may speedily become law." Mr. Willis seconded the resolution. Viscount Folkestone said that the subject of cattle disease had been so thoroughly discussed on many occasions that it was unnecessary for him to enter fully into the details of the measure now before Parliament. He believed that both Houses were agreed as to the necessity of its speedily becoming law. Those who had read the Newspaper reports of the proceedings in the Lower House would have perceived just before the recess his hon. friend Mr. Chaplin, his brother-in-law, made inquiries as to the time when the Bill would be proceeded with. Mr. Clare Sewell Read had another measure before the House in which they were all interested. The answer of the Government was that they were fully prepared to press forward the Cattle Diseases Bill as quickly as possible, although the other measure was entitled to precedence. The Government appeared to be as fully alive to the necessity of the one as the other; and from the fact of the Cattle Diseases Bill having already been fully discussed in the House of Lords, where it was introduced, it was not likely to take a great deal of time in the House of Commons. From the little he himself knew of the feelings of the Government he had no doubt an effort would be made to pass it before the end of the session. Many material alterations were not likely to be made in it, but looking at the present constitution of the House of Commons a certain amount of opposition would doubtless be offered to some of its clauses. The general feeling of the House, however, was such, he believed the Bill would eventually pass in a form that would meet with the almost unanimous approbation of the agricultural interest. Having carefully looked into the Bill, as well as the report of the Select Committee appointed last year, he was of opinion the measure would prove to be of the greatest utility not only to the producers, but also to the consumers of meat in the country. He therefore cordially approved the resolution. The resolution was then put from the chair and carried unanimously. It was resolved "That this Chamber is of opinion that in the event of any new Highway Bill being passed it should direct all roads to be arranged in two classes—viz., main roads and parish roads; that separate accounts be kept of all moneys expended upon the two classes of road respectively; and that the supervision and maintenance of the same be entrusted to one administrative authority, with one staff of officers for the same area as at present," and "That this Chamber is further of opinion that in order to effect an equitable and efficient maintenance of the main, or national, road, a contribution of some sort from the national wealth is indispensable, thereby placing the cost of those roads in some

degree on the national purse, rather than entirely on one class of property as at present." A discussion on the prospects of British agriculture followed, the subject being introduced by the Chatman, and several influential members joining in the debate.

### FARMERS' SONS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—My father is a gentleman farmer, and I as his son of course am not allowed to work—to do any manual work whatever—upon the farm. Well, my question is, What are those unfortunate creatures who are sons of gentlemen farmers to do? Unless they have some tangible work to do—some real employment—it would be much better for themselves and their belongings if they did the customary work of the farm rather than ride about and follow the hounds, as is the wont of youngsters now-a-days.

It must be allowed that any legal employment is better than no employment at all, so that some may argue that hunting, &c., are legal employments; but one thing is certain, namely, that it is one's duty to work for our own sustenance, and not to allow others to work while we spend our time upon empty pleasures. Hunting, &c., are all very well to those who have plenty of money themselves to spend without encroaching upon the resources of others much more worthy of their little earnings than themselves; but what are they to do with their time?—walk about the fields, and take notice of all things done upon the farm; also go through all the stock upon the farm. "Sheep especially require looking after very often, at least twice a day, in fields where there are furrows," says one; but the duty of looking after stock is already filled by the master, and it seems as if it was work in vain for others to go afterwards. Then you are there as a cypher, not allowed, even if able, to meddle with anything in the concern. If one should have the temerity to try, he would see by the looks of the men in what position they view him; and unless his heart is of adamant, and his face of brass, he will be covered with shame by the thought that he is really very much inferior to them in knowledge of their work. Knowing this, they sneer and say, "What can this young cockney do? And yet he stalks about here and there as if there was no one but he, when he knows naught but riding and driving; can neither plough nor barrow, much less sow, nor has he ever done an honest day's work in his life—and still he must come and look after us." Well, when you come to consider that all that is true about yourself—though of course they do not say it in words—you must be very barefaced if you can face it without wincing. I know of no other constant employment but the workmen's customary manual work upon the farm for sons when at home to perform; so that I should recommend gentlemen farmers, in spite of all fashion, to make their sons when yet young perform every routine that their strength will allow them to go through, and I am sure in after time it will be a source of much profit to them.

I am, Sir, &c.,

WINTER.

WAR AND THE LAND TAX.—"A Radical Parson," in a letter to *The Echo*, arguing that those who make our battles should pay for them, goes on to say:—"I venture, therefore, humbly to suggest that a War-tax, according to high principles of finance, should not be an Income-tax on the production classes, but a Land-tax on the unproductive. There was a time, we cannot forget, in the history of England, when the country gentlemen personally did most of the nation's necessary fighting. Indeed, it was only in consideration of their due performance of that obligation that the original title to their lands was held. The landlords of England are not, strictly speaking, landowners at all, but landholders, tenants-in-fee, holding the soil in trust for the people, and on condition of military service. It is true that they succeeded, in the reign of Charles II., in relieving themselves for a time from that condition, throwing the burden of military expenditure on the industrial classes by means of a general excise. At the Revolution in 1688, however, the obligation was once more fixed on the right shoulders by the imposition of a tax on the land of 4s. in the pound, considered at that time to be the fair equivalent for the personal military service which the original terms of their tenure imposed. The landlords, however, have not been slow to wittle down the effects of that measure. In the first place, owing to their paramount influence in Parliament, they succeeded in getting the tax levied as a fixed valuation, assessed by themselves. This valuation, made in 1692, has ever since, notwithstanding the enormous increase in the value of land, been retained, so that the nominal 4s. in the pound does not in reality at the present time mean much more than one penny. The annual tax last year yielded a little over £1,000,000. A real 4s. in the pound would yield over £39,000,000."

THE ORIGIN OF NITRATES IN THE SOIL.—In a recent number of *Nature* Mr. Robert Warrington supplies a highly interesting *resumé* of the recent researches of Schloesing and Müntz on this question. Artificially nitre is produced by putting ammoniacal matters, such as stable-manure, on to soil, when the ammonia becomes oxidised, and the nitric acid so formed unites with the potash in the soil to form a nitrate. When manure is added to the land a similar process of nitrification takes place. All this is well known. The difficulty has been to give a rational explanation of the why and wherefore. No perfectly satisfactory account has been given, and the one now brought forward by Schloesing is so startling that, though by no means *à priori* improbable, yet it will need to be very thoroughly investigated before it can be accepted as more than hypothesis. Nitrification, according to the chemists we have named, is no mere chemical process; it is the work of a living organism, which thus acts in bringing about a chemical change just as the yeast plant does in promoting the fermentation of saccharine solutions. Substances and forces which are inimical to living beings, it is stated, stop nitrification: thus chlorine, boiling water, heat, bisulphide of carbon all stop the process, while on the other hand the addition of a small quantity of the nitrifying body (the ferment) is sufficient to effect the process. At Rothamsted a solution of ammonium chloride, potassium phosphate, tartaric acid, and calcium carbonate was completely nitrified in a few weeks by the addition of a small quantity of mushroom spawn—that is to say, of soil taken from the fairy-ring of a meadow. It is impossible to over-estimate the importance of these researches, which bid fair to modify alike the theory and the practice of manuring. *Gardener's Chronicle*.

## THE CULTIVATION OF ROOTS.

At a recent meeting of the Maidstone Farmers' Club, previously referred to, Professor Wrightson read a paper on the above subject. He said that in root cultivation it was always better to bear one principle at least in mind, and that was that it should be undertaken at certain periods in the rotation of crops. They generally considered that it was the foundation of a rotation or succession of crops, and it occupied the same place in the rotation as the old fashioned, though still occasionally used, bare fallow. It might properly be called the fallowing period—the period during which the cultivator liked to perform two important functions, to clean the land and bring it into an aerified and fertilised condition. Any system of root cultivation which did not fulfil that condition and did not bring the land into a healthy state for the next crop would not, therefore, meet their requirements. He then came to his second point—that the root crop, although it might perhaps be one of the most important crops or class of crops grown, had, in some cases, serious disadvantages to combat. There were certain disadvantages in the growth of roots, at all events upon the heaviest class of clay soils. In the first place there was a great expense in working the land, then the cultivation was very critical, next there was the difficulty in getting in the crop, and finally it was very doubtful whether the crop, if grown, did not, after all, injure the land instead of preparing it for the succeeding crop. It therefore appeared to him very doubtful if it was advisable to grow roots—at all events turnips and swedes—upon stiff clay soils. That was one side of the question. But while, as they supposed, heavy soils were not well adapted for the growth of many roots, yet they were especially adapted for beans, as while it was expensive and critical to grow other roots, a clay field was easily worked for beans. He had for many years held the opinion that if a farmer could grow 40 bushels of beans, it was better to do so than to grow 20 tons of mangels, for the latter contained 90 per cent. of water, with only 10 parts of solid, while beans had at least 80 per cent. of solid matter of peculiarly rich character. While they recognised the disadvantages of turnip cultivation upon clay lands they could not but see the immense importance of the growth of turnips and swedes on suitable soils, for thus, at a comparatively small expense, they could grow a very large quantity of valuable food, which might be characterised as both meat and drink. When supplemented with a little cake or corn, what could be better for sheep or cattle than a reasonable proportion of turnips, swedes, or mangels? Grown under favourable circumstances the value of root crops could scarcely be overrated. Then, too, root crops acted as excellent preparatives of the land for the succeeding crop, while they enabled the growth on light sandy soils of crops which otherwise could not be grown. The question of root cultivation could not, however, be handled as a whole, and it was necessary to make a difference between mangels and other root crops. Mangel wurzle was a crop particularly suited for strong clay lands, as it did not require that exceedingly fine state of tilth which was necessary for turnips. Then, partly on account of its hardihood of habit, it could bear drought well, and it was, therefore, little to be wondered at that in such a district as their own, where they had a great deal of clay land, mangels should be more esteemed than either swedes

or turnips. It gave a very heavy weight of food per acre, 30 or 40 tons being grown, while, if they believed advertisements, as he supposed they ought to, as much as 80 tons per acre could be produced. That could not be done with turnips, but in the North they obtained perhaps 30 or 40 tons of swedes or turnips. The importance of growing a variety of root crops was another point upon which something might be said. The value of the adoption of such a course was at once apparent when they remembered that plants took their food in different proportions from the land. Wheat, barley, and oats, while they took much the same constituents from the land, yet removed them in slightly different proportions. As there was no greater enemy to a wheat crop than a preceding wheat crop, so there was nothing more hostile to a root crop than a crop of the same sort. A variation of root crops was, therefore, attended with much advantage, as the constituents of the soil were thus absorbed in more equal quantities, while the farmer was further benefited by being able to supply his stock with a variety of food during a long period of the year. Those who had a succession from white turnips to swedes, and thence to mangels, and kept up a rotation, having a variety every season, diminished the risk of a bad crop, for weather which did not suit one would perhaps be advantageous for another. There was yet another reason for cultivating a variety of crops, and that consisted in the division of labour. If a farmer attempted to grow a great breadth of swedes or mangel wurzle alone, he had a crush of work at one particular period of the year, whereas if he had a variety—if he grew mangels, kohl rabi, swedes, white and yellow turnips, and cabbages, the labour would be distributed over a long period of the year. If, therefore, they took into account the advantage of the change of food for their stock, the better preparation of the land for the succeeding crop, and the division of labour, they found a very good reason for cultivating roots in greater variety. There was still another question of importance, and that was the very frequent combination of forage with root crops. That was a system more prevalent in the South of England than in the North. The vetches having been consumed, the land was ploughed up and swedes or turnips sown, and this was, to his mind, a very excellent system. In the farms he had taken, all the wheat stubbles were sown down after harvest with rye, vetch, trifolium, &c., to be followed with roots. The system, though in many respects excellent, was open to objection, when pressed too far, and pursued whether the land was clean or dirty. But in his neighbourhood it was not infrequent to take two root crops in succession, and then two white straw crops. Thus, if the roots went in a little foul after the catch crops, the second root crop taken the succeeding year would probably remedy the defect and bring the land clean. It was trying to do too much, and they were likely to keep the land foul, if they first took forage crops and immediately went on to roots. Those were some general considerations on root cultivation which had presented themselves to his mind, but he thought they might perhaps like to discuss the best method of growing roots. There were difficulties to be combated—some under and some beyond their control. The most important was climate, for if that was against them it was impossible to grow with any success. He remembered remarking in that



room two years ago upon the difference between the climate of the North and that of the South of England, and it was generally admitted that while that in the North was suitable for the cultivation of swedes and turnips, that in the South was not, and manure as they would, the Southerners could not beat the Northerners in the weight per acre, for they wanted that cooler, damper atmosphere prevalent in the North. In the next place they must endeavour as far as possible to suit the soil to the crop. For example, light soils should be sown with white turnips; on the somewhat heavier or medium loams they might place swedes; the stiffer soils were suited to mangels; and the heaviest of all might be devoted to kohlrabi or cabbages—especially cabbages, for they could be consumed on the land at the dry season of the year. There was something in cabbage especially worthy of the attention of farmers. It might be sown about the last week in July in a seed-bed, and it would be germinating while the ground it was to be placed in was still occupied with, perhaps, a wheat crop. As soon as the wheat was harvested, the broadshare, plough, and dung-cart should be put on the land, and about the middle or last week of September the cabbages might be planted out. What could be better than that? The clay lands never worked more kindly than at that period of the year, and the cabbages then occupied the ground until about the month of June, when the sheep could go on for perhaps three months. He considered that to be a combination well suited to a stiff clay soil, as the land could be worked for the crop when it was dry, and it could be fed off also in the dry season. There was no other crop which could be treated in the same manner. The preparation of the land for the root crop was a subject on which he wished to make a few remarks. Supposing they were dealing with a pliable turnip soil and it was clean he really thought that the less they cultivated it the better, as when once it was in a proper condition it surely was a waste of time to continue cultivating it. They might well wish to follow the example of an old friend of his own in the North of England who ploughed the land after harvest, and never touched it again till sowing time, ploughing in the morning and putting the seed in in the afternoon. But they were unable to do that, and the preparation of the soil for turnips and swedes often involved a great deal of pulling about either with the broadshare or the plough—he preferred the latter. Then there was harrowing and burning the couch, which unless it was got off immediately after harvest, grew deeper into the ground and gave a great deal of trouble. Then after all these operations had been performed they had the dung-cart in, next they got a furrow as deep as the land would allow, and they often had to give it further cultivation. He was opposed likewise to spring ploughing—not ploughing at this or an earlier period of the year, but late spring ploughing. They should plough in the months of February, March, or April, when a good rainfall might be expected to follow, but it was altogether a mistake to plough land for roots in May or June, as it only dried the soil, and what was known as the sap evaporated. They had better cultivate light land than plough it in the spring, and the practice would apply equally well to stiff soils, because in the latter case the finer soil was buried and the rough brought to the surface. He scarcely ever remembered meeting a go-ahead farmer but who held the same opinion, and yet they saw the plough too much used. Professor Wrightson then proceeded to deal with the best method of preparing the land for the crop. The soil should be fine,

moist, and clean, in order to make a good seed bed, while care should be taken in the choice of seed. He had lately had some correspondence with reference to the latter point, and although he was, perhaps, travelling a little way from his subject, he might state that he found practical men differed considerably with reference to the seed question. Not long since he sold a rather poor sample of barley, and the purchaser merely asked—Will it grow? He told him that he thought it would and that he had better try, and the sale was then effected. Now, that seemed to him to be a wrong system to go on in the purchase of seeds. Many people indeed merely looked at the seed in that way, and if it would grow, however thin or poor it might be, they considered it to be sufficient for their purpose. But they did not pursue the same course in reference to their stock; they liked the animals they intended to breed from to be good ones. They did not, however, appear to be quite so far advanced in the matter of seed purchase as that of stock buying. And what was true as to wheat and other cereals applied equally well to mangels and other root crops, for with bad seeds they would never obtain good results. In the case of turnips he had seen them growing with double tops, thick necks, and very little at the bottom; these were the results of ill-selected seeds. In the month of May, when sowing, they should remember the December root shows, and base their choice of seeds upon the results of those exhibitions. The method of sowing was also very important. Generally speaking in the South the sowing was done upon the flat; he thought that that was better than upon the raised ridge system. It might be different with mangel, but he really thought they were wise to sow on the flat, because the moisture was thus kept in the ground, whereas if they raised the land into ridges the surface open to evaporation was increased in extent. He had been very much struck with the difference which a few hours made in the sowing, and he believed that a cool period was better for the purpose than the sultry hours of an exceedingly hot day. He had no doubt that a large farmer would not care to stop his teams for a few hours during the sowing season, but still seed put in when the sun was not scorching the land did better than that sown under other circumstances. He had paid some attention to the question of manuring, and that was a subject almost sufficient for consideration in one lecture. Manuring might be considered under two heads—manuring with artificial manures and with farmyard dung. With reference to the latter the farmer naturally kept the dung as near as possible to the homestead, and the roots treated with it were likely to be carried back home. If a farmer had a wide-lying farm it was better to keep the dung within a radius of one mile of the homestead, and the fields beyond that distance might be treated with artificial stuffs and by feeding the sheep off the land. He had known cases where farmyard manure had done harm to the crop instead of good, but that was when it was applied in the spring. If put in too late it rendered the land hollow, and it should therefore be applied as much as possible before or during the winter, so as not to run the risk of having to plough it in during the dry months. The application of artificial manures was a very difficult matter indeed, because every district, he found, required to settle that question for itself. In the Cirencester district a number of experiments were tried, and they came to the conclusion that about three hundred-weight of superphosphate should be applied to the acre. In the North a much heavier weight was put in, and sometimes half a ton of mixed guano and superphosphate was

applied. In that district the result was, however, quite commensurate, for upon asking one of the best Northumberland farmers why he put such a heavy dressing, he replied that he grew the roots at a cheaper cost per ton by so doing. The same system would not answer in the Cirencester district, and he was sure that if it were introduced into Kent it would be considered most wasteful. He did not know what amount was considered advisable in this county, but he would not be surprised to find that it differed but little from that deemed sufficient in his own neighbourhood. Their Chamber of Agriculture tried a number of experiments in order to enable them to arrive at some conclusion on that matter, and some definite results were generally accepted as reasonable for the district. Another point was the method of applying the manure. Some years since he laid down an acre of swedes, dividing it into equal parts. On one piece he gave a top dressing and harrowed it into the ground, but he did not get anything like an equal crop to that obtained in another piece which he drilled with the same manure. In Shropshire it was the custom to top dress most manures, harrow them into the land, and then drill the seeds in, but he believed the more reasonable plan to be partly drill and partly apply it broadcast. It was not necessary to put the manure exactly under the plant because the roots naturally spread, and if they were to sow an acre, and apply

3 cwt. top dressing, drilling in one cwt., he thought the results would be better. It would thus be seen that root cultivation involved a great deal of labour; they must prepare the land, manure it, and sow the best seed, and then, unless great pains were taken with the after cultivation, the crop would probably after all become a failure. Therefore they must attend to the hoeing at the right time, and they must not allow their plants to become spindly, while they must attend to the distance between each root. Swedes should be a foot apart, but nine or ten inches would be a sufficient distance between white turnips. They could thus prevent them from growing to too great a size. The men employed in thinning them out should leave the best and not the worst and poorest plants in the ground; the soil around should be moved, and plenty of horse-hoeing should follow. In the North great stress was laid upon this, and, strange to say, even in droughty seasons the ground was well moved between the roots, while in Lincolnshire especial care was taken to use the harrow effectively when the root was growing. Therefore, in order to produce a really good crop it was necessary to be very attentive to it during a long period of the year. If they selected their seed and manured with judgment, and in addition looked well to the after cultivation, they might with the blessing of Heaven, hope to attain good results at last.

## SHEEP FARMING IN AUSTRALIA.

At a meeting of the Midland Farmers' Club, on Thursday, April 4th, Mr. A. Hodgson, of Clifton, delivered a lecture on his experience as an Australian sheep farmer.

Having asked the indulgence of his hearers if, in narrating his experience, he appeared to be egotistical, Mr. Hodgson referred to the early history of the Colony of New South Wales, the first Governor of which, Captain Arthur Phillip, R.N., landed in January, 1787, on the shores of Port Jackson, better known for many years by the dreaded name of Botany Bay, but now called Sydney, one of the finest harbours in the world, with a city of 100,000 inhabitants. The voyage, which then occupied eight months, can now be accomplished in forty-five days. The first census taken gave 1,030 men, women, and children; of whom 700 were convicts; and the remainder Government officers, soldiers, and their wives and families. The live stock consisted of five head of cattle, six horses, twenty goats, twenty-nine sheep, and seventy-four pigs; and, at the end of 1793, 3,700 acres of land had been transferred to free settlers, not convicts. In the following year (1794), wheat was 10s. a bushel; maize, 7s.; the value of a Cape of Good Hope ewe, was £6; of a she-goat, £8 8s.; a hog, £3 10s.; and an English cow, £30. In 1797 the live stock in the Colony consisted of 84 horses, 327 head of cattle, 4,250 pigs, 2,450 sheep, and 2,300 goats. To Capt. John Macarthur, a late Captain in the 102nd Regiment or New South Wales Corps, Australia is indebted for the importation of a class of fine-woolled sheep, which have proved a source of inexhaustible wealth; and it might truly be said that that officer, by his energy and foresight, established, against much opposition, the pastoral interests of our Australian colonies. The growth and development of the Australian fleece might be traced indirectly to a nobleman who possessed a good estate in a neighbouring county, the sixteenth Lord Somerville, uncle of the last lord, who introduced the Spanish Merino sheep into

England, and, after winning the highest prizes at the Royal Agricultural shows—notably at Bath—made a present of part of his flock to George III., and disposed of the remainder by auction, realising for 237 sheep £10,000, or an average of £45 per head. His Majesty, George III., was pleased to receive Captain Macarthur at Windsor Castle, in 1803, on his return from New South Wales, and to present him with twelve of the above flock; but a great difficulty stood in the way of their acceptance, owing to the discovery of an un repealed Act of Parliament prohibiting the exportation of live sheep from the United Kingdom, on pain of death, without benefit of clergy. But with a tact equal to that displayed by Lord Nelson at Copenhagen, the Custom-house officers applied the tariff glass to the blind eye, and declared that they could not see any sheep on board Captain Macarthur's ship, and it was permitted to quit these shores with the Royal gift. On returning to Australia he crossed these Spanish Merinos with long-woolled sheep from Bengal and the Cape of Good Hope, and he (Mr. Hodgson) now placed before them the astounding results made up to the latest dates. The approximate number of sheep in the Australian colonies, including New Zealand, was sixty-four millions. Last year 824,000 bales of wool, valued at six millions sterling, were imported from those colonies into England, and the production had risen from thirty-two million pounds in 1855 to one hundred and sixty million pounds in 1876. Notwithstanding this rapid increase, prices had been maintained, the average price of unwashed Australian wool having been 13½d. during the period ending in 1876, as against 12½d. in 1855. These prices referred only to clothing wool, which increased more rapidly than combing and carpet and blanket wools. About one-half of the clothing wool from Australia was taken for the Continent, and the progress made by Continental manufacturers had more than kept pace with the production. France, for instance, in 1855 took only ten millions, as against eighty-

nine millions in 1876. The proportion of Merino wool now grown in Australia was diminishing, owing to a desire to increase the weight of fleeces, and a consequently reduced demand for short fine wool. At the public auction sales held in London in August last 18 per cent. of wool offered was cross-bred. The average weight of a Merino wether, fed upon natural grasses, did not exceed 50lb., and the weight of fleece 3lb., washed on the sheep's back; while the weight of a cross-bred wether averaged from 65lb. to 79lb., with a weight of fleece 1½lb. The cross of a Leicester, Lincoln, or Romney Marsh tup with a Merino ewe had been largely and satisfactorily adopted. He emigrated to Sydney thirty-nine years ago with the intention of becoming a settler; but finding that that was impracticable, owing to the English Government having, two months previous to his arrival, advanced the price of land from 5s. to 12s. per acre, he turned squatter, and accepted an invitation some 300 miles in the interior, where he was most kindly and hospitably entertained for nearly twelve months, giving his services, and obtaining what was called "Colonial experience," but which had a totally different meaning. Having described a squatter, and quoted the opinion of a late Governor (Sir George Gipps) respecting that class, the Chairman sketched the mode of depasturing his squatting friend's flock of about 20,000 sheep, and added that he himself was not long in discovering that the judicious crossing of sheep for their wool, of culling them for breeding, and the management of men, were the main considerations, and that the lambing and shearing were the busiest times of the year. The plan adopted for shearing upon a large and well-managed sheep establishment was sketched, and it was stated that twenty-four to thirty men would easily shear on an average seventy sheep a day. The price of shearing varied, but at present it was 3s. a score, with rations. Mr. Hodgson also described the mode of washing the sheep, and sorting and packing the wool, and "dumping" the bales on board ship, and remarked as to the dumping that he had been unable to ascertain whether any damage accrued to the wool from that process, although some of his friends willingly paid an increased freight for the conveyance of the bales to England undumped. Mr. Hodgson went on to say that after a twelve months' residence in the colony he started for himself, and having been most fortunate in securing a partner, purchased sheep, oxen, horses, waggons, tools, &c. After travelling four months they found themselves—thanks to a friend and shipmate of his own, who had preceded him by a few weeks, and blazed the trees on his track—in a beautiful pasture land, about 600 miles north of Sydney and 150 miles distant from the nearest squatting station. There they pitched their tents, and there he spent the best and happiest years of his life. No white man had previously seen that portion of the country, which consisted of open downs, rich alluvial soil, well watered, and well clothed with grass and herbage. It was like one unlimited wheat-field, and such it remained to the present day, save during the period of a drought, from which the colony was now recovering. When he discovered the country it was in the colony of New South Wales; but it was now in Queensland, a colony which was still in her teens, having lately entered on the nineteenth year of her existence, during which period her population had increased from 28,000 to 200,000; and to a pastoral settlement with which she made a start agriculture might now be added, some 100,000 acres of land being under crop, 40,000 of which were under maize; and sugar-planting had developed into an im-

portant and permanent industry. There were about seven million sheep in Queensland, and the value of the wool exported last year was one million and a-half. There were two millions of cattle in that colony, and the value of the hides exported last year to England was £80,000. There were three modes of disposing of cattle in Queensland—home consumption, sending them to the southern markets (Sydney, Melbourne, &c.), and preserving or tinning beef and mutton for the English market, instead, as formerly, of boiling down excellent sheep and cattle for the sake of the tallow, as he had often done, "to keep the pot boiling." After quoting from a letter of a friend of his at the Thompson River station, who had recently sold 440 head of cattle at an average of £10 each, although their value a few months previously was from £3 to £3 10s., Mr. Hodgson referred to the wonderful development of squatting to the North West of the colony of Queensland, into the boundaries of South Australia, the country being described as splendid, and blocks of 10,000 square miles having been applied for and granted by the Government of South Australia, on loan of 25 years, at an annual rental of 6d. per square mile. A friend of his, the son of a nobleman residing in Staffordshire, had recently returned from a successful exploring expedition in Northern Queensland, where he discovered new country of considerable extent, and excellent pasture. He must have had a rough time of it, having been short of rations, occasionally short of water, and constantly on the watch day and night, against an attack of the native blacks. The Anglo-Saxon blood being strong in his veins he surmounted all the difficulties, and as an original discoverer it was his privilege to stand godfather to many spots in his travels, and he was not unmindful of his English home when he reproduced the names of Teddlesley, Hatherton, Cannock, Margaret's Well, &c., names which would be handed down to posterity and assist to fulfil the prophecy, that

"Australasia floats with flag unfurled,  
A new Britannia in another world."

Mr. Hodgson then adverted to the rapid disappearance of the native blacks, who, in his early days, were very troublesome, and mentioned that the race, which was once very numerous and vexatious in Tasmania (Van Dieman's Land), had there become extinct. Professor Flower assigned to these natives the lowest scale in the human race, not excepting even the Hottentot of Southern Africa. Here Mr. Hodgson introduced an amusing incident which occurred at one of the meetings of the Royal Geographical Society which he attended in 1862, when the statement of Mr. Landseborough, the well-known Australian explorer, that the country which he had discovered within the tropics was admirably adapted to the growing of wool, was challenged by Mr. Crawford, who declared that it was impossible to grow wool in the tropics, as it would turn to hair. Mr. Landseborough turned the tables on his opponent by asking him what grew upon the heads of the natives of Central Africa, and receiving the reply that it was wool, no hair. In the Australian climate there was something so favourable to the growth of wool that it grew there of a fine quality in a much lower latitude than in any other part of the world. The lecturer next passed in review some of the enemies, unknown in England, with which sheep had to contend in Australia, laying stress on droughts, native dogs, eagle hawk, crows, grass-seeds, worms, and, of late years, kangaroos and wallabills. Speaking of droughts, the greatest difficulty which the Australian grazier has to encounter, Mr. Hodgson pointed

out the ravages of the drought which had prevailed during the last twelve months in all the Australian Colonies, and at the Cape of Good Hope, which is in the same latitude; and quoted the opinion of Mr. Druce, the Government Inspector of Sheep, that from March 31, 1877, to December, 1877, in the Colony of New South Wales, three million sheep died, exclusive of lambs which had not been reared and had died of starvation. The total loss of sheep by the drought throughout Australia was estimated at eight millions. Mr. Hodgson regarded the "Myall dingo," or native dog, as the second greatest enemy of Australian sheep. To these dogs, which frequently hunt in packs, he gave a place between the English fox and the prairie wolf—being about the size of the latter and having the brush of the former. With regard to kangaroos and wallabills, he read an extract from a letter of his friend whom members of the Club might remember having met at Clopton, in July, 1876, when they honoured him with a visit—Mr. Rolleston, Auditor-General of the Colony of New South Wales—and who suggested that the marsupial pest in Northern Queensland was almost as bad as drought. Mr. Hodgson also read a very spirited sketch of a kangaroo hunt, supplied by his son, and in which that gentleman took an active part, in January last. The eagle-hawk—of which one of his partners now residing in Gloucestershire had killed sixteen in a day—was a noble bird, but killed a good many lambs. The crows—60 of which his partner shot in a day—were so thick on the ground that, but for poison, half the lambs would have been lost at one lambing season. No crows' nests had been found in Australia. The spear, or feather-grass, which caused great destruction in the Colony, was excellent for early feed, but soon ran to seed; and, if sheep were allowed to go through it in that stage, the seeds entered the wool, penetrated the skin, liver, and intestines, and he had seen thousands of these seeds inside a sheep, producing dreadful pain and death. Worms, so called in Australia, were not of long standing, and were produced by the poorness of the new grasses which had taken the place of the old, original, nutritious grasses destroyed by over-stocking. The remedy was to remove the sheep to new pastures and give them plenty of Liverpool and rock salt. In the squatting districts sheep were not supplied with any artificial food save salt; and there were no lambing sheds, the covered yards, mentioned by Mr. Howman, in his able and valuable paper, being at present unknown. Coming to the disease among sheep in Australia, the President spoke particularly of catarrh, red-water, and foot-rot. The contagious character of catarrh rendered the destruction of the whole flock, saving the skins, the best mode of treatment on large sheep establishments. He had known as many as 10,000 destroyed on property adjoining his own; but the disease was then stamped out. The terrible scourge of scab—from which a friend of his lost 60,000 out of 80,000 sheep in two years—could only be cured by dipping sheep soon recovered from red-water. Foot-rot was prevalent in rainy seasons, in a mild form, and English remedies were adopted, with the additional advantage that they were not hampered for room; on an average an acre and a half were allotted to one sheep. On many large sheep establishments iron wire fencing, largely imported from Wolverhampton, had superseded hurdles. There were 190 miles of iron fencing on Eton Vale, the property in which he was largely interested, and which he so named in consequence of finding in the camp of the wild, native blacks a knife marked, "Rogerson, maker, Eton," and he, as an old Etonian, regarded that find as an augury of good luck. The

number of sheep on his property varied from 90,000 to 100,000, were enclosed in thirty large and smaller paddocks, and overlooked by mounted overseers, who resided in different parts of the country. He and his partner had secured by purchase from the Crown 60,000 acres of land, the remainder being under lease. They had improved the breed, from time to time, by purchasing Saxon Merino rams, which he and his partner selected from celebrated flocks in Germany, and principally from Mr. Steiger, a well-known flockmaster, residing about 24 miles from Dresden. When landed in Queensland their rams cost them an average of £105 per head, but they well repaid themselves. The management of men was often a difficulty, especially in the distant interior, where there were no magistrates or police, and consequently they had occasionally to take the law into their own hands, disputes between masters and servants having, in olden times, often been settled in a very summary manner. He could truly say that during many years as a large employer of labour some of his best male servants were, or had been, convicts. At the date of the gold discoveries in Australia, in 1849, the graziers for a short time considered themselves ruined, and when it was rumoured that a shepherd in the western district of New South Wales had found, at the foot of a gum tree, a nugget of gold, which he sold at Bathurst for £78, they feared that their flocks would be left in the hurdles or turned out into the bush from want of shepherds. They were, however, agreeably disappointed. As a rule, shepherds were not so easily allured to the gold fields; and in the meantime agents, who were sent to China, brought back a large number of Chinese, of whom he employed eighteen as shepherds for upwards of five years, and his sheep were never better tended than they were by the Chinese shepherds, who proved to be honest, sober, intelligent, and, had they been accompanied by their wives, they would have become valuable colonists; but Chinese women were not permitted to leave the country. Chinamen in several thousands were now employed on the Australian gold fields; and, after pocketing their hard-earned gains, they returned to their native land. His Chinamen agreed to serve him for five years, at £9 for the first year, and increasing to £27 for the fifth year. With the exception of one, who died, all of them completed their agreements, and some of them remained with him many years. With Chinamen for cook and man-servant he had the honour of entertaining Sir Charles Fitzroy, the Governor of New South Wales, who was, he believed, none the worse for the fare which he placed before him. In illustrating the success attained by some of the earliest pastoral tenants of the Crown, Mr. Hodgson briefly sketched the career of Mr. Petre, one of the earliest and most successful squatters of New South Wales. In his concluding remarks, he said that if he had kept back any information which might enable members to judge of the results of his experience as a Queensland sheep-farmer, it must be remembered that his partners might object to the publication of profits which accumulated during a partnership extending over ten years. He endorsed the remark of his friend, Sir Daniel Cooper, in an admirable paper which he read in February last before the members of the Royal Colonial Institute in London, to the effect that the opportunities to make fortunes in the Australian Colonies existed now as they did at any former period. It only needed pluck and perseverance to make the start. He had watched the marvellous progress of those Colonies, possessed the strongest belief in their future, and considered there was no better or brighter land to live in, and felt satisfied many generations yet unborn would say the same.

## NATIONAL ASSOCIATION OF BRITISH AND IRISH MILLERS.

The inaugural meeting of this Association has lately been held at the New Market Sale-room, Corn Exchange Hotel, Mark Lane. The chair was taken at half-past three by Mr. J. Christie, of Chelsea, and the meeting included a good representation of the millers of the metropolis and of the provinces. Mr. W. C. Hepburn and Mr. D. G. Tepper, the honorary secretaries, were both present.

The minutes of the preliminary meeting held on the 18th of March for the formation of the Association having been read by Mr. Tepper and confirmed by the meeting,

Mr. SAMUEL SMITH, of Holtwood, Sheffield, suggested several alterations of a verbal and a formal character, which were ultimately referred to the Council for consideration.

Rules 3 and 7, the most material of the whole, as submitted to the meeting, were as follows:—

Rule 3:—"The objects of the Association shall be the promotion of the interests of the milling industry and its members by—

- (1.) The advancement of common interests by the legitimate combination of means and efforts which may be deemed most suitable for that purpose.
- (2.) The collection of information bearing upon all departments of the trade, technical, practical, and commercial, with a view to improve the quality of its products and increase the ratio of its profits.
- (3.) By encouraging the exchange of information on all subjects relating to the manufacture of flour, the machines and processes used in the work of manufacture, and the various commercial and financial questions connected therewith."

Rule VII.:—"The Council shall consist of twenty-eight millers, who shall be chosen from among the members of the Association, five to form a quorum. It shall, in conjunction with the officers of the Executive, the President, Vice-Presidents, and Treasurer, fix the dates of the general and special meetings of the Association, appoint technical, statistical, and commercial committees, whose duty it shall be to examine and estimate the practical value of new machinery and new processes in milling, collect information with regard to the grain harvest prospects at home and abroad, and such other statistics as may be deemed useful to the Association, and to make suggestions with regard to the best methods of dealing with such subjects as sales and purchases, credits, weights and measures, sacks, insurance, patents, &c., &c., &c. It shall also be the duty of the Council to consider and adopt the best means for the formation of Branch or District Associations in all parts of the country, and to accomplish their affiliation with the National Association, and to appoint corresponding members for the purpose of securing the inter-communication of information relating to the milling interest between the Association and kindred Associations in all parts of the world. As occasion may require, the Council shall make bye-laws, which shall be in harmony with the general rules, but such bye-laws shall only have provisional effect until confirmed by a general meeting of the Association. The Council shall be responsible for the general management of the Association through its duly appointed office bearers, and one-third of its members shall

retire annually, but shall be eligible for re-election. The President, Vice-Presidents, and Treasurer of the Association shall retire annually, but be eligible for re-election, and shall be members of the Council *ex-officio*."

By Rule II. it is provided that all the subscriptions of membership shall be one guinea annually, payable in advance.

Subject to the consideration of the suggestions made by Mr. Smith, the rules were adopted by the meeting.

The following gentlemen were chosen as the Council:—

- Mr. John Allen, City Flour Mills, Gloucester.  
 Mr. F. Ashby, Steam Flour Mills, Croydon.  
 Mr. Ashley C. Barrett, Ratcliffe Corn Mills, London.  
 Mr. Chas. Brown (C. Brown and Co.), Waddon Flour Mills, Croydon.  
 Mr. Chitty, The Mills, Dover and Deal.  
 Mr. J. Christie, Chelsea.  
 Mr. Denny (Messrs. Denny), Battersea Mills, London.  
 Mr. Downing, Crayford, Kent.  
 Mr. Eisdell (Eisdell and Soundy), Abbey Mills, Reading.  
 Mr. Edwd. Evans, Axton Brook Flour Mills, Birmingham.  
 Mr. Harvey (Messrs. Harvey and Co.), The Mills, West Ham.  
 Mr. Horsnail (Messrs. Horsnail and Catchpool), Star Mills, London, and Bulford.  
 Mr. Jas. Huntington (Messrs. J. and J. Huntington), Toxeth Mills, Liverpool.  
 Mr. Henry Ibbotson, Britannia Mills, Alma Street, Sheffield.  
 Mr. William Jeffery, Palham, Chichester.  
 Mr. George Lunt, Soho Flour Mills, Soho Street, Liverpool.  
 Mr. W. Marriage (E. Marriage and Son), East Mills, Colchester.  
 Mr. Mumford (Messrs. S. and P. Mumford), Greenwich.  
 Mr. Peter Mumford, Royal Flour Mills, Vauxhall.  
 Mr. George Pimm, Upper Mills, Wandsworth, London.  
 Mr. Proctor, Newcastle-on-Tyne.  
 Mr. J. W. Neaves, Bickton Mills, Fordingbridge, Hants.  
 Mr. Simmonds (Messrs. Simmonds and Morton), London.  
 Mr. Smith, Victoria Mills, Sheffield.  
 Mr. Soundy (Eisdell and Soundy), Abbey Mills, Reading.  
 Mr. John Westley (Joseph Westley and Son), Blisworth Mills, Northampton.  
 Mr. Chas. Whitworth, Turvey Mills, Bedford.  
 Mr. Richard Wigfull (Joshua Wigfull and Son), Sheaf Steam Mills, Forge Lane, Sheffield.
- A list of Vice-Presidents, comprising about sixty gentlemen residing in different parts of the kingdom, were also read, these all being *ex-officio* members of the Council.
- Mr. Alderman HADLEY was appointed President, and Mr. HENRY ROBINSON Treasurer of the Association; after which Mr. Christie vacated the chair, and was succeeded in it by the President.
- The PRESIDENT, on taking the chair, after expressing his sense of the honour which had been conferred upon him, observed that the objects for which that Association was formed had occupied the thoughts of many millers for a great number of years. The millers constituted one of the most important commercial interests in the country, and he was

glad to see them at last organising themselves for mutual support, protection, and guidance. In these days of progress and advancement many of them, he feared, had not sufficiently realised the necessity of improvement; and he was glad to find that what appeared at least like apathy was passing away, and that they were now preparing to avail themselves of the advantages afforded by science and invention. There was scarcely any other important part of the community which had not long since associated for its own advantage; millers had hitherto remained disunited, and that movement was certainly not begun one day too soon (Hear, hear). Although the millers were a powerful body, and wielded a vast amount of influence, they were not organising themselves with the idea of doing anything detrimental to the interest of the rest of the community (Hear, hear). They were not forming themselves into an Association in order that they might exercise a monopoly, or do anything which would injure any other body or any individual; but their object was simply to take steps for the proper protection of their interests. He wished that to be distinctly understood. It had been stated that the millers, being a body which manufactured the most necessary part of the daily food of the nation, were forming an Association in order that they might be able to control prices, and use their influence to the injury of the rest of the community. That was not their object (cheers). It was not monopoly that they were seeking; their object was to secure justice for themselves, to remove abuses which existed among them, and to enable their body to work together with more harmony and certainty than it could do at present. Having been appointed President, he assured the meeting that he would do everything in his power to promote the objects which the Association had in view, and to make it successful (cheers). Among the matters which would require the consideration of the Council—were purchases, credit, sacks, and porters, and also the improvement of the status of millers. Capital, buildings, and machinery would also have to be carefully considered, as would likewise insurance, with regard to which they had as a body been greatly oppressed; and he believed that nothing but good to themselves and others could arise from their being placed in the position which such an important interest as the milling interest of Great Britain and Ireland ought to occupy (cheers). He concluded by urging that millers generally should at once pay the guinea subscription and be enrolled as members of the Association.

Mr. WIGGILL (Sheffield) inquired whether the Council contemplated the formation of local associations.

The CHAIRMAN replied that steps would be taken to secure the formation of local associations throughout the kingdom, which would be affiliated with the National Association in London, so as to render the whole system perfectly harmonious.

Mr. McDUGAL (London) strongly approved of the general formation of local associations. He also thought that many matters connected with the London trade required to be supervised, and that eight or ten London millers should meet together to discuss the subject. In fact, there ought to be a London Association, as well as one in Sheffield, Newcastle, and many other towns in the country. Unless the chief millers in London united together as an Association it would be impossible to do much good. His brother, who had carried on business as a miller for many years in Manchester, had told him that if the London millers would do away with the system of long sales and adopt improved arrangements with regard to

sacks, they might double their profits. Long sales were a very gross evil, and he believed many of the more respectable bakers were opposed to them. He would, indeed, like to see some bakers in the Association. So far as London was concerned he would be glad to see a strong London committee. Many persons in the metropolis who called themselves bakers were, in fact, nothing but sharks, running about among the millers and ringing the changes upon them (laughter). When he had been cheated of ten sacks of flour it would be some consolation to him if something could be done to prevent the person who did it from getting credit of any one else.

The CHAIRMAN said, as a London miller, he concurred in the main in the remarks of Mr. McDUGAL, having suffered himself for want of what that gentleman advocated. It was intended, he believed, to form a London Association to be connected with the National one, so that the metropolitan millers might meet as a body, and make the necessary improvements in their trade in accordance with the views expressed by Mr. McDUGAL. Whether it would be wise for the millers to include in their Association bakers was another question (Hear, hear). It appeared to him doubtful whether it was advisable that those who purchased from them, and who manufactured their manufactured article should be admissible as members of such a Society (Hear, hear). He knew something about the manner in which the credulity of millers was often imposed upon, but he thought that by adopting a more rigorous system of trading, avoiding feelings of jealousy, which he was sorry to say existed to a large extent among millers, and by frequently interchanging thoughts, they might greatly diminish that evil. They would thus make their own trade more sound, and improve bakers as a class. He would be happy to join an Association formed for the protection of the London millers.

Mr. SMITH (Sheffield) thought the success of that movement would depend in a large degree on the formation of local Associations, each of which would, in its own locality, collect information which would be gathered, as it were, into a focus in the National Associations in London. No doubt it was desirable to get the wise heads of London to act together, but they should also aim at co-operation between them and the country millers.

Mr. JEBOTSON (Sheffield) thought that if there were an Exhibition, including mill machinery, in England it would prove very valuable to millers generally. Millers who went to the Vienna Exhibition saw what was worth 50 gs. a year to them in their trade. As regarded the bakers, he believed the promoters of that Association had no animosity towards them, and he felt certain that short sales would be an advantage to the best of them, and would do good by lessening the tendency to gambling.

The CHAIRMAN referred to Rule VII., to show that one object contemplated on the framing of the rules was "the formation of Branch or District Associations in all parts of the country," adding that, no doubt, the Council would render all assistance in their power for that purpose throughout the kingdom.

Mr. JOSEPH WESTLEY (Northampton), said as regarded the bakers he might observe that soon after the last meeting a paper was distributed by one of them in which the millers were charged with uniting together to raise prices. He denied that there was any foundation for that (Hear, hear). He felt certain that with proper care they could produce a better quality of flour, and if some were unwilling others would try to do it. What was done at Vienna and Buda-Pesth con-

vinced him that they could make flour 2s. a sack better in quality, and of the same weight, by means of different machinery and a different process from the present one (Hear, hear). As regarded sacks, he might mention that last Saturday, being a wet day, he saw scores of sacks on people's backs, with the names of a number of millers upon them. Those sacks would no doubt afterwards be thrown down anywhere and left to rot, and it was the millers who would suffer. In concluding he earnestly contended that all millers must derive practical and pecuniary benefit from such an Association, and urged the adoption of American and Austrian improvements as essential to British and Irish millers keeping ahead in the race.

The CHAIRMAN, alluding to the suggestion that mill machinery should be exhibited, said he was a member of the

Committee which was preparing for the Exhibition of the Royal Agricultural Society in London next year, and promised to introduce that point at the next meeting of the Committee, adding that in his opinion it would be a very useful addition to the objects previously contemplated.

Mr. RICHARDSON (Sunderland) expressed a hope that the formation of that Association would create better feelings towards each other among the millers throughout the country. He did not see why they should not manufacture the finest flour in the world. As they obtained the finest wheat it would be their own fault if they did not (Hear, hear).

A number of gentlemen then paid the members' subscription, and the proceedings terminated, it having been previously announced that the Council would meet that day fortnight.

## MR. MILLER'S BREEDING FARM AT BEECHER, ILLINOIS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—As the rage for Shorthorn speculation is somewhat abated, prices sadly depressed, and the prospect for Herefords much improving, I think it will not be out of place for me to give you a description of the best breeding farm in the United States, consisting of Hereford cattle, Cotswold sheep, and Berkshire hogs—that of Mr. Miller, at Beecher, Illinois. Mr. Miller, being tired of city life, purchased this large farm of 1,200 acres, which he was determined to improve; then studied for a long time what course to take to make it pay. He looked upon the Shorthorn mania as very dangerous to engage in, read different authors on cattle, and took a wide survey of the country to examine the different breeds most popular, and, after a thorough examination, came to the conclusion that the Herefords are not only the best cattle but those most promising to pay. He was very discreet in his purchases, not led away by excitement, but determined that whatever breed he did adopt he would support it with energy. He says he has not regretted the course taken, and feels assured that he shall triumph over the boasted Shorthorns, notwithstanding the predictions of prophets, the extravagance of fancy men, and the delusions of fashion. His good judgment kept him on the right track, and I fully believe he will reap a just reward. I know the value of the Herefords, and am fully aware of the prejudice and abuse they have received from Shorthorn speculators in this country. They, also knowing their value, did not scruple to do them all the injury they possibly could, and, having a large capital to support them, they had great power and influence. Having this advantage, it led them into the mania that about ruined half of them, and has brought the other half to a more sober and discreet sense of good breeding. Mr. Miller has now upwards of 100 head of breeding cows, and they may be safely pronounced breeders, for he has but one cow hopeless, the others all regular and in order. There are now about 50 calves (as many more to come), and to see them in their different divisions, with their clean white faces, symmetrical bodies of quality, covered with a

thick mellow protective hide as a safeguard to constitution, is a sight to behold. These are characteristics of the whole herd, and to see their white faces at the head of each division would cheer any unprejudiced breeder. Breeders of Shorthorns have always been fearful of these white faces, made them a strong objection, and when I brought them to this country I was considered an innovator, and they set at me with a determination to drive me to perdition, if their money and the power it gave them could do it. But as I intend to write the history of the Herefords in this country, and the struggle I have had with them, I will rest here and briefly discuss the position they now occupy. Mr. Miller's first object was to build a barn, and, having the capital to do it, he did it substantially and extensively, for the underground stable, well ventilated, contains 140 beasts of different ages. On the top of the barn is a double-headed windmill—that is, two mills in one. This power thrashes his grain, cuts the chaff and the roots, and pumps the water from a never-failing well. Over this stable is space for upwards of 600 tons of hay, and a granary for 6,000 bushels of grain. The barn is 100 feet by 132, thus giving room in the stables for wide passages, with sufficient space to drive a waggon and team, from which the manure is drawn away daily and applied to the soil, according to the discretion and judgment of the owner. This barn cost Mr. Miller 10,000 dollars, and he preferred to build it instead of a new house at the same cost, with an addition of 10,000 more of fanciful fashionable furniture. He is perfectly contented with a snug cosy cottage, containing every comfort, with a most excellent wife to administer it, and, having plenty of the necessaries of life, happiness, and prosperity, is satisfied. Such examples are patterns to society and benefactors to their country. To see the white faces in each division as they are out in the lots, or yards, so uniform in good character, is a picture that no man can realise unless he sees it. Then we go to the sheep yards and sheds where the Cotswolds are kept. They have access to the sheds when inclined, which is the

true way to keep sheep in winter. None can be healthy under close confinement. Here many Cotswold breeders make great mistakes; keeping their sheep in close confined quarters they think they are doing them kindness, while they are not only destroying the profits of the sheep but producing disease and death, which occasions them to become discouraged, and to condemn the breed for the lack of their own experience. Such men are apt to be proud in their ignorance—are generally guided by men no better informed than themselves, though equally proud—and nothing is more intolerable than proud ignorance. Here I found 100 ewes, many of them imported from the best flocks in England. I think it would be difficult to find a better flock even there. The ram at the head of it is as good a specimen of a true Cotswold as I have ever seen in this country, and, what is more to his credit, he was bred here. Mr. Clark, Mr. Miller's neighbour, bred him. His sire and dam were imported by Mr. G. Morgan, who is now the superintendent of Mr. Miller's establishment. I saw these animals when first imported, and must say that I never saw a better lot of 15 on this side of the ocean. When the 30 ewe lambs, which are very superior, go into this flock, and 30 of the cull ewes are drawn out, I think the flock will be equal to any in England. All the lambs from a week to ten days old are out in the pasture with their dams, without shelter, looking healthy and thriving finely. They are fed with a little grain, which keeps the old and new grass they are feeding on together, keeping both ewe and lamb in a healthy state.

We then went to the Berkshires, where we found about 30 breeding sows, now pregnant. Their pens, though not extravagant, or built for display, are exceedingly comfortable; and are convenient to the steamer with which the food is cooked. He had some of the best imported families, and I think one sow and her litter of six sows and three boars are a hard family to excel, whilst others are not behind them. Mr. Miller is determined to get the best Berkshires he can find, if he cannot keep the stock up of his different families without breeding. The whole establishment is carried on with system, discretion, and good order.

I come now to the policy of showing at fairs. Mr. Miller knew he had a strong current to contend with in Shorthorns, pampered and nursed to extremes, so as to destroy breeding aptitude and constitution; he at length made up his mind to meet them with flesh, as there was no alternative, his rivals being encouraged by societies, with more numerous premiums. Notwithstanding this was an arduous undertaking he resolved on the venture, even if he had to sacrifice some of his best animals in it, and as the Society of the State of Illinois had offered liberal premiums in herds and sweepstakes for all breeds, he went there with a determination to try his fortune. Every animal he showed, of sufficient age, was a regular breeder, although considered fleshy. Here, their thick mellow hides, with quality, gave him the advantage over

his opponents. His animals, having the constitution to support the flesh they carried, were able to contend as breeders, and show how capable they were of maintaining their offspring, and he was eminently successful. He took first prize for a bull, and for five of his get, with his single herd against ten herds of Shorthorns from Illinois and other States; second for bulls and five cows; second for five calves; second for cow. This was the most extensive and best show of Shorthorns ever held at any State fair in Illinois. At the Northern Ohio Fair at Cleveland, in competition with all breeds and open to the world, he took first sweepstakes premium for the best bull and four cows or heifers bred and owned by the exhibitors; first sweepstakes premium for best bull and five of his get, male or female. This was another triumph against the Shorthorn speculators, and with the animals Mr. Miller is now preparing for show, he will be able to prove that the Herefords are equal if not superior to Shorthorns. I have been thus convinced from my youth, and no man living can voluntarily believe contrary to his convictions, or doubt when he is convinced. If he affects to do otherwise he deceives himself. Now, gentlemen of Executive Committees of State Societies, do your duty, give Herefords a fair chance under unprejudiced judges! Mr. Morgan is the best feeder to keep cattle in condition and retain their breeding qualities I have ever met with. He never allows animals to go down and up, but keep them at one standpoint, which is the greatest secret. I am Sir, &c.,

WM. H. SOTHAM.

#### *Becher Illinois.*

TRIBUNALS OF ROOKS.—Rooks (says Mr. Diarmid) like men, have not all the same nice sense of justice. Some of them are honest, obliging, and industrious, others knavish, idle, and mischievous. In the spring months in particular, when they are all busy building nests or repairing old ones, certain evil-doers invade their neighbours' store of sticks to save themselves the trouble of collecting materials in a more laborious and lawful way. This to some may appear a very venial crime, but what a plank is to a carpenter a twig is to a crow, and to pilfer the one is as bad as to purloin the other. But as often as offences of this kind are detected, a complain is made to the proper quarter, and the delinquent tried and punished by his peers. Some veteran bird acts as chief justice, and from the bustle that goes forward, the cawing of some rooks and the silence of others, it is plain that the court proceed upon system, though I cannot subscribe to the startling opinion that they examine witnesses and empanel a jury. The presiding rook, who sits on a bough above all the others is heard croaking last of all, and when sentence is pronounced punishment follows very promptly. Either the culprit is seized and pecked most severely, or the nest containing the ill-gotten twigs is pounced upon and demolished, until not one stick is left upon another.—*The Works of Wonders.*

THEIR WAY OF PUTTING IT.—An American paper classifies births, marriages and deaths under the headings "Cradle," "Altar," "Tomb," another under those of "Hatched," "Matched," "Despatched,"



## THE LAND AND THE PEOPLE.

*(From the Echo.)*

## VI. AND VII.—TENANT RIGHT.

First amongst the reforms of our land system I deal with Tenant Right, because nothing would so quickly bring capital in abundance to work upon the neglected soil of this country as a law securing to tenants a right to compensation for their unexhausted improvements. Other reforms, such as the repeal of the laws which restrict the sale of land, and allow it to be tied up in the hands of those who, through settlements, have neither the power nor inducement to do justice to it, would, no doubt, in time work wonders; but a just and effective system of Tenant Right would at once set the capital and energies of men to work upon the land without the necessity of waiting for changes in our system of land-ownership to be brought about. By Tenant Right I mean a tenant's right to compensation for his unexhausted improvements, secured by means of a compulsory law. Nothing short of this would be effectual. Those who understood the relative position of landlord and tenant in this country did not need the failure of the Agricultural Holdings Act to prove this to them. Indeed, I am not prepared to say that the failure of that Act does prove it in a very satisfactory manner, because the measure is intrinsically objectionable in other points than that of its permissive character. Its adoption would certainly involve costly litigation: in many ways it restricts the tenant who desires to improve his holding; and its conditions are in several respects unfair and inadequate to the attainment of its assumed object. It would take up too much space to explain fully in what particulars the Act is unsatisfactory. That it is so is sufficiently shown by the fact that many tenants who have had the option of coming under it have declined—a fact which, however, by no means exonerates from the charge of illiberality and injustice the vast majority of landlords, who have refused to let their tenants have the choice of farming under an Act of Parliament which would afford them a small modicum of security for their capital. Almost any tenant would prefer a lease of moderate duration to an agreement under the Act. And at times like the present, when farms are at a discount, a tenant should be able to bargain for far greater advantages than those which the Act would afford.

On many estates rents have become depreciated some twenty, thirty, and even fifty per cent.; and in some districts there are extensive areas of land for which no tenants can be found. Under such circumstances one might think that tenants could make pretty well their own terms; yet I have not heard of a single case in which a tenant has successfully insisted on the negotiation of an agreement which will secure his capital by giving him a legal claim to the value of all his unexhausted improvements on quitting. This fact affords far more conclusive evidence of the need of a compulsory Act than does the failure of the Agricultural Holdings Act. If tenants, at a period of agricultural depression like the present, cannot—or at least do not—obtain security for capital to be invested in the land of their landlords, it is obvious that there is no near prospect of the land of this country being let on terms advantageous to all concerned in its improved culture without a compulsory law.

If anyone asks why, when there are possibly more farms

to let than there are eligible tenants to hire them, the latter cannot make good terms with landlords, my answer must be twofold: First, the habits of subservience which are ingrained in the nature of the British farm tenant, by long usage, and almost by inheritance, are not to be got rid of in a day; and, secondly, a farmer may make an agreement which is, or which he at least thinks to be, advantageous to himself, without any such terms being insisted on as are indispensable to the best farming, and therefore to the advantage of the nation at large. There is no class in the country as subservient as that of the agricultural tenants. They are not always uncomfortably subservient, though they frequently are so, especially when domineering agents and spying gamekeepers make them feel their dependent condition sorely. But as a class they are subjects of a survival of feudal sentiments; they regard their landlords as lords of something more than the acres which they till; and they have been too much in the habit of looking to these lords for indulgences rather than rights, for exemptions rather than the satisfaction of just claims. The landlords, for their part, fight hard for the maintenance of their old superiority and privileges, even at the cost of a great pecuniary sacrifice. They will accept lower rents, if need be; but they will not give up their domineering pretensions, their interference with the mode of cultivation of the land, or their precious game. Thus we find rents lowered, but not Tenant Right granted, or game given up.

Only the other day one of the most atrocious of farm agreements was read at the Ixworth Farmers' Club; and it was not an old agreement, but one recently issued by the receiver for an estate in Chancery. Last week, again, *The North British Agriculturist* called attention to the terms of some extremely illiberal and tyrannical leases still current in different parts of Scotland, and to the hard case of a tenant who felt obliged to give up a farm which he had long held, and had greatly improved, rather than submit to be tied hand and foot in the transaction of his business, and eaten up with game without compensation. In this case, too, it is notable that the old tenant offered a higher rent, but declined to submit to the abominable conditions of letting, and that a new tenant, who was more subservient, was accepted at a lower rent under those conditions! If, however, the need of Tenant-Right were merely a question between landlord and tenant, I, for one, should be inclined to let them fight it out between themselves. English and Scotch farmers are not poor and helpless men as most of the Irish tenants are, and they have quite sufficient political power to enable them to stand up for their rights if they chose to do so. They might be left to work out their own emancipation, as in time they probably will if no one interferes.

I am disposed to go even further still, and to admit that the farmers have sufficient power to take care of themselves to invalidate the plea for interference with freedom of contract as far as it is demanded in their interests only. But, as already stated, they are by no means the only people concerned in the proper cultivation of the soil, and they may be able to make conditions satisfactory to themselves which was anything but advantageous to the public at large. For instance, a farmer may hire a farm at such a low rent that, although he will

not dare to invest capital freely, because his agreement gives him no claim to compensation if he dies or quits before he has taken out what he had put into the land, he may yet do very well on the hand-to-mouth system of farming. He may even take a game farm—though that is very difficult—on such terms as to lose nothing, though the hares and rabbits eat more than he sells. Again, he may hire his occupation for a long term of years, with a right secured to his executors to carry on the farm or dispose of the lease if he dies before the term expires, in which case he will have security for farming well during a portion of the term. Now, in none of these supposed cases is the interest of consumers, or even of farm labourers, secured, though those of the tenant may be to a limited extent. There is no inducement to invest the utmost amount of capital that can be remuneratively applied to the cultivation of the land. Though the tenant lives, the land may be starved, the labourers half employed and ill-paid, and the consumers short of meat and dairy produce, though not of foreign corn. The demand for compulsory Tenant-Right, then, is a question of public interest.

Can anyone believe that there would be a lack of capital for the due development of the resources of the land of this country if there were not some special reason for the deficiency to which I have called attention? It need be roughly estimated that farming paid a profit of ten per cent. on the capital invested in it; and although of late years that percentage has been greatly reduced—below zero in too many cases—there is no reason why a recovery should not take place. In a previous article I have given my reasons for holding that extra capital employed in high-farming yields a higher return than the minimum amount commonly used in the prevalent low-farming of the country. Nor is this all. Even if it be admitted that corn-growing can never again be expected to pay as well as it paid in past times, before the enormous productive resources of America and India were developed, there are other branches of agricultural production in which it is strange indeed if Englishmen cannot compete with the whole world in their own markets, at least. Take dairying, for instance, and consider the high prices which its produce brings. The prices of milk, butter, and cheese are nearly double those of a generation back. If, then, dairying was not a losing business for our forefathers, it must be a very lucrative one now, and, as a matter of fact, we know that it pays well. But the French have beaten us in the production of first-class butter and fancy cheese, and the American in cheese of a medium quality. The improvement of pastures, the purchase of a liberal supply of extraneous feeding stuffs, the careful selection and improvement of dairy stock, investment in the best dairy implements, and in many cases, better buildings—all these are needed to make our dairy farming what it ought to be, and all require capital. The breeding of horses, cattle, and sheep, again, pays better now than it has done at any previous period, and this requires capital in abundance. The fattening of stock does not give so good a direct return as breeding does; but the prices of meat are higher than ever, and there is no doubt that the production of meat would be pursued on a much more extensive scale than it is now if the combined preventives, shortness of capital and the fear of loss by disease, did not stop the way. Of the production of eggs and poultry I will say nothing, because I am not sure that in our climate it would pay as a largely-developed business; but many people think that we might produce all that we consume, instead of importing a large proportion of the quantity.

There is, indeed, a wide field for profitable agricultural advancement, and nothing but an abundance of capital—of course judiciously used—is wanting. Now, in this country we have capital actually running to waste—in foreign loans, reckless speculation, and bogus companies. It flows freely enough to the fee-simple of land, although that form of investment only pays from 2 to 4 per cent. Surely, then, it would not be withheld from farming, which pays more than double, if reasonable security were afforded to it? Of course, as farming, like all other branches of business, is more or less speculative, the tenant's capital can never be as safe as that of the landlord; but the extra profit quite compensates for the extra risk, as far as that is involved in farming as a business only. There is, however, under our existing system of land tenure, a risk of quite another kind, the risk of confiscation by the landlord, and that sears capital away from farming. The difficulty of framing an equitable Act of Parliament for securing to tenants their invested capital, as far as its value exists in and on the land, has been enormously exaggerated. To an outsider it may seem no easy matter to assess the value of unexhausted improvements so as to do justice to landlord and tenant alike; but to an experienced valuer the case presents very little difficulty. It is true that there are differences of opinion as to the value of improvements; but no one expects to have these assessed to within a pound or two of their value; and two valuers, with the services of an umpire when they could not agree, would render justice in the vast majority of cases. The landlord would be in no greater danger of having to pay too much than the tenant would of having to receive too little, while both classes would derive very great advantages from a system which would conduce to continuous good farming. So advantageous to both parties were the tenant-right customs of Lincolnshire and portions of adjoining counties considered to be by Mr. Pusey's Parliamentary Committee, which sat in 1848, that the members of it avowedly abstained in recommending compulsory legislation—to which the evidence brought before them otherwise would have led them—on the ground that the Lincolnshire customs were so beneficial to landlord and tenant alike, that they would be sure to spread gradually over the whole country. Those customs have not spread to any appreciable extent from that time to this, so jealous are landlords of their power, and so retentive of their unjust privileges, whilst the tenants have not been strong enough to insist upon their rights.

It is for the people to insist on the reform of the system of letting land. If they wait till the farmers "work out their own salvation" they will probably have to wait a very long time; and even then, as I have shown, the farmers' "salvation" may not be theirs to an adequate extent, though it is undoubtedly true that the farmers' utmost interests and those of the public are one and the same. But, at any rate, the people cannot afford to wait, for the land has been too long neglected already. They need to take action at once, and to do so effectually, they must first get rid of what, in this case, is the stupid prejudice against interfering with what is called freedom of contract. Real freedom of contract between landlord and tenant in this country does not exist, as what has been previously stated sufficiently shows; but if it did exist it would not be satisfactory. The land is not the personal property of either the landlord or the tenant. It belongs to the State—that is, to the people; and neither the steward, the landlord, nor the sub-steward, the tenant, has a just claim to do what he likes with it. The right of the nation to interfere with the management of the land is only limited by what

is fair and expedient. It would be perfectly justified in taking possession of all the estates in the country after giving their fair value to their present holders; but it would probably be inexpedient to do so. Again, the State might rightly draw up rigid forms of agreement for landlords and tenants, if it were good policy to do so. But we all know that it is best to leave human energy to work with a fair and proper amount of freedom. Self-interest is the strongest motive force, and, where it does not conflict with the general interest, it is the wisest policy to leave it alone. In England we understand all this quite well, and there is no fear of any unwise or unfair interference with what are recognised as the rights, or the harmless privileges, of property. Hitherto, however, the State has interfered too little with the tenure of land, and the decline of agriculture, which we now, unhappily, witness, renders interference more than ever desirable.

A few years ago a rare opportunity was offered to our rulers for putting the conditions of land tenancy on a satisfactory basis. The Landlord and Tenant Bill, introduced to Parliament by Mr. James Howard and Mr. C. S. Read, was a just, workable, and thorough measure. It was welcomed with delight by the more intelligent of the tenant-farmers throughout the country, as calculated to do them justice; and I do not hesitate to affirm that it would not have wrouged a single landlord to the extent of a sixpence. Indeed, its effect would have been advantageous to all classes immediately concerned in the ownership and cultivation of the land, and to the consumers of agricultural produce as well. It would have disturbed some landlords' privileges, but it respected all their rights. It would have given security to tenants' capital, and then have brought wealth to the land for the benefit of all. Even its opponents hardly had the effrontery to say anything against it, except that it interfered with freedom of contract. That was its chief merit, but by no means its only one. In its detail it was vastly superior to the Agricultural Holdings Act. It afforded more liberty of action in improving, and fairer compensation to tenants, and it involved no recourse to litigation in the settlement of disputes. If it had been passed, I do not say that it would have prevented the present agricultural crisis, but I do say that it would have rendered that crisis far less disastrous than it is. It would not have stopped bad seasons from coming, but it would have brought both pecuniary resources and confidence to the farmers, to enable them to stand up against the pressure of a period of adversity. What is needed now is to have the Agricultural Holdings Act made more like the Landlord and Tenant Bill in its details, and to have it made compulsory also. In its present form the Act is nearly a dead letter, and is likely to remain so to the end of time. It is for the public to insist on its being thoroughly amended and made to become an active power for good. The labourers, or at least their leaders, are fully alive to the necessity of having this great reform brought to pass, and that speedily; and when they get the franchise we may expect to see the question once more brought before Parliament. But the question is one for the people of the towns as well as for the farmers and their workmen. The power of the landlords and their allies, the plutocracy, is great, and a great effort is needed to overcome their resolute and united opposition. Will the people of the towns join the free farmers and the labourers in their efforts to override if they cannot remove it?

#### VIII.—FREE TRADE IN LAND.

Even recognised abuses often live long and die hard; but it may well be doubted whether in the history of the world an

instance can be found of equally long tolerance by a free and sovereign people of an abuse at once so gigantic and so generally condemned as that of our British Land system. That branch of the system which concerns the tenancy of land has been too commonly regarded as a matter of interest chiefly to landlords and tenants, if not to those classes only; but it has always been generally recognised that the ownership of the soil is a matter of important interest to the nation at large. It is true that our land system in all its intricacy has not been fully understood by the public; but its evils have long been known and felt. That the great bulk of the land is owned by a few; that a large majority of these are limited, and many of them embarrassed, owners; that land is difficult to purchase when required, and that its transfer is tedious and costly—all these things have long been known and complained of. In short, the knowledge of the evils of the system has been general and correct; and it is only with respect to the causes and remedies of these evils that some misapprehensions have been rife; nor have these misapprehensions been of very great importance, as they have chiefly consisted in the attribution of an undue share of the mischief caused by our Land Laws as a whole to one law, and too little to another. The laws which sanction Entail and Primogeniture have been, until recently, the chief subjects of attack, and the law which allows of the settlement of estates for unreasonably long and indefinite periods has not received its due share of consideration. But then if it had not been for Entail and Primogeniture the vast system of settlements would never have been devised. Our whole land system has been expressly devised with the intention of preserving the power and prestige of a comparatively few families, and some of its worst evils, as far as the public are concerned, have arisen from attempts to diminish the hardship which a rigid adherence to the custom of Entail and Primogeniture had been found to involve in the cases of the families and connections of the owners of real estate. It has been the fashion lately to deny that there is a Law of Primogeniture, but this is a mere quibble. The law does give to the eldest son, or to the nearest male heir, the whole of the real estate when there is no will to the contrary. Such a state of the law sanctions a pernicious and unjust custom, and cannot fail to exercise a great influence, although it is seldom left to take its course. Similarly, it has been urged that no serious public disadvantages necessarily arise from the creation of an estate in tail; and this is true, because the owner of an entailed estate is not necessarily a limited owner, but may, in the absence of other limitations, sell or give the estate to anyone. As a matter of fact, however, such other limitations upon the power of an owner of an entailed estate almost invariably exist, being often embodied in the deed by which the entail was created. Thus, while it is true that the law-sanctioned customs of Entail and Primogeniture are not by themselves alone accountable for the accumulation of land in the hands of a few, or for its ownership by those who have no interest in its improvement or power to dispose of it, those customs are nevertheless the causes of the manifold evils which have arisen in connection with them. The Law of Primogeniture should be abolished, because its direct effect is mischievous when it comes into effect, and also because its indirect effects are to sanction gross injustice on the part of fathers towards their families, and to keep land out of the market; while the power of Entail should be limited to lives in being.

So many able writers have dealt with the nature and evils of our Land Laws that it would be mere repetition to go

again over the entire field, even if I had sufficient space at my command in which to do so. There is absolutely nothing new to be said on the subject, and those who have not studied it, and desire to understand it, may well be referred to such works as Cliffe Leslie's "Land Systems," "Systems of Land Tenure," published by the Cobden Club; Mr. Wren Hoskins' "Catechism of the English Land System," and an able series of letters still in course of publication—at unfortunately wide intervals—in the *Manchester Examiner*, by Mr. Joseph Kay, Q.C., which, I am informed will be reprinted in a volume when completed.

The public are by this time sufficiently familiar with the gist of the information so imperfectly conveyed by the publication of the modern "Domesday Book." That return is not only incorrect, it is misleading, as it includes amongst owners leaseholders of 99 years and upwards, whilst amongst those which figure as small proprietors a considerable proportion are merely owners, or leaseholders, of building-plots. The return requires a through revision; but such as it is it conveys some important facts. Some excellent summaries of the return are published in *The Financial Reform Almanack* for the present year, from one of which it appears that 2,184 individuals hold 38,875,522 acres of land, or 2,815,542 acres more than half the reported acres of the United Kingdom, exclusive of the metropolis; while 421 persons hold 22,880,755 acres, or 4,850,765 acres more than a fourth part of the total area. Such an accumulation of landed property in a few hands is not to be found in any other country under the sun, and there can be no reasonable doubt that the cause of it is our peculiar Land Laws, which have been only too successfully devised to keep large estates intact. These laws are described as follows by Mr. Kay, in one of the letters above referred to:—

"1. The laws which allow a landowner, by his deed, or by his will, to prevent his land being sold or seized, or lessened in size, either during his life, or for many years after his death.

"2. The law which, if the landowner does not avail himself of his power to make such a deed or will, gives all his land, without diminution or charge, and in one undivided estate, to the landowner's next 'heir.' This is the law of Primogeniture.

"3. The laws which allow the landowner, without selling any portion of his estate, to let portions for long terms of years, from 99 to 999 years, and to subject them to all kinds of covenants, which affect these portions for generations after the death of the landowner, and after a change of all the circumstances under which the leases were made."

Upon land so tied up by means of these laws the most burdensome settlements may be made, and the extent of what are called the "powers" which British law confers upon a landowner are such as no one but a lawyer can fully comprehend. After referring to marriage settlements on wives, marriage portions for daughters, rent charges, payments of annuities, and mortgages, and various other charges on estates, Mr. Kay says:—"I am far from having given any complete idea of the powers which our law confers upon the landowner. It not only permits him to leave the surface of his land to one set of persons so tied up that it cannot be sold, but it allows him to leave the minerals under the surface to another set of persons, and the timber on the estate to a third. So, he may give the legal ownership and manage-

ment of the land to one set of persons, without any right to use for themselves any portion of the rents, and he may give the rent to another set. So, he may give the legal ownership of the estate to one set of persons, and give them a right to pay rents to any person or persons they may select. So, he may direct that the land shall go to one set of persons after his death, and that if some indicated event happens it shall go to another set of persons. So, if he finds his son has got into the hands of the money-lenders he may, if the land is not already settled by one of these deeds or wills, settle the land upon that son's child, so as to enable the child of the unworthy son to come into the ownership freed from every embarrassment. All these and hundreds of other strange powers are given to the owner of the land by our law, although such privileges and powers would not be endured by the law of any other civilised country.

Thus land is trammelled in almost every conceivable way, the obvious intention being to resort to any expedient to raise money upon it other than the proper one—that of the sale of a portion of it. The utmost ingenuity of the lawyers has been exhausted to push such expedients to their utmost legal limits, although it would be difficult to say what class but that of the lawyers themselves benefits by the continuance of such a cumbrous system. A little reflection will convince anyone that the landowners cannot fail to be heavy losers by such a costly, and, in all respects, uneconomical system. In my next article I shall have something to say as to the effects of the system upon the interests of other classes.

#### IX.—FREE TRADE IN LAND (CONTINUED).

Since I wrote the article which appeared last week Mr. Joseph Kay has published another of his excellent letters in the *Manchester Examiner*. In it he sums up his previous statements as to the result of our Land Laws thus:—

"I endeavoured to show that these Laws—

"1. Prevent estates being sold which would otherwise undoubtedly come into the market.

"2. Lessen due parental control.

"3. Induce careless landowners to be tenfold more careless than they otherwise would be about the education of their children.

"4. Maintain in influential positions men unworthy of those positions.

"5. Deprive many landowners of the means of properly managing their estates.

"6. Tend very greatly to retard the progress of Agricultural improvement.

"7. Render it necessary to make the deeds and wills very long and expensive.

"8. Render it often very difficult and expensive for a purchaser to ascertain the state of the title of a plot of land he may wish to purchase.

"9. Often leave the actual title to a plot of land uncertain, spite of all the labour and expense bestowed on its careful investigation.

"10. Deprive the small farmers, the shopkeepers, and the peasants of almost all chance of buying land.

"11. Aggravate all the above-mentioned evils in Ireland by the curses of absenteeism and agent management."

These evils undoubtedly result from the existence of our abominable Land Laws; and surely they constitute a sufficient indictment against these laws, and prove what I stated last week, that no class is really benefited by such a land system as ours, unless it be that of the lawyers. There is

very little land in the country free from the blighting influence of these laws, and probably nearly three-fourths of the total area is subject to the full force of that influence, as it has been estimated that upwards of 70 per cent. of the land is in the hands of limited owners, holding under settlements—that is to say, in the hands of landlords who have a direct interest in getting all they can out of the land, and spending nothing upon it. To a great extent, it is the long continued existence of this state of affairs which has given rise to the demand for Tenant Right. By far the most valuable improvements that tenants need compensation for when they carry them out are those which should be made by the landlords. Building, draining, and many other improvements which permanently raise the value of a farm shall be carried out by the rent-receiver, and not by the rent-payer, although it would be manifestly advantageous to render it safe for either to execute such improvements without the risk of their benefit being appropriated by someone else. But, as already observed, on the vast majority of estates it is directly contrary to the interest of the rent receiver—just because he is that only, and not an owner in the true sense of the term—to spend any money on his land. Every shilling of his own that he sinks in the estate is so much out of the pockets of his younger children, and goes to swell the already unequal portion of the eldest son. It is true that he can borrow money for the purposes of improvement, and almost the only good that the Agricultural Holdings Act has done is to afford facilities to limited owners to charge their estates with money so expended; but even in doing this there are vexatious limitations and conditions, while the rates of interest and expenses charged by loan companies are together almost prohibitory. At the best, improvements carried out by a limited owner are done under a difficult and cumbrous system, at greater expenses than they would cost an “absolute” owner, and without full liberty to execute them as he pleases. When in addition to such discouragements to improvement by landlords, those which similarly affect tenants are considered the infatuation of the makers and cobblers of our Land Laws strikes one as perfectly astounding. Not satisfied with allowing land to be so tied up that the great majority of owners were virtually prohibited from doing their duty by it, those Unwise Men of the West made it law that everything affixed to or put into the soil by the tenant should, in the absence of agreement to the contrary, become the property of the landlord without compensation. Of course I do not charge one set of law-makers with the whole of these acts of folly, nor pretend to be following a chronological order in making the above statement. Our Land System was not built up in a generation, and tenants’ disabilities preceded some of those which affect landlords; but, from the first framer to the last patcher of the laws to which I am referring, hardly one is free from blame, and the best that can be said of them collectively is that they could not possibly foresee the full mischief of what they were doing. Our strongest reprehension, however, should be reserved for those of our law-maker<sup>s</sup> of the present day who knowing the evils of the Land Laws resolutely oppose reform.

Mr. Kay has not in the slightest degree exaggerated the bad results of our Land Laws in the summary quoted above. As a lawyer he can appreciate much more fully than I can some of those results; but, unless he is a farmer also, I venture to think that he cannot adequately realise others. Take his sixth result for an instant of the latter, and everyone will admit that it requires an intimate acquaintance with agricul-

tural requirements to estimate it in all its bearings. In previous articles I have shown how a short period of agricultural adversity has brought upon this country a collapse of the farming interest, felt directly or indirectly by us all, and culminating in a decline of our agriculture, which will have an impoverishing effect upon the nation at large for many years to come. I have also endeavoured to show that this crisis is by no means attributable solely to a succession of bad seasons, but that, on the contrary, its severity is to a great extent traceable to the land-starving effects of our Land Laws—effects which, it has also been remarked, are only too plainly visible at the best of times. And—if I may use a convenient though not very appropriate metaphor—just as a few squalls have had power to bring the ship British Agriculture to a state of partial wreck, because of her waterlogged condition so when winds are fair again will her progress be retarded by her general unseaworthiness. Throughout the length and breadth of the land the great need of agricultural improvement is sadly visible to the appreciative spectator. Farm buildings requiring repair and addition; new cottages wanted; land “water-slain” for the want of drainage, or sour from the lack of chalking; and sea-walls, water-courses, fences, roads, all demanding attention. The waste in fattening stock and in preserving manure, due to the want of covered yards, alone amounts to an enormous annual loss to the country; yet neither landlords nor tenants build them. It is the landlord’s part to put them up, charging interest to the tenant, who in nine cases out of ten would gladly pay a small increase in rent for so great an advantage. But if a limited owner borrowed the money of a loan company to build with, he would require to charge too much to the tenant, merely to hold himself free of an annual loss, and profit would be out of the question. It is the same through the whole range of the many improvements that are so urgently needed on the vast majority of the estates of this country; the landlord, as a rule will not execute them because he has no interest in doing so, and the tenant dare not. The farmer’s workmen and his cattle are alike badly and inconveniently housed in consequence of this state of affairs, and the workmen in addition are sufferers by the hindrances imposed on all kinds of farming enterprise. It remains yet to refer to other grievances of our peasantry, which result even more directly from the want of Free Trade in land.

A FREE FARMER.

“CAPPING” IT.—This may not be quite new, but it has a fresh flavour about it. A Yorkshireman and a man from Leicestershire were bragging about the respective merits of their counties. “In Leicestershire,” says one, “if you put a horse into a field of short grass over-night it’ll be as high as his knees in the morning.” “In my county,” says the other, “you may put a horse into a field where there is not a blade of grass over-night, and in the morning you won’t be able to see him at all.” They sometimes steal horses in Yorkshire.—*World.*

POLYTECHNIC—DIVING BELL.—The following has been sent to us and vouched for as a fact:—A well-dressed man a few days ago paid his fee to go down in the diving bell. He entered, but just as it was swinging off he called out “Stop! stop!” and bundling out, had only just time to make his exit ere the bell reached the water. “What’s the matter?” said Anderton, the attendant. “Matter enough,” replied he; “think I’m going to trust myself in there! The ’arnal thing’s got no bottom!”—*Public Opinion.*

## F R E E T R A D E I N L A N D.

No. VI.

After another long interval Mr. Joseph Kay has published his sixth letter in *The Manchester Examiner*. We append only that portion of it which belongs strictly to the subject of Free Trade in Land, not having space for the whole :—

In No IV., published on the 14th February last (*M.L.E.* March 18), and in No. V., published on the 28th February last (*M.L.E.* April 1), I endeavoured, without mentioning names, or making any attack on individuals for what I consider the faults of a system of laws, to point out, as shortly and clearly as I could, some of the direct consequences of our English land laws, which permit an owner to bind an estate by deed or will for so many years after the owner's death.

I endeavoured to show that these laws :—

1. Prevent estates being sold which would otherwise undoubtedly come into the market.
2. Lessen due parental control.
3. Induce careless landowners to be tenfold more careless than they otherwise would be about the education of their children.
4. Maintain in influential positions men unworthy of those positions.
5. Deprive many landowners of the means of properly managing their estates.
6. Tend very greatly to retard the progress of agricultural improvement.
7. Render it necessary to make the deeds and wills very long and expensive.
8. Render it often very difficult and expensive for a purchaser to ascertain the state of the title of a plot of land he may wish to purchase.
9. Often leave the actual title to a plot of land uncertain, spite of all the labour and expense bestowed on its careful investigation.
10. Deprive the small farmers, the shopkeepers, and the peasants of almost all chance of buying land.
11. Aggravate all the above-mentioned evils in Ireland by the curses of absenteeism and agent management.

In this letter I propose to show what are some of the less direct, but the no less certain, consequences of our English system of land laws. But before I do this I feel obliged to notice a lecture recently delivered by an able gentleman, Mr. Arthur Arnold, who has written much upon the subject of these letters.

The report of his lecture is headed, "Mr. Arthur Arnold on Free Land," and I notice that in his lecture he uses the term of "free land" no less than fourteen or fifteen times. I have read and re-read his lecture several times, as I have nearly all his other writings on this subject, and I fail to understand what he means by the term, which he employs so constantly. Sir Henry James, Q.C., M.P., one of our ablest lawyers, said at Taunton that he did not in the least understand what was meant by the term. And if an able lawyer like Sir Henry is puzzled by the term, what must be its effect on minds ignorant of all laws, and especially of this really difficult subject of the land laws?

Is it not a grievous pity for earnest men, who desire to

promote reform on this subject, to make use of terms which are capable of the most obnoxious and injurious interpretations, and which are certain to strengthen the doubts and opposition of enemies, and even of hesitating friends? "Free land" may mean land freed from all law whatever; or that land should belong to those who are strong enough to seize and hold; or that all land should belong to the State, who should divide, or let, or lend it as it will; or that it should be freed from all claims and titles at present affecting it; or, as the agricultural labourers' journals are now seriously, but alas! how ignorantly or wickedly, arguing, that every peasant should have a plot of land granted to him out of the great estates; or, in fact, many other equally obnoxious significations. And in truth, be it my own fault or not, although I have read and re-read Mr. Arnold's lecture with the greatest care, I fail to understand what specific reforms he desires, or how the reforms he mentions could effect the object he has at heart.

But what I am most anxious to urge upon all land-law reformers is this—we have enough opposition without increasing it by using vague and alarming terms, which only serve to create opponents, without even teaching or enlightening friends. Land-law reformers are already sufficiently misunderstood, and the difficulties of the subject are already sufficiently great without our increasing them by language which is only calculated to alarm, without being capable of instructing. At any rate, I cannot say too often or too strongly that I am not to be numbered among those who desire "free land" in any sense which can be reasonably attached to the term. I wonder, as was suggested to me a few days ago by a thoughtful and intelligent friend, where the free-trade question would be even now if its advocates had gone about discussing vaguely "free corn."

Neither do I in the least understand what Mr. Arnold means by registration. To pass a law merely requiring registration, without more, would only add to the already vast difficulties and expense and intricacies of titles, and would be a real curse instead of a blessing. This has again and again been pointed out, and commented upon by the opponents of reform with truth and justice. And when Mr. Arnold speaks of "the substitution of transfer by registration of title for transfer by deed of conveyance" I really do not understand what he means, or how such a thing could be accomplished, except by rendering sale and transfer almost impossible.

It is most truly to be deplored that these vague expressions should be used by an able and earnest man, when there are plenty of *legal* opponents to seize upon them, and use them as instances of the wildness of the schemes which are being proposed by the supporters of reform.

But to pass to the more immediate subject of this letter, which is the continuance of Nos. 4 and 5, I will now consider

## WHAT ARE THE CONSEQUENCES OF THESE ENGLISH LAND LAWS?

Few persons who have read or thought at all will need to be told by me that for many generations the class of the landowners has been the most powerful class in the State, or that they have almost monopolised the power of one House of our

Legislature, whilst they have been, when united, the predominant and by far the most powerful section of the other, or lower House. It is not, therefore, matter for surprise, knowing what we do of human nature, that they should have used, or that they should still use, their opportunities in the promotion of the power and interests of their own class, however patriotic and honourable their conduct may have been where their own class interests were not particularly concerned, or not more concerned than the general interests of the community.

I propose, therefore, to explain, as simply as I can, some of the advantages and privileges which the landlord class has secured for itself, merely remarking that if the land laws I have described had not bound them together by a strong sense of common interest and supported them in a position of great wealth and power they never would have been able to retain so long the exclusive privileges which, in days of greater ignorance and of less general wealth, they created for themselves.

### 12. THE LAW OF DISTRESS.

If a Manchester merchant were to hire from a jobmaster a carriage and pair for two years, at £400 a year, and at the end of the first year were to inform the jobmaster that he was unable or unwilling to pay for the first year's hire, the only remedy which the jobmaster would have in order to obtain his £400 would be to commence an action to recover his £400, to go to trial, to recover a verdict and judgment, and then to instruct the sheriff to seize so much of the merchant's goods, &c., as would be sufficient to satisfy the claim for £400 and the costs of the action and other proceedings. If, while these proceedings were pending, the merchant should become insolvent, the jobmaster would be only able to come in with the other creditors and to obtain as much for each pound that was owing to him as the other creditors obtained. Surely all this is fair and equitable. The merchant might be able to show at the trial that he ought not to be called upon to pay, on account of the fraud or misconduct of the jobmaster, or by reason of the terms of the original agreement, such as, for instance, that the jobmaster was not to be paid if the carriage or horses did not answer certain stipulated requirements, &c. &c.

But the powerful class of landowners long ago secured themselves against the delays and expenses and uncertainties of law, and so arranged the law that they should have a short easy, and summary remedy in their own hands for obtaining their rents, freed from all necessity of applying to lawyers.

If a farmer take a farm for, say, two years, at a rent of £400 a year, without a word being said about "distress" or anything of the sort; and if, like the merchant, he is unable at the end of his first year to pay his rent of £400, the landlord is enabled by the law, by means of his agents, and without the trouble or expense or delay of an action, or trial, or judgment, or execution, to enter upon the farm, and to seize enough of the cattle, stock, furniture, &c., as will, when sold by public auction, suffice to satisfy his claim for rent and for all the expenses of entry, seizure, taking care of the property seized, the sale, &c. Nay more, if the farmer proves to have many more creditors and to owe much more than £400 to each of several other creditors for the very cattle, stock, and furniture so seized, the landlord may disregard these unfortunate creditors, and, even if the farmer has been made insolvent and his affairs put into the Bankruptcy Court, so that his property may be divided equally and equitably amongst all the creditors, as in the case of the merchant, the landlord may still seize so much of the farmer's stock, cattle, furniture, &c., as will

satisfy his £400 and all the costs he, the landlord, has been put to.

If this is a fair law for the landowners, why should it not be also fair for the jobmaster and for all men of business? Why should not the Manchester merchant be able to distrain on the calico printer for the value of the cloth he has sent to be printed, or upon his customer for the goods he has purchased from him? why should not the shopkeeper be allowed to distrain upon the customer, who has carried off a large amount of goods on credit and who does not pay when that credit has expired?

Why should the landowner, in short, be allowed to take the law into his own hands, and to be favoured more than the rest of the farmer's creditors, when all other creditors except landlords are compelled to resort to expensive legal proceedings to make out their claim, and, in case of the insolvency of the debtor, only to take their proportion of what remains to be divided? The only reasonable answer is that the landowning class has been rendered by the land laws so strong and so united that they have been able to obtain these laws in their own favour, and to defend and keep them after they were once obtained.

This law of "distress" was originally derived from the ancient feudal law, and after the power of the Church and Crown had been greatly diminished, and after Parliament became, as it did after the expulsion of James II., mainly the representative of the landowning class, this law was rendered more stringent against the tenants by many Acts of Parliament.

### 13. THE LAW OF FIXTURES.

Another extraordinary landowners' law, which was established in feudal times, and which the landowners have been strong enough to retain down to the present day, though not in all its original severity and unfairness, is the law relating to what are called in legal phraseology "fixtures."

In the feudal times it was settled that the law should be, that whatever a tenant of land (whether tenant only from year to year or tenant under a lease) annexed to the land during his tenancy, should belong from that moment to the landowner, and not to the tenant, who had paid for it and annexed it. All the tenant's legal right to such annexed thing, however costly it was, ceased from the moment it was annexed.

But might made right in the feudal days, when these laws were first enforced, and might makes these same laws, though somewhat modified, right now. The trading classes struggled from the earliest times against this landowner's law, and gradually obtained exemptions in favour of "trade fixtures," or those erected for the purpose of trade and business, but the law has always operated, and still operates, most severely against agricultural tenants, though some very insufficient and unsatisfactory modifications, subject to conditions which seem designed to render them nugatory, have recently been granted to them, to satisfy the growing discontent—a discontent which accompanied, and was the result of, growing intelligence. To show how hardly this law presses upon the tenant, who most probably knows nothing whatever about it when he commences his tenancy, let me give a few instances.

If the tenant erect a conservatory on a brick foundation, he cannot remove it at the end of the tenancy, however short that tenancy, or however much the conservatory may have cost him, but it becomes, as soon as erected, the property of the landowner. So, too, if the tenant erect greenhouses in

his garden, or a veranda to the house, or wind or water-mills, or storehouses, they belong to the landowner as soon as erected, and cannot be removed. I give these merely as instances of what seems a most unjust and inexpedient law. And it must be carefully borne in mind that the law is equally stringent even if the "fixture" can be removed without doing the least injury to the property to which it is affixed, and it is equally stringent no matter what the cost or value of the "fixture" may have been. It is no answer to say that the tenant when he took the house or farm knew the law, and, therefore, knowing the law, chose for some reason to go to the expense. As every lawyer knows, and as the thousands of cases litigated on this subject show, not one man in ten thousand knows anything about this law; it is scarcely ever mentioned in leases, and even where it is it is only with reference to the "fixtures" already on the premises; and it is certain that few lawyers even, without consulting the great tomes on landlord and tenant law, and on "fixtures," would be able to say off hand whether a particular article were a "fixture" or not, or were subject to this strange power and privilege of the landowner.

It is a law which has existed at least since Edward I.'s reign. It emanated from the power of the great landowning class. It is sustained by the same power now.

Of course, if a valuable "fixture" could not be removed without injuring the premises to which it was attached no such removal should by law be permitted until ample compensation had been made to the owner of the premises for all such injury, whether prospective or otherwise. And it must be remembered that if this law were repealed to-morrow it would always be open to the landlord, before letting his premises, to make it a term of the agreement that the tenant should put up no fixture and make no alteration in the premises during the tenancy, and that if he did he should pay heavy compensation, and that the fixture should belong to the landlord. In such a case, each party would be fairly and fully warned instead of a tenant being trapped, as now, by ignorance into a heavy expenditure, all of which goes to the benefit, not of himself, but of the landlord.

### PRESERVATION OF ANIMAL SUBSTANCES.

Recently Dr. B. W. Richardson, F.R.S., delivered one of the course of Cantor lectures before the Society of Arts on "Some researches on putrefaction, and their results in relation to the preservation of animal substances." He said it was necessary for the perfect preservation of animal substances to retain the colour, odour, reaction, water, consistency, and microscopical appearance, and, if the substance be for food, the continuance of natural colour and odour after removal from preservative in comparison with a fresh specimen. It was important that animal substances should contain taste and flavour after cooking. To obtain this result it was necessary to avoid odour of putrefaction, odour of other taints, odour of preservative, fixation of preservative, escape of water, gaseous infiltration, fatty change in muscular substance, gelatinous changes, and fermentation and alkaline reaction. The question was often asked, how it was that the living substances were preserved while the dead animal substances passed into a state of putrefaction. It was incorrect to say that the living animal substances did not undergo change; but they did so in a way that was not presentable to the human vision. The cause of the speedy putrefaction of

dead substances was owing to the jelly substances of the body decaying. The water in the dead body soon became in a state of putrefaction, and at once decay rapidly set in. The jelly substances were chiefly found in the nervous and muscular membranes and portions of the liver which were loosely held together. If the organs were pressed immediately after death and the water removed, they would be more easily preserved. With respect to gases and vapours, they might be used at the present time for preserving food, but the action of heat was so powerful in them that in warm climates the bottles often burst. He believed that the day was not far distant when all preserved foods would be prepared by gases; but there were still discoveries to be made by which many of the most valuable gases would be rendered not dangerous to life as at present. One of the most valuable gases that we had was the coal gas, which played an important part as a preservative. Still it was not a pure antiseptic, though he hoped yet to be able to make it so.

### SOCIAL EMIGRATION.

Mr. F. A. Binney, of St. Ann's Square, Manchester, advocates the following plan of co-operative or social emigration:—

I propose that instead of emigrating singly, all persons of education and refinement whose thoughts are turning in this direction—and these are just those persons who can best endure the loss of home comforts and associations—should combine together and purchase an estate in a genial climate, within easy reach of England, and settle on it, near to one another—in fact, to form a model and *select English colony*. It is needless to point out that joint emigration by a large number of English families, with congenial tastes, taking out with them all their home surroundings, transplanting many of the habits of life of the old country, and going out to live (reside) on an estate of the kinds suggested in tasteful homes previously erected according to designs of their own selection, must necessarily be robbed of all its terrors, and might easily be rendered extremely attractive. Persons with small capital would find their incomes doubled by reason of their being able to invest their money on mortgage at much higher rates than prevail here; whilst the necessaries of life could be had at much less cost. These are material advantages to persons of limited means which it is needless to enlarge upon. Lastly, as a lover of my country, I would suggest that it be made a distinguishing feature of such an undertaking to re-produce a thoroughly representative English town—retaining all that is good in our social life, whilst avoiding the narrowness and uncharitableness which the too artificial life of the old country has in many instances engendered. By co-operation the colonists could retain complete control over the land, and could reject all undesirable additions to their society, and it is needless to point out that drinking and gambling saloons and their habitues would be readily excluded from such a colony by the proper application of regulations such as the members could agree on. In this view of the matter a self-governing colony could be planted in America, or elsewhere, and be quite as British in love, feeling, and habits of life as any English county town, since no one could intrude without permission of the proprietors of the soil. I might enlarge upon the immense advantages such a colony could offer to parents who might not themselves care to emigrate, but who could thus, at a comparatively small cost secure comfortable homes and prosperous careers for their sons, with far less uncertainty than is possible in the mother country, and without subjecting them to the objectionable risks of being sent out to an unknown colony.



## AGRICULTURAL SOCIETIES.

## GLASGOW.

## SUMMER SHOW OF LIVE STOCK, &amp;c.

The Glasgow Agricultural Society recently opened their twenty-third annual summer show of live-stock, dairy produce, and implements, in the public recreation grounds at Cross-hill. The weather was of a most disagreeable character, a piercing east wind sweeping through the show-yard. There was, nevertheless, a numerous attendance of visitors, and over £600 was collected at the gates. The arrangements of Mr. Mark Marshall, the secretary, gave every satisfaction. The proceedings were enlivened by a selection of airs rendered by the band of the 79th Regiment. On the entries for the various classes there was, compared with previous years a great increase, as will be seen from the following table:—

	1872.	1873.	1874.	1877.	1878.
Cattle .....	228	228	196	195	217
Horses .....	255	310	330	460	494
Sheep .....	100	63	107	81	73
Swine .....	32	30	39	9	28

Ayrshire cattle, of which there was a finer display than has ever before been witnessed, were as usual assigned the first position in the catalogue. The principal prize for a cow in milk was awarded Mr. A. R. Story for the beautiful brown and white "Duchess," which has recently secured all the honours at local exhibitions. In the class for three-year-old cows in milk, the Duke of Buccleuch obtained the chief place with the white "Beauty of Drumlanrig." The Duke also secured the Derby sweepstake with this fine animal. Of the two-year-old queys in milk the principal prize-taker was the brown "Ruby" of Mr. Robert Frame. The Duke of Buccleuch was awarded the first prize in the classes for cows bred by the exhibitors with an animal which received the silver medal presented by Sir E. Colebrooke, Bart., M.P.; for cows in calf, four years old and upwards with another which obtained the £20 silver cup given by Sir M. Shaw Stewart, Bart.; and for three-year-old quey in calf with a third representative of his celebrated herd. The blue ribbon in the section for two-year-old queys in calf was carried away by a sweet little animal owned by Mr. Frame, Blantyre Park, which had never been shown at any previous exhibition. The Duke of Buccleuch monopolised all the honours in the section for two-year-old queys yeld and not in calf. The pretty brown "Avonside III," of Mr. Allan, West Mains, was recognised as the best of the one-year old queys. The well-known old bull, "The Rival of Drumlanrig;" of the Duke of Buccleuch, who bore away the gold medal at the Highland Society's Show at Edinburgh, and the first prize at the Glasgow Exhibition last year, again maintained his position as the finest of his class. Of the two-year-old bulls, the brown and white "Prince Charlie" of Mr. D. C. Willison, Dulpeddar, received the premier award.

The Clydesdale horses were admitted a fine show—the best probably which has ever been seen here. The first place among the brood mares, which were an exceptionally good division, was gained by the black "Alpine," which Mr. Russell, Wishaw, recently purchased at Mr. Drew's sale. In the yeld mare class Mr. Baird of Urie was first with his

taking bay "Jess." In the class of three-year-old fillies the bay "Damsel" of Mr. Martin, Auchindennan, was placed first. The "Ellie Deans," also a bay, of the same owner, headed the class for two year-old fillies, and the Black Diamond of Sir M. Shaw Stewart received a similar honour among the younger animals. The £20 silver cup was awarded Mr. Baird for his exhibit already mentioned. Of hunters, jumpers, roadsters, and ponies there were some remarkably good specimens. The Derby sweepstake for yearling Clydesdale colts and fillies has been postponed until this forenoon. On the whole there was a highly satisfactory display of sheep. The Leicesters were on the average very good. Of the blackfaced variety there was an excellent show, the ewes and ewe hogs being extremely fine. It may be mentioned that one of the first prize ewes dropped three lambs in the pen a little before she was visited by the judges. The swine both of the large and small breed, made a highly creditable appearance. Of poultry and dairy produce there were also excellent displays. On the field a large number of implements were exhibited, but none of them presented any feature of novelty calling for special comment.—*Scotsman.*

## HIGHLAND AND AGRICULTURAL.

The monthly meeting of the directors of this society was recently held in their chambers, George IV. Bridge.

At the meeting of the board on the 3rd of April, Mr. Walker of Bowland, C.B., and Sir Graham Montgomery Bart., M.P., were respectively nominated to the offices of treasurer and honorary secretary, reendered vacant by the death of Sir William Gibson-Craig and Sir William Stirling-Maxwell.

Letters were submitted from Mr. Walker and Sir Graham Montgomery accepting office, and expressing their deep sense of the compliment done them.

The half-yearly general meeting of the society for the election of members and for other business was fixed to be held on Wednesday the 5th of June, being the week previous to the opening of the Agricultural Congress at Paris, at which the directors had instructed the secretary of the society to be present.

The report of the examinations for the society's veterinary certificate on the 15th, 16th, and 17th ult., which has already appeared in our column, was submitted.

Letters were submitted from Mr. H. Gordon, clerk of supply Dumfries, and from Mr. R. M. Gordon, clerk of supply, Kirkcudbright, sending the names of the gentlemen appointed by the Commissioners of Supply to represent Dumfriesshire and the Stewartry of Kirkcudbright in the General Committee of Management of the general show to be held at Dumfries in July and August next; and Mr. T. E. Smith, Provost of Dumfries, sending the names of those appointed to represent the town of Dumfries.

A letter was read from the Rev. Mr. Gillespie, presenting volume I. of the Galloway Herd-Book, containing pedigrees of pure-bred Galloway cattle, published by the Galloway Cattle Society. The Secretary stated that he had, in name of the society, thanked Mr. Gillespie for the book.

The Secretary submitted a letter from Mr. Alexander Ramsay, Banff, sending a copy of the contents of a History of the Society written by him, and shortly to be published. Mr. Menzies informed the board that the work contains a narrative of the society's entire operations in the ninety-five years of its existence, including accounts of the successive general shows of live stock, &c.: that he had read a considerable

portion of the book, which has been prepared at great labour from authentic sources; and that he felt sure it would be very interesting, not only to the members of the society, but to the general public.

The directors agreed to subscribe for thirty copies of the work.

## CHAMBERS OF AGRICULTURE. CENTRAL.

The ordinary monthly meeting of the Council was held recently, at the Society of Arts, Adelphi, Sir G. Jenkinson, M.P., in the chair.

Mr. A. PELL, M.P., as Chairman of the Local Taxation Committee, read the following Report:—

"The Local Taxation Committee desire to call attention to the Chancellor of the Exchequer's reply to Mr. Clare Read that priority will be given to the County Government Bill over other English bills now before Parliament. It is satisfactory to have the assurance that this important measure will be pressed forward, and that the way will thus be cleared for the consideration of other dependent reforms connected with highways, valuation, rectification of union areas, and the better utilisation of superfluous workhouse accommodation. The Highways Bill, which your Committee referred in their last Report, was read a second time without discussion on the 12th ultimo; but its further progress must, of course, depend on that of the general county measure. The promised Valuation Bill introduced at the beginning of the session, has not yet been printed. A second reading has, however, been accorded to the competing measure brought in by Mr. Ramsay, with a view to assimilate the English practice of valuation to that which has been found to work satisfactorily in Scotland for the last five-and-twenty years. Both the local and imperial Budgets were submitted to the House of Commons on the 4th of April. Your Committee have always wished to see the figures of these two statements made equally available for the annual financial discussions. They are disposed, however, to question the advantage of taking both Budgets on the same day, when this entails the postponement of the local statement to a very late hour, and prevents the notice it deserves being given to it, either in Parliament or in the Press. Beyond making due provision for the new charge on the taxes of the country necessitated by the transfer of the prisons to the State—finally accomplished on the 1st ultimo—the Chancellor of the Exchequer made on this occasion no further readjustment of burden between taxpayer and ratepayer. It is now, however, worthy of remark that in the estimates for the present financial year an aggregate sum of £4,962,000 is stated to be required to meet the Treasury grants in aid of, or in substitution for, Local Taxation. It is true that several of the items of this sum are erroneously reckoned subventions, while an excessive proportion goes to Ireland. Excluding, however, payments to reformatories and industrial Schools, and one or two other matters which are in no proper sense local relief, upwards of £2,500,000 is now contributed by the Treasury to English localities; and £1,500,000 of this amount—a sum equal to a rate of 3d. in the pound—may be regarded as the actual relief to English ratepayers from their recent policy of transfer

and subvention which has been advocated by your Committee. The President of the Local Government Board places the entire amount levied by rates in England during 1876-7—the last year for which complete accounts are rendered—at £23,617,500. This is a net advance of £918,000 over the figures of the preceding year. Beyond £544,000 more of metropolitan and urban sanitary rates—chiefly devoted to remunerative town improvements—the only material addition to local taxation during the year has been an advance of £443,000 (fully 75 per cent. increase) in the rates levied by School Boards. Highway authorities have increased their rates by £23,000, rural sanitary authorities by £21,000, while £20,000 more county rates appear to have been required. On the other hand, poor rates proper (applied to Relief) have decreased by £146,000, and one or two other small reductions are apparent. In comparing the rates now accounted for with those returned in 1871-2, a net increase of over £5,500,000 appears in the last five years. Fully ten-ome £5,000,000—of these additional rates are mainly due to improvements, or sanitary works, undertaken in metropolitan and urban districts. Various minor increases in rural sanitary, highway, and county rates make up the remaining £500,000. In these five years a remarkable reduction of more than £1,000,000 has been effected in the rates levied for the relief of the poor, but this remission of burden has been almost exactly balanced by the new charges entailed upon ratepayers by the Education Act of 1870. The rapid growth of local debt was prominently noticed as well in the speech of the Chancellor of the Exchequer as in that of the President of the Local Government Board. Largely increased amounts have been recently advanced by the Public Works Loan Commissioners under the special Acts, which entitled localities to loans at comparatively low rates of interest out of public funds; while still more largely have the sums borrowed in the open market increased under recent circumstances. During 1877-8, Mr. Slater-Booth states that £11,000,000 of new local debts were created, nine millions and a-half of this amount being required for purely urban purposes. Much of this debt is represented by purchases of water, gas, and similar properties, or by other local enterprises undertaken by municipalities under the belief that they will ultimately prove remunerative, but a considerable portion is due to the Public Health and Education Act. The entire indebtedness of English local authorities now reaches £112,000,000; and it would appear that nearly one-sixth of this sum has been advanced by the State. Of the amounts borrowed in the past year, £4,307,000 was obtained through the Public Works Loan Commissioners, while the Public Works Loan Bill now before Parliament provides for a further issue of £6,000,000 of public money in the current year. Alarm has been expressed lest these large advances of public money under special Acts should expose the Treasury to ultimate loss. Except in certain cases however, such as the Harbours

and Tolls Act of 1861 and the Education Act of 1870, these special Acts do not appear to limit the rate of interest to an unremunerative point. A remedy in other cases can therefore be applied at the discretion of the Treasury. Your Committee are quite prepared to advocate the closest scrutiny over local borrowing, the reduction of unreasonably lengthened periods for repayment, and the establishment of a better control over debts sanctioned by Local Acts. They believe, however, that a clear distinction should be drawn between capital outlays incurred by localities under statutory compulsion and those which are voluntarily undertaken. The sums of public money which have already been required from the Public Works Loan Commissioners for School Board purposes alone in England and Scotland amount to no less than £11,368,000 and practically represent the whole recent increase in the advances made out of public funds. If any loss should in this instance occur to the general taxpayer in consequence of the fixed rate of  $3\frac{1}{2}$  per cent. which is here chargeable, it should be remembered that this was virtually the only concession secured in the Act of 1870, which, for an object, essentially national, unfairly imposed large and growing burden on the local ratepayers. Among the measures affecting rates which have claimed attention during the present session in the Blind and Deaf Mute Children (Education) Bill, to which amendments will be proposed by the Chairman of the Committee. The Training Schools and Ships Bill being resisted, has not yet come under discussion; while the terms of the Public Health Act Amendment Bill have been carefully revised and restricted by the operation of a Select Committee.—ALBERT PELL, Chairman."

Mr. PELL having moved and Mr. CALDECOTT seconded the adoption of this Report,

Mr. D. LONG (Gloucestershire) said he could wish that the efforts of the Committee had been more successful. He had seen a statement that 3d. in the £ had been contributed, by means of subventions or otherwise, for the relief of local taxation; but even if that were the case he believed no sensible relief was felt by the ratepayers. In his own district, indeed, owing to the enormous increase of local taxation, they were paying 1s. 3d. on the £ more—that was 1s. for roads and 3d. for education. He had hoped that the County Government Bill would afford relief to real property, and prove a panacea for the evils of the present system of local taxation, but he regretted to say that in his perusal of it he had in vain sought to find anything of the sort.

Mr. H. NEILD (Manchester) believed that he expressed the sentiment of the local Chambers when he said that they desired to see the County Government Bill passed into law this Session. He observed that notices of amendment had been given for the Committee on the Bill which covered 25 pages of the business paper of the House of Commons, and he felt that it was the duty of the Chamber, to the extent of its ability, to assist the Government in carrying the measure without unnecessary delay.

Professor WILLIS BUND concurred in this view, and reminded the Council that the Bill creating the Local Government Board was within a half-sheet of foolscap. In fact it first established the Board and afterwards gave it powers. Let that precedent be followed in this case. First get the County Government Bill, and then invest the new authority with the necessary powers.

Mr. CALDECOTT said that although they might not yet have gained much, yet the result of passing the Prisons Bill last year would be to reduce the expenditure and save a penny in the £ of the county rates,

Mr. PRATT (Devonshire) would like to have seen a more earnest part taken in discussions on the Government County Bill by members of Chambers who had seats in the House of Commons. He owned that he felt greatly disappointed with the speech of the hon. member for South Norfolk (Mr. C. S. Read) on the second reading of the Bill. Down in the West people regarded that gentleman as *par excellence* the farmers' representative, and they therefore read all he said with the greatest interest; but he could not help quoting the remark of a friend, that he thought it time to take off the hon. member's shoes and send him to grass ("Oh!" and laughter). He would press upon hon. members that they should endeavour to eliminate the union as the representative area for the Bill. If that area were adopted the elective members would in a great measure be simply magisterial; for the returning officer was generally the magistrate's clerk, who again, was usually the steward of the largest landowners in the neighbourhood. He left the Chamber, therefore, to draw their own conclusion. Further, he preferred direct to indirect representation; but he was content to let that pass for the present, in his earnest desire that the Bill might become law this session.

Mr. C. GURDON (Chairman of the Norfolk Chamber) said that Mr. Pratt would not have made the reference to Mr. Read which he had done if he had seen the earnestness with which that gentleman had laboured in the cause, especially during the last six months. True there was apathy among some hon. gentlemen, but it could certainly not be imputed to Mr. Read (cheers).

Mr. LYWOOD (Wilts) complimented Mr. Pell and the Local Taxation Committee on the very clear view which they had taken in all their Reports of the fiscal measures which bore upon the interests of the ratepayers. That was the case, especially in their present Report, than which he had never read a better or an abler one.

Mr. PELL, in thanking Mr. Lywood for his flattering allusion to the work of the Committee, paid a graceful compliment to Capt Craigie, their Secretary, for his valuable services in the preparation of the Reports.

The motion was then adopted.

The next subject on the agenda being Highway Legislation,

Mr. W. STRATTON moved the following resolution:—  
 "That this Council, while expressing its approval of the extension of area liable for the maintenance of main roads, as proposed by the County Government Bill, regrets that no adequate remedy is offered for the injustice of charging the whole cost of such roads upon one description of property only." He said the Bill proposed several important alterations in the existing highway laws. One of these was the throwing the charge for the repairs of general highways over the whole district, instead of each parish paying the cost of its own roads. That was following the precedent set in the Union Chargeability Bill. A few years ago every parish had to pay the cost of maintaining its own paupers; but under that Bill the charge was thrown upon the whole area of the Union. In the present measure of the Government it was proposed to adopt a similar course with regard to the cost of highways, and in his judgment that was a step in the right direction. It might, and no doubt would, inflict hardship upon some parishes; but the probability was that such parishes had hitherto been enjoying the use of roads which were mainly supported by their less fortunate neighbours (Hear, hear). This provision, then, would be for the benefit of the public generally. It was further proposed that roads should be of two classes, and that the cost of repairing main roads should

be divided between the owners and occupiers of rateable property. Such a division of charge was very desirable, and he believed the Chamber would approve it. Another important provision was that which related to the movement of locomotive engines on common roads. The present law respecting it was vexatious and unsatisfactory, and it appeared to him that the proposed change would be a great improvement. The law now provided that these engines should consume their own smoke, but as that had turned out to be utterly impossible, the Bill only enacted that engines should be so constructed as to consume their own smoke, and not that they should be obliged to consume it. In fact, the Bill assimilated the law relating to traction engines to that applied to locomotive engines employed on railways.

Mr. D. LONG, in seconding the resolution, condemned as unjust the continuance of the charge for the maintenance of main roads upon real property alone. As it was the public who used those roads, so it was the public who ought to bear the expense of maintaining them. In his district—the neighbourhood of the City of Gloucester—the main roads cost 9d. in the £, and he contended that it was an injustice that one kind of property should have to bear the entire charge. He questioned, too, whether the proposed extension of the highway area would not be an injustice; for, whereas at present, the roads near Gloucester cost 9d. in the £, and those on the Cotswold Hills but 3d. in the £, by the extension of area the cost in the neighbourhood of Gloucester would be decreased, whilst that in the Cotswold Hills would be increased. Thus, to the people of Gloucester this arrangement would be a benefit, while to the people of the Cotswolds it would be an injustice.

Mr. LYWOOD thought that, though there would be an extension of the area for the maintenance of the main roads, they should bear in mind that the mileage in the county would be the same as before, and that the rateable property was to supply the funds to maintain them. As to the liability of landowners to contribute towards the main roads as proposed in the Bill, it was not so large as some imagined, because it was really but one-half of one-half, which meant one-quarter; and when a main road was repaired, half the expense would come from the county fund and half from the highway district. Then, by another clause, the owner was to pay one-half the rate collected for the repairs of the main road; thus he came in for half of a half. With respect to the equity of a tenant making his landlord contribute to rates which he, the tenant, had undertaken to pay, he (Mr. Lywood) must say that he could not, as an honest man, make such a request to his landlord. In the case of a lease they certainly could not in fairness ask the landlord to pay any portion of the rates. On the other hand, lapsed turnpikes had been thrown in a great degree upon the rates, which in some instances had been doubled, in consequence of the increased mileage cast upon the local ratepayer; and there, he thought, they would have a fair claim upon the landowner to contribute. Then, with the more frequent use of locomotives running from railway stations to various places, they might hope to have under the Bill a better system of main roads throughout the country for the use of travelling traction engines. And here, again, the landlord might justly be called upon to contribute to such roads. As to the latter part of the resolution, which spoke of the unfairness of placing the entire cost of main roads upon one description of property, that was an argument for putting on the public a certain duty which evidently they were bound

to contribute; and, looking at the extensive use which was made of the main roads by brewers, manufacturers, builders, timber merchants, and contractors, he considered that it was time to give the Government some help from the Imperial Exchequer, or through the medium of taxes, towards the support and maintenance of such roads.

Professor BUND proposed, as an amendment:—"That no legislation on the subject of highways can be regarded by this Chamber as worthy of support that perpetuates the injustice of charging the whole cost of the repairs of roads upon one description of property only." He objected to the proposals in the Government measure because they did not provide a remedy for that injustice. They were, in fact, a beautiful jumble, and gave no relief at all; whilst the charge on the landowner was a delusion and a snare. With regard to the classification of roads, the Chamber had decided in its favour, as a good thing in the abstract; but the classification in the Bill was not deserving of their support. By Clause 9 of the County Government Bill it was proposed that the roads disturnpiked prior to 1874 should be deemed to be main roads. Surely, if the new County Government Board was to be trusted, it should be its function to say what were main roads. Under the new system, too, they would have to pay one rate for the repair of the highways, one rate for half the main roads, and another for the repair of their neighbours' roads. In that he saw no relief at all, and in the end they would probably have to pay more than they did at present. He was at a loss, indeed, to discover one farthing of relief given by the Bill. Then, as to the landlord, the Government thought to sweeten the matter by pulling in a clause relating to him; but that was a greater humbug than the other. That clause, the 16th, made the landlords pay a rate, but its effect would be to make him determine existing contracts and enter into fresh ones; and if that were done where was the advantage to be derived from the landlord? Was the Chamber prepared then, to stultify itself by accepting such a proposal as that? Moreover, it was only the tenancies existing at the time of the passing of the Act that would be affected by this provision; any new ones entered into next year would be exempt from its operation. Again, with regard to the classification, he objected to it as bad in fixing a hard and fast line. One of the most important clauses in the Bill was the 10th, which threw the expenses of the highways upon the district funds; but he did not see the advantage of that. As he understood the working of highway boards, at present the difficulty was in having sufficient control over them, and in seeing that the money was properly spent; and if the highways were repaired out of a common fund they would have even less control than at present, and highway boards would be encouraged in extravagance. On the whole, he thought that the proposals of the Government would increase rather than diminish the expense; for they would continue the highway boards, and there would be the same establishment charges. Moreover, by Clause 31 of the Government Bill it was provided that if additional duties were given to the county officers they should have additional rewards, and that would be done under the Bill. Thus they would have a double set of charges—one for main roads, and another for highways. For his part, he had entertained the hope that the County Government Board would have to take the entire control of all highways, because he considered that there were too many boards at present, and he could not see why they should keep up, as proposed, highway boards for one class of roads, and county boards for another class of roads. He would

say, then, let the county boards take over all the roads. They would work them by committees, and thus save establishment charges.

Mr. H. BIDDELL (East Suffolk) seconded the amendment, as being in conformity with the previous resolutions of the Chamber, and on the ground that the extension of men would only be a transference of burden, and be no relief in the end.

Mr. NEVILLE (Staffordshire) supported the amendment, because the original motion was scarcely distinct enough. He could not approve of the highway legislation of the Government; and his main objection was that it made no other provision than that of rates for maintaining the great through roads of the country. The question was, not whether they should pay the cost of these roads out of a county or a parish rate, which, in his opinion, was simply transferring the burden from one pocket to another, or whether they should divide the cost of maintaining the roads between landlord and tenant, which came to pretty much the same thing, but whether the landed property of the county was to be charged with the maintenance of through roads for the benefit of the commercial and manufacturing interests, without the latter being required to pay one tittle of the cost. The Chamber should bear in mind that this was a new charge on landed estates. The Government turnpike roads were originally maintained by the users of those roads, and that was the fairest plan; but by the abolition of toll-gates the cost of the main roads had been thrown upon the landed estate of the county; and he held that the landed estate, whether owner or tenant, was not in such a flourishing condition as to justify this burden. On all hands they saw farms being let at reduced rents and others remaining unoccupied: Was that a time, then, for increasing the taxation on landed estate? In his judgment they ought not to be satisfied with any measure of highway legislation which did not provide something else than rates for the repairs and maintenance of the through roads.

Mr. PELL reminded Mr. Neville that the roads were always a charge upon the land until the first Turnpike Act was passed, and that neither that Act nor any subsequent Act had absolved the land from its liability. In fact it was an old obligation which the land had never shaken off. He had heard much about the enormous increase of the cost of maintaining the roads, and nearly the whole of that increase had been ascribed to the turnpike roads being thrown on the rates. No doubt that accounted for part of it; but, in his opinion, the most serious part of the charge was the result of mismanagement. As a rule there did not appear to be any preliminary inquiry as to the capacity of the surveyor to discharge the important duties resting upon him. It was fortunate for the travelling public that railway directors did not appoint the men who had charge of the permanent way on the principle on which the highway authorities appointed the person who had charge of the permanent ways; for if they did there would not only be much waste of money, but much bloodshed and consequent damages; and he thought that Highway legislation should provide for securing the appointment of competent persons to take care of the roads. For this they had a precedent in the case of Scotland, Wales, and Ireland, where the authorities only appointed persons who had had a special training for the work. In this country, however, persons were appointed too generally without reference to their knowledge or experience; the consequence was that the roads were repaired, not according to certain principles, but the general idea of the surveyor for the time being, influenced by local pressure, and then there was a want of uniformity in the various parishes.

Mr. BEACH, M.P., remarked that it was quite true that in ancient times the maintenance of highways was charged on the land, but then the roads existed for local use. The trusts were now fast expiring, and this, no doubt, had produced an anomalous state of things that urgently required alteration, but he did not think that any satisfactory change in the present system could be made without Imperial funds contributing something in aid of main roads. It was always understood that there were certain roads which it was not fair to support out of local resources; but it would be hopeless to ask for aid to support roads that were used for local purposes only. He would, therefore, divide roads into two or three classes, and ask for aid for the superior class of roads, though at the present time it would be useless to appeal to the Chancellor of the Exchequer with that object. Under these circumstances he would defer highway legislation upon any large scale until a more favourable opportunity. With regard to the division of rates between owner and occupier, that had often been discussed, and he must say that he did not consider it any relief at all. It might be a temporary relief to a few persons, but in the end would be none whatever. It was a shifting of burden from the shoulders of one to those of another for the time being, but would eventually resolve itself into the old system. On the whole he was inclined to support Professor Bunn's amendment in preference to the resolution.

In the course of subsequent discussion the amendment was opposed by Mr. PRATT, and supported by Mr. DUCKHAM (Herefordshire).

Mr. NEILD had no doubt that the highway and other matters would be better regulated by a County Government Board than by any other body. In Lancashire great injustice was inflicted by a large amount of traffic which they could not tax going over the roads, whereby the rates were augmented two, three, and even four-fold without the possibility of a check. This, he contended, was a serious hardship; and their object should be to charge the traffic which passed along the roads with a share of the cost of maintenance.

Mr. W. BIDDLE (West Suffolk) was disposed to think better of the Bill than some of the speakers. It was a right principle to charge the roads on the district, inasmuch as hardly any distant traffic now came upon them, but was carried off by the railways, and in nineteen cases out of twenty the traffic was of a purely local character. The parish was, however, too small a unit for taxation; but if they had good-sized districts under the charge of competent surveyors, he saw no hardship in each district being required to keep up its own roads. With regard to two provisions in the Government measure, he could not accept as relief either the proposal to tax one man for the maintenance of the roads of another 50 miles off, or that other proposal to divide the rates between landlord and tenant. As to the classification of roads, he did not think that anything of the sort was required, and was glad to observe that no argument had been adduced in the course of the discussion in favour of reviving the exploded system of toll-gates.

Mr. TREADWELL (Buckinghamshire) looked upon the Government measure with approval, for the simple reason that it would leave his county, where they had no highway districts, pretty much alone, and the new County Government Board would have to take charge of the roads without any extra expense ("Oh!" and a laugh). The Bill was very good for the circumstances of Buckinghamshire, where it was generally approved of. Parishes would be compelled to keep up their

roads which now failed in that duty; and if the Government would only give them some assistance from Imperial sources there would be nothing to complain of (laughter).

Mr. GURDON agreed with Mr. Beach that neither this year nor the next was there the least chance of their getting any aid from Imperial funds. That being the case the Chamber would be stultifying itself if it adopted an amendment which practically declared that because they could not get money from Imperial taxation they would not take anything else.

Mr. READ, M.P., wished the Chamber not to forget that legislation was for the whole of England and not for the agricultural districts exclusively. It was possible that in Norfolk and Suffolk, and in counties strictly agricultural, there was no particular reason why they should have more than one class of roads; but when they went into the manufacturing districts it became essential to have some means of making those who used the roads pay for their support; and he believed that in districts like that which was represented by Mr. Neild it would be almost impossible to do this unless by the resuscitation of tolls, for which he hoped there would, throughout the kingdom, be no necessity. The legislation proposed by the Government was, in his view, fair and reasonable, going as it did, in great measure, upon the line which the Chamber had always advocated. True it did not give them Imperial aid, and he should never ask for Government subvention in aid of highway rates, for that would entail both wasteful expenditure and vexatious inspection; moreover he was sure that it would never be granted. At the same time they might press for certain local licenses being transferred from Imperial to local sources, though at the present moment there seemed little chance of getting even that small modicum of relief. In reference to the subject of a common fund, Mr. Read proceeded to say that if they had highway districts, they ought to have a common fund. Once they took the administration of the funds of a parish away from a parish and placed it in a highway board there should be a common fund for general expenses. In certain districts, as in his county, where there were large tracts of heath and marsh land, it would not be right to place all descriptions of land upon the same level; but this was provided for in the Bill. The great defect of previous highway legislation was that there was no cheap and ready way of making people obey the law. That was especially the case with the old Highways Act, which in itself was a very good measure; but what was wanted was the provision of a cheap and ready way of compelling parishes which persistently neglected their roads to repair them. The indictment of a road was a costly proceeding, and if there were an easy way of insisting upon district authorities repairing their roads it would be a most valuable feature in the proposed legislation. They could not expect to have mathematical accuracy and justice in applying rates; but the old turnpike roads when they became chargeable to individual parishes were very frequently a heavy and unjust burden, and, as at present administered in highway districts, were equally objectionable. In one case the whole burden was borne by the unfortunate parish, and in the other case it was taken off the parish and thrown upon the district. Both were wrong, and he should say that the proposal in the Bill was about the right one; namely, that taking the great turnpike roads generally, at least half the traffic was local, and the other half thoroughfare traffic, for which the immediate district was not responsible. One word in explanation on the subject of licenses. The other day in the Norfolk Chamber he stated that he thought those licenses, including the tax on locomotion, might be

transferred from Imperial to local authority; and, in consequence of what he said, he had been assailed by almost every railway company in the kingdom, as desiring to allocate the passenger duty, than which, he could assure them, nothing was further from his thoughts.

Mr. MANSFIELD objected to the proposed extension of area on the ground that it was a mere shifting of burdens, and intimated that he was equally opposed to the original resolution and the amendment.

Captain CRAIGIE supported the original resolution, which he regarded as more in harmony with the already recorded opinions of the Chamber than the amendment; whilst the proposals contained in the County Government Bill and the Highway Bill were substantially founded upon resolutions agreed to there.

The CHAIRMAN, before putting the question, expressed a fear lest, if they got a County Government Bill and a Highways Bill that only transferred the burden from one set of shoulders to another, they might be told hereafter that they could not re-open the subject. He would, therefore, prefer waiting a year or two for legislation, until that part of the question could be satisfactorily dealt with. They could not ask for aid from Imperial resources; but the appropriation of local taxes, locally raised for local purposes, such as the duty on carriages, dogs, and gun licenses, would not be receiving aid from Imperial resources. It was rather stopping these duties from reaching the Imperial Exchequer for general purposes and applying them to local purposes. To harass the Government for any aid at the present time, however, would be useless. They were already sufficiently harassed and badgered by other people, and if they were asked for aid it would not be given. On the whole, he was inclined to think it would be wiser to wait for highway legislation than proceed to legislate in a hurry.

Mr. W. STRATTON, during a brief reply, pointed out that the Ministerial proposal went upon the lines the Chamber had hitherto taken its stand upon, and that the effect of the amendment would be to throw the Bills over.

On the question being put from the Chair, the amendment of Professor BUND was rejected by a majority of two to one, and the original resolution agreed to.

Mr. H. NEILD then moved, and Mr. ADKINS seconded, "That this Council desires that licence duties which are locally collected, such as those on carriages, dogs, and guns, should be applied toward the maintenance of main thoroughfares, and that the principle of licensing as proposed by the Bill, with respect to the wear of roads by traction engines or extraordinary traffic, should be extended."

This Mr. DUCKHAM proposed to amend by striking out the words "applied towards the maintenance of main thoroughfares," and in lieu thereof to insert, "transferred from Imperial to local authority."

Mr. NEVILLE seconded the amendment, which was opposed by Mr. Neild and Captain Craigie, and eventually negatived.

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

## GLOUCESTER.

At the last meeting of this Chamber the matter set down for discussion was the Highways Bill, but this being so intimately connected with the County Government Bill, which does not seem likely to pass this session, no resolution was come to on the subject. The Upton-on-Severn Farmers' Club had forwarded a resolution which they had adopted in reference to education in the agricultural districts, and asked this Chamber

for its approval and support. The resolution urged the Royal Agricultural Society to take measures to induce the Privy Council on Education to include, as an extra subject taught in school, the elementary principles of agricultural, including farm labour, and that they should prepare and issue small text books and charts to be used in the teaching. General approval was expressed of the suggestion, it being advocated by several members as highly desirable that children should be taught the first principles of agriculture, at the same time that they were instructed in the ordinary routine of school work in order that when they left school they might be fit to go to work, instead of, as was too often the case at present, being quite unqualified for it.

Mr. DANIEL LONG proposed a resolution to the effect that industrial training in schools was equally desirable in agricultural districts as ordinary education.

Mr. W. LAWRENCE, however, moved as an amendment that the subject be postponed, it being too important to be dealt with, except after full consideration and discussion. The amendment was carried, and the Chamber adjourned.

### LEICESTERSHIRE.

A special meeting of the Leicestershire Chamber of Agriculture was held at Leicester recently, for the purpose of considering the Government Highway Bill. Mr. J. Glover presided, among those present were Sir A. G. Hazlerigg, Sir Henry Halford, Sir A. Palmer, Mr. A. Pell, M.P., and Mr. W. U. Heygate, M.P. After a long discussion, a resolution condemning the proposal of the Government *in toto* was withdrawn in favour of the following, which was passed unanimously:—"That in the opinion of this Chamber, the Highway Bill, and the clauses referring to highways in the County Government Bill, fail to preside the necessary relief from the injustice and the pressing burden thrown upon the owners and occupiers of real property by the entire maintenance and repairs of dis-turnpiked roads."

### STAFFORDSHIRE.

A meeting of this Chamber was held recently, Mr. T. Neville presiding.

It was resolved that £5 be subscribed towards the funds of the Home Cattle Defence Association.

The CHAIRMAN said he thought there was very little prospect of highway legislation being dealt with during the present session of Parliament. The block of foreign business in the House of Commons was such as would, he feared, delay all home legislation, and he thought it would be with great difficulty that the County Government Bill would be got through both Houses of Parliament. After some further remarks, he submitted the following resolutions to the Chamber:—1 "That this Chamber considers that a far more comprehensive scheme of highway legislation is required than is shadowed forth in the proposed Bill." 2 "That enlarged areas should be arranged for highway management so as to enable highway boards to employ competent surveyors to superintend the work." 3 "That turnpike and other main roads should be maintained from other source, other than from rates as are now raised from real property only."

The resolution was carried unanimously.

### WARWICKSHIRE.

A special meeting of the members of this Chamber was held on May 3rd, in St. Mary's Hall, Coventry.

The Highway Bill was discussed, and Mr. BURGESS proposed: "That the present system of maintaining highways pressed very hardly on the occupier; and that any future legislation ought to extend the area of payment, so that occupiers alone should not bear the onus of repairing turnpike roads recently abolished."

Mr. BRIERLY seconded the proposition, which was carried.

The last matter on the agenda was: "To suggest subjects for discussion." The only one suggested was by the Chairman, as to agreements between landlord and tenant.

The CHAIRMAN considered that the last Act passed on the subject of tenants' holdings was an insult to tenant-farmers. He wished to see fair and equitable agreements between landlords and tenants.

Mr. KEMP regretted that there was not greater unity among tenant-farmers.

Mr. R. ROBINS supposed that farmers had had a very severe lesson during the last three or four years.

Mr. KEMP: The farmers are the most disunited class on earth. They have so many jealousies.

The CHAIRMAN: They certainly are not united.

Mr. CALDECOTT: If the wives are not jealous it does not signify much about the men.

Mr. KEMP: The labourers can unite.

The CHAIRMAN considered that the subject he had suggested would draw both sides together.

No one having undertaken to introduce this or any other subject, the conversation ended without any result.

### WORCESTERSHIRE.

A general meeting of the members of this Chamber was held at Worcester recently, at which the County Government Bill was discussed.

The following resolutions were passed:—

"That this Chamber feels disappointed that no relief is given to the ratepayers in rural parishes by the Government Highway Bill, which might have been provided by subventions from the Consolidated Fund or by the application of taxes on earnings, &c. locally collected."

"That this meeting approves generally of the provisions of the County Administration Bill, but is of opinion that the clauses relating to highways should be eliminated from the Bill, and that the proposed County boards should not be empowered to grant loans to local authorities for local purposes."

### YORK.

A meeting of this Chamber was held recently at the Queen Hotel, Micklegate, Mr. J. Dunn, of Ketfield, presiding, when the Government Highways Bill was taken into consideration.

The CHAIRMAN, after a discussion, having commented upon the remarks of the various speakers, moved a resolution as follows:—"That this Chamber approves generally of the highway legislation proposed by Her Majesty's Government, with the County Government Bill and Highway Bill, and trusts they will be passed into law this session."

Mr. ILLINGWORTH, Haxby seconded, and the resolution was carried unanimously.

## FRENCH DAIRY PRODUCTS AT THE PARIS EXHIBITION.

(Translated from *Les Débats* for *The Mark Lane Express*.)

The Agricultural Editor of *Les Débats* notices with satisfaction the superb display at the Paris Exhibition of butter and cheese, and comments upon the fact that in such form is contained the strongest essence derived from the milk of the cow and the goat, and in a manner the most easy for transportation to the important centres of population. Normandy, as hitherto, holds the first rank in the dairy products, owing to her luxuriant meadows and excellent breed of cows.

In the Calvados there are four principal varieties of cheese manufactured—the “Pont l'Évêque,” the “Livarot,” the “Camembert,” and the “Mignot.” At an early period, so far back as the thirteenth century, these cheese enjoyed a great reputation, since they are mentioned in the “Romance of the Rose;” and later again, in 1662, a poem complete was devoted to a description of the cheese of Pont l'Évêque, then known under the name of “Angelots,” from the valley of the Auge, where they were made.

At the present day there are three qualities, and the variety intended for general use requires, whilst in the cellar, three or four months of minute attention, varying according to its size and firmness. For a cheese of 1*l.* 50*c.* four litres of sweet milk are needed; five to six litres for one of 2*l.*; eight to nine litres for one of 2*l.* 50*c.* to 3*l.*; and a good cow yields on an average 350*l.* annually, and daily two cheese of ordinary size. Each year the production from Point l'Évêque amounts to 1,500,000*l.* The most serviceable cheese is the “Livarot,” owing to the length of time that it can be preserved, and the ease with which it can be transported to a distance. This cheese derives its name from the market town of Livarot, near Lisieux. The produce of a cow employed for the purpose of cheese-making at Livarot is valued at 300*l.*, and in a thoroughly well-managed cowhouse 350*l.*, and even more. The sales of the Livarot bring a total of nearly five million francs. The Camembert has effected an entire economic revolution in the rentals of pasture-farms, and the substitution of the best milkers for inferior animals. A farm, for instance, letting for 23,000*l.*, has suddenly risen to 35,000*l.*; another 3,000*l.* to 6,800*l.*; 8,000*l.* to 12,000*l.* The whole production realises for the Calvados two million francs annually. The “Mignot,” which derives its name from a family residing about a century ago in the department, has only a limited importance. There are about 24,000 dozen of these cheese manufactured, representing not less than 100,000*l.*

The three descriptions made in the department of the Seine-Inférieure are the “Neufchâtel frais,” the “Neufchâtel raffiné,” and the cheese called the “Fromage de foin.” The “Neufchâtel frais” has the form of a little cylinder about eight centimetres in height and five in

diameter. This is obtained by adding some cream to the sweet milk in about the proportion of one-half of the milk when condensed by pressure. The “Neufchâtel frais” includes the “Malakoff,” and the cheese called the double cream—so widely known and esteemed—that proceed from the two great factories of M. Gervais, near Gournay, and of M. Pomel, at Gournay itself. M. Gervais receives daily, from the farms in the vicinity, the milk of 3,000 to 4,000 cows; and M. Pomel utilises the milk of 1,500 cows. The factory of M. Pomel produces annually cheese to the value of 800,000*l.*, which find a sale in the Seine-Inférieure and the contiguous departments. The factory of M. Gervais expedites every evening to Paris a waggon containing the “pâte à fromage,” and the fresh cream which ought to be mixed with the “pâte.” These substances, arriving at midnight, are transported at once to the establishment in Paris, where the work immediately commences. The manufacture is effected by the aid of a machine which works up the “pâte,” to which the cream is added, and puts the cheese into moulds. At five o'clock in the morning boxes containing each six or twelve cheese are delivered to the retailers at the rate of 2*l.* 40*c.* the dozen. M. Gervais employs daily 150 workpeople, and produces about six million cheese, valued at 1,200,000*l.*

The principal of the Neufchâtel cheese of the “raffiné” quality is the one called the “Fromage à tout bien,” produced from the natural milk, unskimmed. The fabrication demands the greatest care and longest experience. Upon an average four or five months are occupied in making a Neufchâtel cheese “à tout bien,” which weighs about 125 kilogrammes, and sells for 12*l.* 50*c.* the hundred. Ordinarily from 2,500 to 3,000 cheese are obtained from each head of cattle, which brings the produce of the cow to 350*l.* upon the average. The “Fromage de foin” (thus named because it is usually wrapped in hay) is made with the milk from which the cream has been skimmed. This cheese greatly resembles the Livarot. It is low-priced, and inferior in quality. Upon the whole the cheese industry is very considerable in the Seine-Inférieure, and counts for about seven million francs annually.

It is well known how much the production of butter enhances the wealth and adds to the glory of the Calvados. At first commenced in the environs of Bayeux, the excellent methods adopted have penetrated gradually to the different parts of the department. The Isigny butters are produced by the numerous pastures which cover the lands of the cantons of Bayeux, of Trevières, of Isigny, and extend also over a great part of the cantons of Reges and Caumont. The fabrication of butter enjoys a rôle so important in the agriculture of the Bessin, and the development of pasture has been carried to such an



extent in the majority of the farms, that the corn grown does not suffice for the maintenance of the persons engaged. The cows which furnish the Isigny butter belong to the Cotentine race. At two years of age they are considered fit for calving, and the largest proprietors endeavour to maintain a regular supply of milk in order that the same quantity of butter may be made throughout the year.

The animals are left out abroad as much as possible if the weather be not too inclement, and during the winter frosts people are employed to carry dry fodder to the pasture; for, notwithstanding the most assiduous care, the butter of cows confined in the stables is always inferior to that of animals living at liberty in the meadows.

Every traveller who has passed through the Calvados will remember the picturesque aspect presented to the eye by the immense verdant plains enlivened by the magnificent cattle of the Cotentine or coloured breeds. Twice or thrice upon each day the milkmaids proceed to these pastures to draw the milk from the cows into yellow copper vessels, kept in a state of perfect cleanliness, called *conues*. Thereupon begins the work of the dairy, a veritable *piece de l'art* on the farms of this rich part of France, and where the temperature is kept at the point most suitable for the rising of the cream, that is to say, between 10 and 12 degrees. The churning, skimming, washing, and other processes complete the manufacture

of the butter. In the country it is reckoned that 25 to 28 litres of milk are required for 1 kilogramme of butter, and the production is, for one cow, from 125 to 150 kilogrammes of butter per annum. The kilogramme selling for 3*fr.*, 4*fr.*, and sometimes 5*fr.*, the annual produce of the animal exceeds 400*fr.* This is net profit, since the small milk which serves for the rearing of the calves and pigs, with the dung, gives an equivalent for the cost of feeding and attendance.

The sales of butter in the Calvados amount annually to nearly seven million kilogrammes weight, which, at an average price of 3*fr.* 20*cc.*, makes about 22 million francs. These figures, nevertheless, do not, by any means, complete the whole of the transactions, since they only represent the sales at the public markets recorded by statistics. To such must be added the fresh butters sent by the railways, the butters prepared for export, and the butters consumed in the department, whereupon we reach a complete total of 23 million kilogrammes, equal in value to 50 million francs (£3,200,000). In 1867 the butter industry of the Calvados only realised 30 millions, and the enormous increase which has since taken place may be attributed to the adoption of improved methods in the manufacture, the extension of the pastures, the adoption of the railway facilities for transit, and more especially to the ever-growing and deservedly excellent repute which the French butters have acquired in foreign countries.

#### ENGLISH CART-HORSE STUD ASSOCIATION.

An adjourned meeting in connection with the establishment of the above Association was recently held in the room of the Farmers' Club at the Caledonian Hotel, Adelphi. The Earl of Ellesmere, President of the Association, occupied the chair, and there was a large attendance.

Mr. Frederick STREET, Hon. Sec. and Treasurer, read the minutes of the last meeting, which were confirmed. He also stated that since the last general meeting the sub-committee had met at Bedford, and in regard to the election of a Council they decided to send out voting papers containing 60 selected names from which the members of the Association might select 30 members of Council. That had been done. Of those originally selected, however, some had declined to stand, as, for instance, Mr. C. S. Read, M.P., Mr. Curtis, Mr. Page, Mr. Martin, and Mr. E. Pattison.

Mr. STREET next read the following recommendation from the sub-committee:—

That until it is more fully ascertained the number of members likely to join the Association, and the amount of the annual income, they deem it desirable to postpone taking any steps which would commit the Association to financial obligations; and, after the appointment of Council to refer to that body the consideration of the constitution and rules of the Association and the mode of conducting the business.

Mr. READ, M.P., asked if the adoption of that recom-

mendation would not preclude them from electing a Treasurer or Secretary.

Mr. STREET replied that they were not yet in a position to say what salary they could pay a Secretary, and, moreover, the rules and constitution of the Society had not yet been decided on. When the sub-committee met a few days since they had then only 50 members. He was glad to say many more had come in since then; but at that time the sub-committee thought it would be impolitic to elect a Secretary without defining his duties and stating what his salary should be. They therefore thought the matter had better be left to the Council.

Mr. READ said that might be all very well, but he thought the election ought to be in the hands of the members generally (Hear hear).

Mr. C. HOWARD entirely differed from Mr. Read, and pointed out that in most similar associations the appointment of Secretary was left to the Council.

Mr. C. MARSTERS said there was a well qualified gentleman in the room who was prepared to accept the office of Secretary, and to work it without salary for the first year. He would therefore propose that Mr. Sexton be appointed secretary.

The noble CHAIRMAN, however, thought they ought to proceed with the election of the Council before coming to any decision about a Secretary. If the recommendation

of the sub-committee should be adopted it would hardly be competent for them to elect a Secretary to-day.

The subject was then deferred as suggested by the Chairman.

Messrs. Robert Leeds, R. Newton, and Taylor were appointed Scrutineers to examine the voting papers and report the result of the election of members of Council. They retired to another room to perform the scrutiny.

The Hon. SECRETARY reported that up to that morning 49 life and 93 annual members had given in their adhesion to the Association. Thirty or forty others had given in their names as members since the commencement of this meeting. 3,000 circulars had been issued since the last meeting. He had received a great many letters expressing disappointment at the prize-sheet of the Royal Agricultural Society in regard to cart horses, particularly as no prizes were offered for yearling cart colts and fillies (Hear, hear). Earl Spencer had written accepting the office of Vice-president of the Association (applause).

Mr. C. S. READ, M.P., then moved,

That the consideration of the rules and constitution of the Association be referred to the Council, with a request that they should prepare rules and submit the same to a general meeting to be called afterwards for the purpose.

Mr. C. HOWARD seconded, and the motion was agreed to.

Mr. TRETHERY thought they might now proceed to the election of a Treasurer. He understood a gentleman from Cambridge had offered his services, but it might be desirable to consider whether they should not have some one in London.

The Hon. SECRETARY, in reply to Mr. Read, said that Mr. Foster, the gentleman who had offered to act as Treasurer, had a branch in London.

Mr. READ: Then he would open an account there for us.

The Hon. SECRETARY: I don't think any other firm would serve the Society so well.

It was then resolved that Mr. Foster's offer to act as Treasurer should be accepted with thanks.

Mr. F. DUN thought this would be a proper time to ventilate the question whether the head-quarters of the Association should henceforth be in London or in any of the provincial towns. Perhaps, as the members resided in so many different parts it might be as well that their meetings should partake of an itinerant character.

Mr. OVERMAN thought London would be the best place for their meetings. Every one had other business to bring him to London, but few men had anything else to go to Leicester for.

The CHAIRMAN thought this was a question that might be left to the Council, who would be most affected by the decision.

Mr. READ, M.P., said the Council could, of course, fix their own meetings, but he would move that the ordinary and general meetings of the members should be held in London.

Mr. ROSE seconded.

Mr. TOM BROWN suggested that the Council should have power to call a special meeting in connection with the Royal Agricultural Society's Show wherever that might be held.

Mr. WELLS supported the suggestion.

Mr. READ pointed out that his motion would not preclude such special meetings being called, as it only applied to the ordinary general meetings.

The resolution was then agreed to as a recommendation to the Council.

Mr. TRETHERY reverted to the question of the election of a Secretary, which he thought should be proceeded with at once.

Mr. GEORGE STREET thought it would be premature to do so, as the number of members was at present limited. They did not yet know their financial position, or whether or not they would require a Secretary to give up the whole of his time to the work of the Association. He thought it would be infinitely better that the matter should be left over for the consideration of the Council, who would represent the general body of members.

Mr. OVERMAN and Mr. READ strongly urged that the election of a Secretary should take place to-day, as otherwise their being called together was simply a waste of time. Ultimately Mr. Read moved,

"That the election of the Secretary shall rest with the members of the Association rather than with the Council."

Mr. C. HOWARD moved as an amendment that it be referred to the Council to advertise for a Secretary to make a selection of suitable persons, and to issue voting papers to the members.

On a show of hands the amendment was lost, and Mr. Read's motion was agreed to.

Mr. THOMPSON (Thorpe) then proposed, and Mr. TREADWELL seconded, that the election take place to-day.

The CHAIRMAN said seeing the present state of the Society, and after hearing the recommendation of the sub-committee, he for one would not feel prepared to vote for a Secretary that day.

Mr. ROSE moved as an amendment to Mr. Thompson's motion,

That the election of a Secretary be by voting papers to be forwarded to all members.

They ought to be very careful how they proceeded in this important matter (Hear, hear).

Mr. WELLS seconded the amendment, although he would have preferred that the matter should have been left entirely in the hands of the Council.

After some discussion the noble Chairman declared the amendment to be carried by 26 to 23.

Mr. READ, M.P., proposed that it should not be absolutely necessary for the Secretary to reside in London, or give up the whole of his time to the duties of the office.

Mr. WELLS moved as an amendment that the question of the duties, &c., of the Secretary be referred to the Council.

The amendment was carried by 15 to 13.

The Scrutineers reported as the result of their examination of the voting papers that the following gentlemen had been elected on the Council:—

The Duke of Manchester, Huntingdonshire.  
 Earl Powis, Wales.  
 The Earl of Dunmore, Scotland.  
 Hon. Edward Coke, Derby.  
 Hon. H. De Vere Perry, Ireland.  
 Sir Gilbert A. Clayton East, Bart., Berkshire.  
 Sir J. D. Astley, Bart., Lincolnshire.  
 Sir W. W. Folkes, Bart., Norfolk.  
 Mr. Pickering Phipps, M.P., Northamptonshire.  
 Major Dashwood, Oxfordshire.  
 Captain Heaton, Lancashire.  
 Mr. James Howard, Bedfordshire.  
 Mr. George Street, Bedfordshire.  
 Mr. J. K. Fowler, Buckinghamshire.  
 Mr. Jno. Treadwell, Buckinghamshire.  
 Mr. William Little, Cambridgeshire.  
 Mr. John Linton, Cambridgeshire.

Mr. Josht. Martin, Cambridgeshire.  
 Mr. Alfred Richardson, Cambridgeshire.  
 Mr. Walter Gilbey, Essex.  
 Mr. Frederick Street, Huntingdonshire.  
 Mr. Thomas Plowright, Lincolnshire.  
 Mr. Thomas Brown, Norfolk.  
 Mr. Charles Marsters, Norfolk.  
 Mr. Henry Overman, Norfolk.  
 Mr. T. W. Garrett Taylor, Norfolk.  
 Mr. Wm. Wells, Northamptonshire.  
 Mr. G. M. Sexton, Suffolk.  
 Mr. T. C. Booth, Yorkshire.  
 Mr. Jas. G. Crowther, Yorkshire.

Mr. READ, M.P., moved a cordial vote of thanks to Mr. Frederick Street for his services, and requesting him to continue his labours until a Secretary had been appointed (cheers).

Mr. ROSE seconded, and it was carried by acclamation.

A similar compliment having been paid to the noble Chairman, the proceedings terminated.

## L I V E S T O C K N O T E S .

And now Mr. Bowly's sale has come and past, and the pulse of the public has been felt. It was not a Siddington sale in the full sense of the word. Three Musicals, two Rubies, and a single Gazelle made up the total of his own compounds, and they sold, for the times, comparatively well. The burden of his collection consisted of cows, which he had bought in, and their offspring, and so there was not enough to attract a "good company" from a distance. There was a large assemblage to greet the popular and straightgoing breeder. Whether in that character, or as a fox-hunter, all men trust and believe in him. He has kept all his Gazelles, Musicals, and Rubies, save these few which he threw as a truffle into the pie, and when a sale arrives of the "rале sort" again Mr. Bowly will have no cause to complain of the average. The things he set forth showed the skill of the owner. Wonderfully neat, meaty, and well coated, it was the bad times only and the closed ports that kept them from being caught up like wildfire. Languid and yet longing was the feeling of the closely-packed ring. Then of Mr. De Vitre's things some went great bargains, notably the grand daughter of Roan Duchess 22, by Grand Duke 4th—a Blanche without the Rex and Selim crosses, but topped up at Towneley, and dam of a beautiful first-prize bull-calf. His Siddington cow secured the five hundred he gave for her, and he has her heifer, a nice one, left. Still there was enough of interest shown to-day to make men predict good running at the imminent May sales. At the Dublin Show prices ruled decidedly higher. There never was a time at which to invest in Shorthorns so advantageous to the beginner as now, since R. Booth's grand Studley lot went for an average of about £24! Let the youngster look out, make up his mind before-

hand, and then hang on with tight teeth to his resolution! "There's a good time coming, boys," and you won't have to wait such a long time either. One of the events of to-day was Mr. Keunard's buying a dark-red thick-fleeced Gazelle bull, to go on with in his well-managed winning herd. The Rev. H. Berry, were he alive, might be satisfied to see how the descendants of his former pet are appreciated.

To change the subject, however, I thank "Observer" for his kind and thoughtful article on my notes as to the "yellow colour," which, for the last two or three years has been undoubtedly coming out more freely than before. Is the fact due, I wonder, to the disinclination to use white bulls, which popular prejudice has brought about of late years? Under Mr. Bowly's advice I have seen a white bull used to yellow-red cows, the result, in nearly every instance, being rich roan calves. The white has within it all the elements of the blue roan, which undoubtedly looks best on a board of yellow green landscape by a mere optical rule, by the simple law of complementary hues. But that's not the case inquired into. We want to know where the yellow comes from and *whether it is owing to some degeneration in the breed?* Certainly it has in no way deteriorated within the last thirty years, and how long before that was the *blue roan* known—*purple roan* as Mr. Strafford more correctly terms it? How about the "blue black" cow, my boy? The artistic feeling can trace a clue there which calls for inquiry. The yellow-red animals are very apt to have the softest of mossy coats to the best of flesh, notably the Cambridge Rose tribe, which is very redolent of yellow red. Well, but if you are afraid of "aboriginal" colour, and fancy that the cattle must deteriorate as the tint gets lighter, take

down the earliest volume and read of Scrope's yellow cow, of Maynard's "auld yellow" cow and a score of others such. In fact, it was the prevailing hue of early days. Show me a single record of blue roan, the "purty" tint that it unmistakably is, and remember that "roan" in all the earlier Shorthorn records means a "yellow roan" or "red roan," and never a "blue roan" at all. A sweet recent invention like mauve is this last popular hue! Small blame to those that like it. The yellow-red, such a hue as that of Grand Duke 4th and the Grand Duchess sold at Bett's sale, glistening like gold in the sunshine on the "sea otter" coat which usually accompanies it, is by no means to be feared as an index of under-breeding. If you don't like it, well try a white bull. There has been such concentration of late years of Duchess of Cambridge Rose blood that the old spirit accumulates and must flavour the tippie. Only don't dread the yellow, if the unmistakable character and physical features of the true Shorthorn be there. A beautiful rich colour is the Hillhurst red, and you can try a bull of that sort if you please—Mr. Kennard's intention, he tells me, in the Gazelle purchase above-mentioned. The fear is, as I told him, of his getting toffy-tinted splashes such as that famous old warrior, Fourth Duke of Oxford, wore upon his hide. Try a white bull, I repeat, and if it doesn't answer why then it is your turn to suggest; only don't think that yellow means a gipsy infusion, something of the Jupiter (342) sort, my friend! and now can you tell me why was *Lavasteeves* (365) so strongly repudiated by Mr. Bates? He is known to have been an excellent animal and a famous getter, but why did the old Kirklevington gentleman give him so heartily the cold shoulder? Where is any correspondence to be found on this subject? I am on the trail myself, but I should be very thankful to anyone who will help in the elucidation of a subject which has come to be important, because if, as suspected, his grandmamma was a Galloway cow, he stands in the same category as the grandson of Bolingbroke. There is no eluding this conclusion.

The love of the Clydesdale horse is spreading. What can be the origin of that noble sort, the King Tom (Shire horse) breed be? Is it a combination of Clydesdale and the local kind? The noble teams that adorn the streets of Liverpool are, many of them, bred in the neighbourhood of Oswestry, where the succulent grasses of rich low-lying meadows expand the growth to a grand size. Saw the fetlock-bone of such a one through, and you will find it coarse as a cabbage-stalk in its fibre, beside the more tense formation of the thoroughbred's bone. Grass feeding does this, that is, makes the size—or rather *made*, as it has through perseverance, like all other things, come now to be inherited. But their fire is due to their descent from the old mountain breed, from which Caractacus used to choose his cobs, and which is tearaway and tireless as ever now-a-days.

There is going to be a great dispersion of pigs. Lord Morton during the Bristol show week, taking advantage of its vicinity, will give the public a chance of his delicious

brawns. Here let me thank Mr. Wood heartily for the publication of his excellent recipe for suffering ewes. But what shall we do about this cow abortion? Is it as epidemic as measles? I heard much of it in Ireland as one does at home, being there, as here, simply

What is the value of a Shorthorn pedigree? is a question deserving consideration. Shorthorns, to be successful in the market, must be built as ships are, whether intended for speed or strength, on certain well-considered and definite lines. We are familiar in the sheets of public prints with exquisitely beautiful and yet very various models of different naval projectors' art. It is so exactly with that peculiar breed of cattle, which, whether originally imported from the Continent or not, has yet been cultivated in this country to a high degree, and is generally pronounced to be the most valuable for the improvement of other native kine in all parts of the world. Hence it is of eminent consequence to keep them, as far as can be in their inherited purity, free from stain of half-breds, just as is done with the racehorse. Thanks to the enterprise of rich men, and the impulsive fascination of the pursuit itself, this is likely to be the case for generations to come; and with profit, too, I may, judging from experience, fairly add. What prices the Collings cattle made at their sale! And by private contract Princess is recorded to have had seven hundred guineas paid for her which would be, all things considered, about twelve hundred pounds of our money now-a-days. Bakewell let three of his improved Leicester rams in 1789 for 1,200 gs., and seven others for 2,000 gs. This splendid reward he gained by his own energy and shrewd management. He had, as all must, his share of ridicule and cold water to encounter. Wherefore, then, should we despond? Keep moving on. It is the rule of intelligent life. Men must farm. Men must breed. Well, then, does not common-sense admonish: Keep of the best you can to sell, the quickest feeder and the deepest milker, and breed what you can for yourself, so as not to have to buy? Mr. McCombie, than whom none should know better, tells us that it is easy to be ruined in the "lean-meat" trade. "To be a good judge of store cattle," he writes elsewhere, "is exceedingly difficult. We have many judges of fat cattle among our farmers and butchers, and a few good judges of breeding stock; but our really good judges of store cattle are exceedingly few."

To grapple closer, however, with our problem, you find thoroughly successful in the market only such cattle as own pedigrees representing a distinct idea or method on the part of the breeder. It is essential, of course, that the breeder's story can be trusted, which unhappily is not without some instances to the contrary even on this side of the water. The old strains of Warlaby, Kirklevington, Fawsley, Chilton, Towneley, &c., all exhibit the unmistakable evidence of men working in a selected groove of their own, the comparative results, at once finished in themselves, reproductive of like in their offspring, being in each separate case marvellously different. These several herds, in their purity, exhibit almost as diverse

types of outward shape as the several breeds of cultivated sheep do—wool being put out of the question. Of course, then, to maintain this distinctive type, to keep the descendant in outward look no less than in the special bovine qualities of meat and milk, not inferior to their ancestry, it is expedient either to breed only between themselves: or, if an outcross be on the score of constitution absolutely required, not to go further afield than can be helped, and *moreover with consideration of the under elements, the lower strata of breeding in both.* It was to the fact of the Booth cows Fame and Bridecake, selected by Mr. S. E. Bolden to fabricate that perfection of a cow Grand Duchess 17th, having their veins full (through Jerry, Pilot, Crown Prince, &c., &c.) of the blood of R. Colling's Red Rose, and so *being already very kindred* to the Duchesses used to cross with them (through reduplicated Second Hubback, Norfolk, &c.) that the most successful of modern amalgamations is to be attributed. To put it in other words, Mr. S. E. Bolden's celebrated Booth and Bates cross, so much talked of at the time, was simply the mixing up of two old wines which came of the same vintage, but which had been kept in different cellars, and slightly doctored each by its separate owners. By this rule, then, it does not do rashly to cross animals which for generations have been bred with a different ideal in the respective breeder's minds. Hence it is that the immediate results of such a performance are so often disappointing. To have a successful combination, you must consider the special type or character of each of the two animals, and no less also their backbreeding. Taught by practical experience hence it is that the market will not have the miscellaneously bred (higgledy-piggledy bred) animals of which there are a large number existent, and which often impose upon a beginner. A cow may show twenty Herd Book crosses and still be worth not a row of pins beyond her milk or meat value, because her history is that she is the issue of some such performance as this. One of her earliest ancestresses was bought and sent to the nearest Shorthorn bull, no matter what his strain, then the heifer, to some such other; then a cheap bull is picked up and paired with her heifer again, and so on *without method or idea of any sort.* Accidentally she may have preserved a good style; but she would be dangerous to breed from. On the other hand, when *every cross has been calculated,* and the Shorthorn style is preserved, both bulls and cows are really of worth, because they can be relied on to produce the like of themselves. And this leads one to point out that whereas excellent young bulls are at present "legion," reliable females are rare, and therefore exceedingly costly, as the outside world occasionally hears with astonishment. With the best of reason do the rich breeders compete for the Duchesses, Oxfords, &c., because they represent the idea of one whose stock (as he foretold) by their beneficial effect on other tribes, have shown him to have been the shrewdest and most present of breeders. Where would the existing abundance of beautiful bulls be of so many strains but for the Kirklevington blood they have

in their veins? And as much may be said on the Warlaby side too.

For those who can afford it as good and safe an investment as can be is the purchase of the best Bates females. Both females he cannot obtain for love or money. But of course the number of the Bates best is limited, and breeders are springing up on all sides in shoals. Well then, before they be squandered away, pick up—if only as Bates did, a cow to begin with—some of those side tribes which are full of blue blood at bottom. One there is to be sold next week in several lots, a tribe which Jonas Webb was fond of, the Celia tribe, full for the nine lowest crosses of *splendid old blood*, Driffield, Patriot, Ben, &c. (over and over again). One of England's best breeders sat into the small hours with me tracing this pedigree when I pointed it out to the public on a former occasion, and we were surprised above measure to find such a flow especially of Ben's blood, and Ben, remember, was uncle to R. Colling's Red Rose.

I try to practice what I preach, and consequently stick by a single tribe, a whole herd of which I now possess, or I should certainly bid for these Celias.

The Duchesses, Oxfords, Wildeyes, Waterloos, Gazelles, Silences, Darlington, Duchess Naucys, &c., must belong (being limited in number) to the turtle-soup tier. But such old families as these Celias it will pay the enterprising to look up. I have heard from one who owned her that Celia was "a poor one." So she might be, considering how *inbred* she was. Yet Jonas Webb saw a treasure in her, and he, too, was "wide-awake"! A note from Holker informs that since July 31, out of 20 calves born 17 are bulls. "We shall have a grand lot of bulls for the 18th of September." What's the use of "grand" bulls if there be no fitting females to pair them with? "There never was a sounder speculation than Shorthorus judiciously bought just now," is a remark one hears on every side. Look up the advertised cows, then, whose *lower strata* are redolent of Colling's blood.

Never mind if the paste above has been made hastily with somewhat rancid butter. If the apricot jam within be right, it is easy to replace a crust!

The "wave," as doctors term it, of abortion seems to have passed on. Its effects were as general as disastrous, and one hear it mentioned in all company. One gentleman spoke of having bought a rick of hay some years since, and said that every cow fed from that rick threw her calf. Surely this is the dreaded ergot! Home-made provender and home-bred stock are nine-tenths safer than the purchased.

It is a bad year for goslings and the early chickens excepted. When old cottage women hatched them in beehives under their beds, the frosts seem to have played the mischief with eggs. I am just informed that I can buy any number of three-parts-grown "gulls" (young geese) shortly, on a wild sort of forest or common district not far hence. And I am informed that their flesh is far superior to that of the common sort. They are to ordinary geese what the Southdown mutton is to the Cotswold! I mount my white ass, and am gone to inspect.

VIGIL, May 11.

### THE COLD STORAGE WHARF.

These vast premises, occupying the entire series of arches beneath Cannon Street Station from Upper Thames Street to the river, are now in complete readiness to receive and preserve, if necessary, a week's supply of meat for the whole of London; and recently a company of gentlemen taking an interest in the question attended at the invitation of Mr. Tallerman for the purpose of inspecting the entire undertaking. The range of arches comprises a spacious market-hall, with frontage numbered 84, Upper Thames Street; receiving-house; the immense air-tight store-chambers; the various appliances of freezing-tanks, pipes, and exhauster used for the purpose of reducing the temperature as required, and driven by a 10-horse power engine. In addition was shown a working model of the refrigerating apparatus and store chambers, which is about to be despatched to the Paris Exhibition. Among members of the Lower House present were:—Sir A. Mills, Colonel Kingscote, and Messrs. C. S. Read, A. M'Arthur, P. MacLagan, J. Macartney, A. Pell, and P. Phipps.

The general opinion appeared to be that the Cold Storage Wharf is a complete realisation, as far as the metropolis is concerned, of the scheme proved feasible by the results obtained from the voyage of the *Frigorifique* last spring, since the great evil will by its means be avoided of deterioration caused by exposure to the air of meat brought from abroad under the effect of the cooling process; while by the arrangements concluded in Austro-Hungary the period of transit will be so limited that the loss by evaporation will be merely nominal.

The inspection being concluded the company assembled in one of the large chambers, the Duke of NORTHUMBERLAND being in the chair.

Mr. TALLERMAN explained at some length the aims of the Company and the scope of their operations. Experiments had been conducted in connection with their process, both as to fish and fruit, and had proved perfectly successful; hence one-third of the building would be fitted up for the purpose of storing these and other perishable foods. Contracts have been completed by which as much as 400 tons of meat can weekly be obtained, if desired, at a prime cost of 3½d. to 4½d. per lb., or 4d. to 5d. at Vienna, all meat not coming up to the best English standard being regarded as seconds. These supplies will be concentrated at Vienna from South Eastern Europe generally, the principal contributors being Galicia and Bessarabia. There are in all some 20 centres, as for instance Cracow, Lemberg, and Tchernowitz; so that in case of scarcity in one region others could be called upon. There is not the slightest possibility of diseased meat being forwarded. With respect to transit, arrangements have been made with the Continental railway authorities for a special express train of 10 or 12 cars, carrying 50 tons or more, to be run every week for the present, the Storage Company supplying the cars, the railways merely running them. The time occupied between Vienna and Antwerp will be 76 hours; but it is anticipated that this

will, after awhile, be reduced to 45 hours, and that a train may be sent off every day. A steamer is to be chartered to convey the meat from Antwerp to the Cold Storage Wharf, and in a very short time this traffic is expected to be in full swing.

The Duke of NORTHUMBERLAND said that having taken special interest in the importation of cattle for the food supply of England, he must say that he had been extremely gratified to find that large supplies of meat of good quality would soon reach this country from the Continent; and he thought that the proposal of Mr. Tallerman was an improvement upon the old system in one respect at least, namely that of the prevention of the cruelty and neglect which was attendant upon the transit of live animals. He congratulated the Company upon the present success of their enterprise, which, he thought, had been productive of great good.

A resolution, congratulating Mr. Tallerman upon the completion of his arrangements, and expressing the opinion of those present with regard to the beneficial character of his efforts to enlarge the area available for the food supply, was next passed.

Mr. TALLERMAN, in acknowledging the compliment, remarked that there would probably arise out of the proposed trade an entirely new branch of business; for it was intended that large quantities of fish of various descriptions from the lavish fisheries of Ireland should be preserved fresh and sent by the returning steamer and train to Central Europe, where there was a scarcity of such commodities even greater than the deficiency of meat at home.

The proceedings then terminated.

### MANCHESTER HORSE SHOW.

The fifth International Horse Show was recently opened at the Pomona Gardens. Whatever may be the cause, the exhibition this year shows a considerable falling-off from the numbers given in previous years. In 1877 the total number of entries was 484. At the present show the entries number only 447. Almost without exception, the animals exhibited merit special commendation, and the keen competition for the prizes offered was in itself a proof of the general excellence of the various classes. The classes judged included thoroughbred and roadster stallions, stallion ponies, hunting brood mares, hunters, agricultural and dray stallions, cart stallions, agricultural and dray mares, and dray horses, besides which there were various leaping contests. The following are the names of the judges: Lord Combermere, Colonel Ballard, Mr. R. L. Maynard, Mr. C. Brierley, Mr. C. Masters, Mr. W. Lort, Mr. J. C. Parsons, Mr. W. McCulloch, and Mr. T. Plowright. Heavy horses were not numerously represented, but the quality of the exhibits was extraordinarily good. There were fourteen entries in the roadster stallion class, and Yorkshire exhibitors carried all before them, the first prize falling to Mr. G. Holmes, Beverley; the second to Mr. N. S. Brough, Market Weighton; and the third to Mr. G. Wilberforce, Thornton, Pocklington. "Young Firaway," the animal shown by Mr. Holmes, is a five-year-old, of splendid proportions, and has never before been exhibited in competition. The entries of agricultural or dray stallions only represented half a dozen

exhibitors, and Yorkshire again asserted its title to the leading award, which was taken by Mr. J. F. Crowther, Mirfield, with his Clydesdale chesnut, "Topsman." The second and third prizes in this class fell to the Earl of Ellesmere's "British Wonder" and "Samson II," respectively, the same animals being the winners of the first and second honours at the Royal Society's show last year. The Earl of Ellesmere exhibited in connection with the same class, though not for competition—being disqualified in consequence of having taken the first prize last year—his celebrated bay stallion, "Samson," which carried off the hundred guineas champion cup at last year's exhibition of the Royal Society, and the premier prize at the Bath and West of England Show, and to which the judges awarded a silver medal for special excellence. The two premiums offered in connection with the stallion pony class were awarded to Mr. C. W. Wilson, Kendal, in the face of seven competitors. Of the nine cart stallions which were shown, four were the exhibits of the Earl of Ellesmere, who secured the first place with "Young Prince of the Isle," an animal which met with similar success at the recent Cambridge show, the second prize falling to Mr. J. Oxley, Gainsborough. In the exhibits of agricultural and dray mares the only competitors were the Earl of Ellesmere (who had entered three of the finest brood mares in his stud) and Mr. L. Drew, Merrytown, Hamilton, and the competition, although so unusually limited, was remarkably close on the ground of merit, the animals exhibited being choice representatives of the English and Scotch breeds. The first prize fell to the Earl of Ellesmere's brown mare "Dainty," and Mr. Drew took the second with a mare to which the leading position was assigned at last year's show of the Royal Society. In the class of agricultural gelding or mare, the positions taken in the foregoing class by the Earl of Ellesmere and Mr. Drew were reversed, and a third prize was awarded to the Stand Stud Company, Whitefield. Mr. W. A. Meadows carried off the first, and the Stand Stud Company the second prize in the class of gelding or mare for dray purposes, the former with his brown gelding, Champion, and the latter with their bay mare, Beauty. In the class of hacks and roadsters over 15 hands, the first prize was taken by the Stand Stud Company, the second by Mr. T. Nicholson, Hull, and the third by Mr. C. Rose, Malton; and in the exhibits of hacks and roadsters not exceeding 15 hands the first position was assigned to Mr. J. Robinson, Hull, the second to Mr. T. H. D. Bayly, Newark, and the third to Mr. R. Wright, Whalley Range. The weight-carrying horses were very numerous, and on the whole well bred, the lighter animals being particularly good. In the class of hunters for breeding purposes, Mr. Benjamin Bee, Goosnargh, near Preston, was awarded the first prize, and Mr. T. Harris, Pendleton, the second. In the class equal to 15 stone, five years old and upwards, Mr. T. H. D. Bayly took the first prize with his bay gelding, "Rossington," which has carried off similar honours at other exhibitions; whilst the animals taking the second and third prizes—belonging respectively to Mr. J. B. Booth, Catterick, and the Duke of Hamilton—are also veteran prize winners. In hunters, five years old and upwards, without condition as to weight, Mr. T. H. Hutchinson, of Catterick, won the first place with "Glengyle;" the second place was assigned to Mr. A. J. Brown, Pontefract; and the third to Mr. C. S. Parsons, Malpas. Yorkshire exhibitors also secured all the honours in the class of four-year-old hunters, the first prize being readily given to a splendid chesnut gelding, "Golden Drop," shown by Mr. F. P. Newton, Malton; the second to Mr. J. S. Darrell, West

Ayton; and the third to Mr. A. J. Brown, Pontefract. In the class of three-year-old hunters, which included some animals of great promise, the Duke of Hamilton secured the first place with his brown gelding, "Birdy's Eye," which he purchased last year at the Yorkshire Society's Show from Mr. G. Lancaster, of Northallerton; Mr. Lancaster was second with an animal which, but for the misfortune of meeting with an injury in the stable shortly before the hour of exhibition, would have run closely for the first place; and the third prize was awarded to Mr. M. Raw, Darlington.—Abridged from the *Manchester Examiner*.

**COWS HOLDING UP MILK.**—A correspondent of *The Queen'slander* summarises the physiological peculiarities of the mammary glands of the cow in the following manner, thus explaining why cows can "hold up their milk":—"The bag, or udder, is divided into four parts, entirely distinct from each other, except as they are held together by membranous ligaments. The milk in each is held in confluent tubes, which, like the roots of a tree, are all contracted into one, just above the teat—the milk entering that funnel-shaped organ by a single channel. Just at the upper end of the teat the walls of this channel are contracted, and the contraction is surrounded by a band of muscular fibres. The will of the cow can operate on this band, contracting or expanding it at pleasure, making it operate like a valve. At the junction of each smaller tube with a larger one is a smaller contraction and band, also under the control of the will. Ordinarily these bands are contracted (as in the neck of the bladder) so that the milk has to crowd its way through them to get from the smaller into the larger tubes. This is an admirable arrangement for sustaining the weight of the milk equally in all parts of the udder, and preventing it from pressing heavily upon the teats. When the udder is full, if the milk is drawn out of the teats, relieving the pressure in them, it requires a vigorous effort of the will of the cow to prevent the pressure above from crowding the milk down to fill the vacancy. If the udder is only partly filled one can hold the milk more readily back, and the less there is in it the more easily can she maintain the tension of the muscular bands necessary to prevent entirely the milk from flowing through them. When the milker first takes hold of the teats and begins to milk, the excitement causes the cow to contract the band so firmly as to hold back the milk perfectly for a time. But presently this vigorous action will begin to slacken, and the milk will begin to pour through, and if all is quiet she will relax the bands fully, when the milk all settles down upon the teats, and if quickly drawn in can all be milked out to the very last drop. But this perfect relaxation will only last for a short time. If the milk is not soon extracted she will begin to tighten up the muscular bands again, and the last part will be held back and permanently retained when the milker probably thinks he has got it all, because it stops coming. A cow should, therefore be milked quickly as well as quietly. A calf will draw milk in three minutes, and a milker should come as near that time as possible. If the time of milking is much prolonged she will become impatient, and be sure not to "give down" perfectly. The quietest and quickest milker gets the most and best milk, because he gets all the "strippings," which are the richest part.

## THE CONTAGIOUS DISEASES (ANIMALS) BILL.

A careful examination of the new edition of the Contagious Diseases (Animals) Bill, as amended by the Select Committee, shows that their lordships have wrought a great change in it by the addition of a very few words: but for the rest, there has been no alteration, except in verbal re-construction, legal technicalities, veterinary amendment, and general professional re-touching. There is not so much as an indication of any fresh Irish influence having been brought to bear upon it; and we look in vain for any practical result due to a re-consideration of the proposed Bill in respect of its bearings on Ireland. There is a strong sensation of the lawyer's office about this amended document, but not much evidence of Select Committee work. The one simple but highly important change is quite outside any consideration connected with Ireland, although the Irish phase of the question was the alleged reason for going into committee.

But their Lordships have put their mark upon the Bill by an addition to the Fifth Schedule—which provides that foreign fat stock are “not to be moved alive out of the wharf”—the wording of which is as follows:—“In relation to animals brought from her Majesty's possessions in North America, or from the United States of America, the provisions of this Schedule relating to slaughter, or to quarantine, or to any of those provisions, shall not have effect unless and until the Privy Council from time to time by order do direct.” This is the red-tape form of telling us that the United States and Canada are to be allowed to send live animals all over Great Britain until further orders. Well, we have already expressed a decided opinion about this matter. The principle of this exception is wrong, for it must be evident to every unprejudiced thinking man that any scheme for the repression of contagious diseases of animals at home, together with the protection of the country from the diseases we have hitherto received from abroad, must be thorough: and it must also be consistent in itself. Putting aside all consideration of internal restrictive measures, the Bill before it was referred to the Lords' Select Committee was a measure based on the principle of the slaughter at the ports of landing of all foreign animals intended for human food; it contained a provision by which foreign animals could be introduced for breeding purposes under conditions which might be thought equal to the necessities of the case; and it also proposed to allow foreign animals to pass inland, for trade purposes, after what we consider to be a ridiculously in-

adequate period of quarantine. In introducing that Bill the Duke of Richmond admitted the farmers' demand for a perfect measure—total prohibition—to be logically unassailable, but declared that the country was not ripe for it. Accepting this view of the matter as being based on common sense, we gave a general support to the Bill, at the same time raising an uncompromising objection to quarantine for trade purposes as being contrary to the spirit of the measure, incompatible with its general provisions, and inimical to its success. But this amended Bill chronicles quite a new departure in principle, and goes far to show us that we are quite prepared to believe, namely, that the Lords and their professional advisers, traders, and the general community—everybody, in fact, but the farmers—have little else but the dread of Cattle Plague to stir them to any sort of action. Professor Brown, in his recent Report, remarks that “no report of the existence of contagious or infectious diseases among animals was received from the United States of America or from Canada during 1877.” Why should they make such report? But does the Select Committee of the House of Lords advise the exemption of American and Canadian live stock on the ground of this absence of official information? Surely not; they must have yielded to trade pressure, thus showing the influence which trade organisations have on noble lords. If a small, rich, and noisy clique of merchants can so move our rulers, surely the quiet but united and determined force of the entire agricultural interest would suffice to carry not this Bill but the more “logical” one of which we have spoken. Some day this power may be used; it is none the less real from being latent.

But to return to the question immediately before us, we presume it will not be denied that Pleuro-pneumonia exists on the North American Continent. The abstract of a paper read before the National Agricultural Congress at Washington, which we published last week, states that “the contagious Pleuro-pneumonia of cattle is steadily, slowly, and almost uninterruptedly gaining ground in the Eastern States;” and we have previously reprinted from American sources conclusive evidence of the extensive existence of Pleuro-pneumonia in the United States. Nor will it be denied that Foot-and-Mouth Disease has on more than one occasion made its appearance there. Can it be asserted



that the North American Continent is now perfectly free from it? What are the diseases referred to by Dr. N. H. Paaren, in the paper read before the Washington Congress, as being "obscurely named distemper, murrain, &c.?" What is there to prevent Texas Fever from reaching us? Who can say it would not be capable of acclimatisation here? Why should we not be afraid of their Sheep-scab and of their Hog-cholera? We can see no other reason for shutting our eyes to all this than that of obliging traders, merchants, and shippers, and this will scarcely suffice. Denmark tries to prove that her geographical position alone should entitle her to exemption from the conditions which are to be applied to the rest of Europe; but this argument would not stand for a moment. If any portion of the Continent of Europe were made an exception, the whole scheme would collapse: the Bill would become useless and meaningless. But because there is no reason to fear Cattle Plague from any trans-Atlantic source, our law-makers give us to understand that they do not attach much importance to anything else. From the Duke of Richmond's recent speeches we cannot believe him to share this indifference to what outsiders call the "minor" diseases. We think this exemption of trans-Atlantic animals from the general provisions of the Bill, (notwithstanding the proviso of Orders in Council), and the insufficient quarantine for

Continental dairy stock, very serious blots on the Bill; but as long as the provisions against the inland transit of fat cattle from the Continent of Europe remain intact we shall consider the measure better than none at all. In concession, however, our friends in Parliament must no further go if they do not intend to render the Bill of greater inconvenience than advantage to the British stock-owner.

The only other alteration of importance is the provision by which the internal restrictions and regulations are proposed to come into force on the 1st of October, 1878, instead of the 1st of January, 1879; and as it will take some time to get the machinery into working order, we do not anticipate that farmers will raise any objection to it. Pleuro-pneumonia and Foot-and-Mouth Disease are treated separately: local authorities must destroy animals affected with the former within two days of discovery, and places or districts which have been infected with the latter may be declared free after the expiration of fourteen days, instead of twenty-eight days, from the cessation of the disease. In comparing the amended Bill with the first draft we noted some thirty-four alterations, but none save those we have specified will effect any change in the general working of the Bill, and only the one we have criticised at length will affect its scope and intent.

## DENMARK AND THE CATTLE DISEASES BILL.

The letters which have recently appeared in *The Times*, from a correspondent in Denmark on the subject of the Danish cattle trade with Great Britain deserve especial notice. They have been written, of course, with a view to impress the British public with the importance of that traffic to them as consumers, and with the consequences which the writer declares will follow if the Contagious Diseases (Animals) Bill becomes law. The argument is, that neither Cattle Plague nor Pleuro-pneumonia now exists in Denmark, and that Foot-and-Mouth Disease exists only to a slight extent; that the exports of cattle from Denmark to Great Britain constitute nearly one-fifth of the entire foreign supply of cattle to Great Britain; that this trade "is entirely dependent on the freedom of carrying the live animals inland to the best market; and that the peremptory rule of slaughtering on landing will entirely destroy the trade." This is the case as stated in the interests of Denmark.

From the Consular Report presented to the House of Commons last year the following facts are to be learned:—The cattle-producing industry of Denmark is divided into dairying and rearing cattle for export. The former branch of industry obtains in the islands, and the latter on the mainland—Jutland. The export trade is divided between Great Britain and Schleswig-Holstein. In 1866 the number of cattle exported to Great Britain was 8,900, and to Schleswig-Holstein 45,900. In the year 1875 the number to Great Britain was 50,200, and to Schleswig-Holstein 45,400. This shows clearly the direction in which the industry is being developed; and the Report says that bulls are yearly imported "to enable farmers to meet the requirements and demands of the English and Scotch cattle markets." It is further stated that "all public and private arrangements and regulations made have only had the live cattle export trade in view." Again: "There are now (April 30th, 1877) ten Danish steamers exclusively

employed in the trade, and running weekly with live stock to Leith, Newcastle, Hull, and London. There are besides several English steamers employed in the same trade, of which three leave Copenhagen weekly for Leith, Newcastle, and Hull respectively. The harbour of Esbjerg has been built at a comparatively great expense, solely with a view to develop this cattle trade. . . . The lines of railway already completed are in connection with it, and those projected will likewise be so; in fact, everything has been done to make this port in the future the chief cattle export outlet for the whole kingdom." It is also stated that "dairy farms are increasing on the islands, and all lengthened restrictions and hindrances to the free import of live stock into Great Britain has a decided tendency to encourage dairy-farming in the purely cattle-rearing districts, to the detriment of the cattle export trade."

It will be seen from this that the statement of the Consul and the recent letters of *The Times* correspondent tend to show one and the same thing, namely, that the great object of Denmark is to continue and develop the exportation of cattle to Great Britain. Denmark, therefore, has an interest at stake, in pursuance of which she naturally protests against anything which would tend to interfere with it. And it must be borne in mind that the restrictions of which she complains will also influence her trade indirectly by affecting that of Schleswig-Holstein; for the animals which Denmark sends to Schleswig-Holstein, constituting the second branch of her export trade, ultimately come to Great Britain *via* Tönning. The motive which dictates all protests from Denmark cannot, therefore, be doubted or misunderstood.

The position taken up is, that slaughter at the ports of landing will ruin the existing trade, and deprive us of one-fifth of our extraneous supply. Supposing such a contingency actually to occur, it is not a matter of moment to us, as there is evidence to show that an equivalent, either in the form of live cattle or dead meat, can readily enough be obtained from the United States and Canada. If the cattle-rearing industry of Denmark should be diverted to another channel, and the system of dairying take its place—upsetting internal arrangements, railway traffic, harbour schemes, and the vested interests of steamship companies—still, that is purely and simply Denmark's own private matter, about which the British public has no occasion whatever to concern

itself. But there has not been one tittle of evidence brought forward to show that such a contingency would necessarily arise, either by Count Danneskiold Samsö, the British Consul, *The Times* correspondent, or anybody else. The situation is so transparent that it becomes a matter of surprise it should be held up for the inspection of the British public. The argument that the difference between slaughter at the ports and free transit inland should be sufficient to annihilate the trade is so palpably absurd that it would not be worthy of notice were it not for the possibility of the entire thing being virtually in the hands of those on this side who are vitally interested in the inland transit of foreign animals. The imports of cattle from Tönning during the past season, from June 1st to December 8th, 1877, came to Deptford for slaughter—were slaughtered at the port of landing; and as a large proportion of these animals came originally from Denmark, the argument that Denmark cannot send her cattle to us under the same conditions falls at once to the ground. The gist of the whole matter may be found in the fact that the proposed Act of Parliament is regarded, both abroad and at home, as the thin end of a wedge which trade organisations desire to prevent being inserted lest it should eventually be driven home.

With the arguments used to prove the efficiency of Danish inspection we do not care to trouble our readers; it is quite certain they cannot detect incubative disease in Denmark any more than we can here. They may put healthy animals on board infected boats, as is not unfrequently done; they may ship infected animals ignorantly and innocently, or affected animals carelessly and culpably. The result in either case is the same to us. There are no "stores" imported from Denmark except milch cows, which are not bought by farmers, but by town and suburban dairymen. As for the plea—urged before the Cattle Plague Committee—that Danish beasts are not good enough to send as dead meat—we can only say that it should be used on this side as an argument for the British consumer that such animals are not profitable to us at any price; least of all can the "poor" afford to buy them. The Danish argument amounts to this, that unless their beef can be sold "with the bloom on" it will not sell at all; and our reply is that such meat is dear at any price. The consumers' interest is not served by it. What we should like to do would be to prevent foreign animals coming alive at all, and failing that, what we intend to do is to protest as earnestly as we can against their being allowed to be moved inland.

## THE VETERINARY REPORT FOR 1877.

The Annual Report of the Veterinary Department of the Privy Council for the year 1877, recently issued, is well compiled, and contains a great deal of useful information. From the statistical tables, which are voluminous and complete, we learn that the total number of live stock in Great Britain on the 4th of June 1877 was 36,357,825, namely, 5,697,933 cattle, 28,161,164 sheep, and 2,498,728 pigs: being less in the aggregate than the average of five years—from 1873 to 1877 inclusive—by 1,009,292 animals, but exceeding the total of 1876 by 44,752 animals. The importation of animals into Great Britain was as follows:—From European Countries 179,236 cattle, 848,315 sheep, and 18,745 pigs; from the United States and Canada 19,187 cattle, 23,395 sheep, and 810 pigs; from the Channel Islands 2,638 cattle, and 2 pigs; from “other countries” 5 cattle, 449 sheep, and 17 pigs; and from Ireland 649,441 cattle, 630,774 sheep, and 585,427 pigs—making a total of 2,958,441 animals, against 3,226,948 in the previous year, thus showing a deficiency of 268,507 animals as compared with that year. This falling off in the supply was both from the Continent of Europe and from Ireland. From the Continent the deficiency was “over 87,000 cattle, above 194,000 sheep, and over 24,000 pigs;” but Professor Brown thinks that, as the number of animals imported from the Continent in 1876 was above the average, the falling off is not necessarily the result of prohibitive orders and restrictive measures. The deficiency from Ireland was nearly 17,000 cattle, and over 56,000 sheep, whilst there was an increase of over 72,000 pigs, as compared with last year; this at all events cannot be attributed to restrictions, as very few cases of disease were detected among Irish stock landed in Great Britain, and Professor Brown states that he is “not aware that in any case the movement of the apparently healthy animals of the cargo was interfered with.” He also points out that there was a falling off in the numbers of stock from countries in reference to which there was no prohibitive or restrictive legislation, notably from Denmark. On the other hand, in spite of restrictions, there was an increase of 162,000 sheep from Germany.

An interesting feature of the statistical part of the Report will be found in the table which shows the relationship of the foreign cattle trade with the metropolis. Thus in 1877 there were 839,590 foreign animals landed at the different wharves

of the port of London, representing 77,915 per cent. of the total importation of foreign animals into the country. Going further into detail we find that these numbers are made up as follows: 93,852 cattle, or 47,298 per cent. of the total number of foreign cattle; 735,525 sheep, or 84,331 per cent. of the total number of foreign sheep; and 10,213 pigs, or 52,182 per cent. of the total number of foreign pigs. Another table gives the numbers of cattle, sheep, and pigs, brought into the metropolitan markets during the year, distinguishing the home from the foreign, and showing the proportion per cent. which the latter bear to the total numbers of the markets. Thus we find the numbers of stock exposed for sale in London, representing the foreign supply, 40.650 per cent. of the cattle, 51.298 per cent. of the sheep, and 85.715 per cent. of the pigs. In each table the numbers and averages are given for the five years from 1873 to 1877 inclusive, and the information is exceedingly interesting and useful, as showing both the large proportion of one foreign supply taken by London, and the insignificant proportion the whole must bear to the total consumption of the country.

With regard to the importation of dead meat, Professor Brown considers the Continental exporters would not be likely to make any arrangements for altering the character of the trade, so long as they have reason to look upon our restrictions and prohibitions as being only of the nature of a temporary provision. Naturally, as Professor Brown remarks, “Cattle traders on the Continent, as elsewhere, prefer conducting their business in their own way, and are not disposed to accommodate themselves to restrictions in such a way as to invite their continuance.” This we can perfectly well understand, and it shows the urgent need of legislation on the Cattle Disease question. When the cattle traders on the Continent have the decision of the country embodied in an Act of Parliament, as we hope they will soon have, there will only be the one simple question for them to consider, whether it is worth their while to adapt themselves to it or not. If they can find a better market for their cattle we shall have no reason to complain; if they cannot they must come to our terms. We have no doubt whatever that a short space of immunity from their diseases, and from the dread of them, will suffice to enable the breeders of Great Britain and Ireland to make good the deficiency which would at first be created

if the Continental supply were entirely diverted from our markets. Meanwhile we shall doubtless have complaints and high-sounding threats; but we can afford to listen with complacency to both. When they have created markets for their produce which do not now exist they may be believed if they talk of diverting the present trade with Great Britain into newly discovered channels; but until then we shall continue to believe that they will adapt themselves to circumstances as soon as there is a necessity for it. Professor Brown calls attention to the efforts of the Schleswig-Holstein authorities to organise a trade with France, by rail from Toming to Paris: but he does not state that the scheme signally failed, as it did. Unquestionably the prohibition of foreign fat stock inland would be disagreeable to Schleswig-Holstein and to Denmark, and if total prohibition were to be enforced no doubt it would for a time disorganise the trade of these two countries, but even in that case the matter would be theirs, not ours. Professor Brown admits—and the admission from the highest official authority is highly suggestive and important to the country—that “The large consignments of fresh meat which we received from America saved us from considerable embarrassment, and prevented any inconvenience arising from the falling-off in the supplies of foreign stock; but while the success which has attended the transport of meat from America placed beyond all doubt the possibility of substituting a dead meat for a live meat trade it has not yet led to any definite action on the part of the consignees to extend the system in this country. Meat which reached our ports in first-rate condition was dealt with as though it were an indestructible commodity, and as a natural result tons of food have been wasted, whereas a modicum of the care which was exercised in bringing the meat across the sea would have sufficed for its safe transit all over England.” These are wise words and true: let those whom they concern take due note of them.

To condense the information contained in this Report to meet the exigencies of our space would be a difficult matter. The history of the last outbreak of cattle plague is given in minute detail; but with the salient facts our readers are already acquainted. Professor Brown points out the lessons to be learned from this most recent experience, and from them we may also learn the fact, for which we are quite prepared, that the inspection practiced at Continental ports is not to be depended upon to the extent of its natural limits; otherwise we should not have had Cattle Plague. The internal restrictions of Germany are such as even to prevent

the stopping of a train in an infected place; but that did not prevent the fatal disease reaching us in the simplest possible manner. The stopping of diseased cattle at the port of landing is also “insufficient to protect us against an invasion of the disease,” and it has been amply proved that it is impossible to deal “effectually and economically with Cattle Plague by means of intermittent and irregular action on the part of Local Authorities.” There is nothing in this Report, or in Professor Brown’s evidence before the Cattle Plague Committee of the House of Commons, to inspire confidence in the action of Local Authorities, and he states definitely in respect of this contingency that “the issuing of uniform orders will not suffice, unless means are taken to insure that they are universally enforced.” This is plain, and calls for attention and reflection rather than comment other than that there is every reasonable probability of Local Authorities requiring very strict supervision indeed if they are to be entrusted with the control of Pleuro-pneumonia and Foot-and-Mouth Diseases as proposed in the Bill now before Parliament. A matter of considerable moment in connection with the last outbreak of Cattle Plague is satisfactorily explained in this Report, namely, that the Markets Committee interposed a valid legal protest against the cauldrons or “digesters” in each of the four blocks into which the “defined part” of the port of London—known as Deptford Market—is divided, being used for the destruction of the Cattle Plague cargo of the “Castor;” consequently, and in spite of Professor Brown’s express orders, “under these circumstances the process which might have been completed in a few hours occupied several days.” We believe it has been stated that the destruction of these carcasses occupied eight days, instead of the thirty-six hours which Professor Brown gives as the time it would probably have occupied if all four of the digestors had been used. Another matter requiring the absolute control of the Central Authority is the accumulation of infected and disinfected manure in London.

Cattle Plague existed in England from January 31st, 1877, to July 15th of the same year, during which time 47 outbreaks occurred amongst 1,099 cattle, of which 263 were attacked with the disease. Of this number 228 were killed, 35 died, and 835 were slaughtered on account of having been exposed to infection. The cost to the country of this outbreak is estimated at £13,000, “which may be taken to represent the sum of money which was actually expended in stamping out the disease.” The indirect cost cannot be estimated,

but will, we trust, be more than repaid by the prompt action it necessitated, and the amount of public attention it has secured. Pleuro-pneumonia "maintained its ordinary rate of prevalence." The number of cattle slaughtered by order of the Local Authorities in Great Britain from September 1st, 1876, to August 31st, 1877, was 5,168, against 4,673 in the previous year, and the amount of compensation awarded £38,513 12s. 10d., against £31,991 9s. 6½d. in the previous twelve months. Foot-and-mouth Disease spread rapidly during the first three months of the year 1877. The Local Authorities took varied action with corresponding results; yet in the county of Norfolk, where no action was taken, the disease declined rapidly from April to October, after which it began to increase. This fact leads Professor Brown to consider that "no definite conclusion as to the effect of the restrictions" can be gathered from it. Sheep-pox was *nil*, and Sheep-scab rather in the ascendancy during the year; whilst Glanders and Farcy were considerably less prevalent.

Inspection at the ports must be continued under any circumstances, we are told, to prevent diseases spreading by mediate contagion; and this appears to be quite reasonable when we find that of 3,283 cargoes of foreign animals brought to our shores during the year 1877, there were no less than 306 cargoes, or nearly 10 per cent., which were diseased, the total number of foreign animals actually affected with contagious disease

and landed on our shores during the year being 3,790, of which 2,306 were affected with Foot-and-Mouth Disease, 1,423 with Sheep-scab, 22 with Pleuro-pneumonia, and 39 with Cattle Plague. With slaughter at the ports of landing there will still be room for careful inspection. The number of ports where foreign cattle may be landed is being reduced to those where convenience exists for the maintenance of "defined ports," the said ports being as follows, those in italics having defined ports and receiving animals from scheduled countries:—Falmouth, Glasgow, *Goole*, Granton, *Grimsby*, *Hartlepool*, Harwich, Kirkwall, Leith, Liverpool, *London*, *Middlesborough*, Newcastle-upon-Tyne, *Plymouth*, Portsmouth, Rochester, *Southampton*, *Sunderland*, and Weymouth. With regard to future arrangements Professor Brown tells us that the principle of the scheme which he has advocated "is that of dealing with outbreaks of contagious and infectious maladies at the points where they arise by the employment of measures of the utmost severity, leaving the districts outside the infected areas perfectly free." The italics are our own, and intended to call the attention of our readers to a fact of importance in relation to the scope and intent of the Contagious Diseases (Animals) Bill; and we are convinced that farmers generally will readily endorse the opinion of Professor Brown that "the initial action should in every case be taken by an experienced veterinary surgeon."

## THE TRANSFER OF LAND.

Mr. Osborne Morgan has done good service to the country by obtaining the promise of a Select Committee of the House of Commons to inquire and report what steps ought to be taken to simplify and secure the title to land, to facilitate the transfer thereof, and to prevent frauds on purchasers and mortgagees of land. The sensation caused by the recent disclosure of extensive forgeries of leases rendered the House more ready than it otherwise might have been to agree to the proposed inquiry being made; but the need of an improvement in our system of land register and transfer has long been acknowledged. Mr. Morgan referred to the attempts that have been made towards establishing a good system of registration, and showed that they have been failures. Those who took part in the debate differed in opinion as to the best means of making the transfer of real property safe, simple, and inexpensive; but every

one admitted that something ought to be done. In no other country in the world is the transfer of land so cumbrous and costly as it is in Great Britain. Mr. Davies said that he had more than once purchased about half an acre of land for £50 or £60, and the expenses of conveying had been over £150. Mr. Shaw Lefevre pointed out that the average cost of transferring small landed properties in Ireland was from 15 to 25 per cent. on their value—an amount which, as he said, was almost a prohibition of the transfer of such properties. He thinks that three steps are necessary to facilitate land transfer: first, a complete cadastral survey; secondly, the establishment of local registers; and thirdly, a power to be vested in some person to sell land. The Ordnance survey that has been in progress for so many years will, it is said, take eighteen years more to complete at its present rate of progression. Most

farmers know in what a dilatory manner that survey has been carried on. A small party of military engineers has appeared in a village, and perambulated the fields in an extremely leisurely manner, setting up a post here and there, and marking the broad arrow on gate-posts and buildings. After a year or two, when half the posts set up have been blown or knocked down, another party has appeared, following up the first and taking measurements. The men give spectators the idea that they are engaged in making the best of a holiday trip into the country, rather than that they are actually working. If their survey is of such importance to land transfer reform as many members of the House appear to think that it is, the work might be hurried on at a pace about ten times as fast as that at which it has hitherto proceeded. More men might be employed; they might be expected to work in winter as well as in summer (until the corn is high); and they might really work instead of lounging about half their time.

In comparing the cost and difficulty of land transfer in this and other countries, it should be borne in mind that in no other country are there so many encumbrances on land as there are in the United Kingdom. Taking this fact into consideration, it may with some reason be objected that, in attempting to render the transfer of land more simple before the ownership of land has been

freed from its many undesirable complications, our legislators are putting the cart before the horse. It is, however, so much of a treat to see them doing anything in the way of reforming our great land muddle that we are not disposed to be critical. Any arrangement which would render the transfer of land more simple and cheap would be an immense benefit to the country, and in this matter the people of the towns are as much concerned as those of the rural districts. It is quite obvious, however, that no effectual reform will take place unless that peculiar horror of compulsory legislation, which cropped up in the debate, can be got rid of. It is curious how great an affinity this sentiment has for anything relating to the land. Every one knows that we cannot have a generally satisfactory registration of landed property without making it compulsory. That compulsory registration would be a hardship to some and an expense and inconvenience to many is true; but in legislating for the general good, not only of this generation, but also of those to follow, it is surely not true statesmanship to shrink from making a comparative few do what they would rather not do. Truly the typical legislation of the present day reminds us of nothing so much as of a nervous surgeon who is afraid to prick a boil on his patient's finger in order to restore the invalid to health.

## COUNTY GOVERNMENT BILL, 1878.

At a recent meeting of the Central Farmers' Club, Mr. S. B. L. Druce, the Secretary, read a paper on the above subject.

Mr. J. ELWYN BROWN, the President, in introducing the lecturer, said that the subject originally put down for discussion was "Local Government with Special Reference to the Rural Districts," and the paper was to have been read by Mr. W. E. Little, of Stags Holt, March. Mr. Little had not, however, been able to fulfil his engagement, not from any wish or desire not to do so, but from circumstances beyond his control. The question, however, to be brought before the Club by Mr. Druce somewhat approached the original subject, and Mr. Druce had kindly undertaken to fill the gap caused by Mr. Little's absence. He was quite sure that Mr. Druce would discharge this duty in the same able manner as he did everything else connected with the Club. Mr. Druce would give an analysis of the County Government Bill—a subject of sufficient importance to engage the attention of this Club, and to give rise to free and ample discussion as to the merits of the Bill. The Bill was not yet law, and he for one should be sorry to see it pass into law in its present shape.

Mr. Chairman and Gentlemen,—The subject selected for this evening's discussion was "Local Government with special reference to Rural Districts," and Mr. W. C. Little, of Stags Holt, had consented to introduce that subject to your notice.

It has, however, unfortunately happened that in consequence of the illness of Mr. Little's brother he has been prevented from reading the paper as he had intended, and in default of finding some member of the Club to fill Mr. Little's place the committee have requested me to introduce for your discussion the "County Government Bill," now before the House of Commons. I do not presume, in the presence of a meeting composed as this is of so many gentlemen who have great and wide experience in the administration of county and rural public affairs, to lay down for your acceptance any views or ideas of my own on county government, but I shall to the best of my ability place before you an abstract of the Bill as it now stands, and mention some of the criticisms which it has called forth, with a view to elicit your ideas and conclusions upon both it and them.

Mr. DRUCE then read the following paper:—

### INTRODUCTORY.

Although it is no doubt the fact that the present Bill is not altogether a new idea, and that previous attempts have been made by the Legislature during the last thirty or forty years to constitute some sort of a County Board, more or less representative in character, yet we may, I think, say with truth that no such Bill would have been introduced at the present time had it not been for the unanimous, though unexpected, success that Mr. C. S. Read obtained last year in

the House of Commons when he introduced his resolution in the House relating to the administration of county business. That resolution ran thus:—

"That no re-adjustment of local administration can be satisfactory or complete which does not refer county business other than the administration of justice and the maintenance of order, to a representative County Board."

And it will be seen as we consider the Bill that the authors of it had that resolution in their minds when they drafted the Bill, that it was, in fact, the text on which they worked, and I think we may on the whole congratulate them in having—speaking generally, and taking the Bill in its entirety—faithfully carried out the spirit as well as the letter of that resolution—the object of the resolution and the Bill being the establishment of Boards representative of the ratepayers in each county for the administration of what we may call the civil matters of the county.

#### DIVISIONS OF THE BILL.

The Bill naturally divides itself into two main heads or divisions:—

I. The constitution of the County Board—In which term I include the mode in which the members of the Board will be appointed and elected and the way in which the business of the Board will be carried on.

II. The powers of, and the duties to be discharged by, the County Board.

Division No. I. includes the 1st and almost the whole of the 3rd part of the Bill—Section 3 to 8 and 29 to 45 inclusive; while our division No. II. is the same as the 2nd part of the Bill—Sections 9 to 28 (inclusive.)

The 1st section of the Bill gives the title to the Act to be founded upon it, "The County Administration Act, 1878," and the 2nd limits the operation of the Act to England.

#### DIVISION NO. I.—CONSTITUTION OF COUNTY BOARDS.

The 3rd section of the Bill reserves to the Court of Quarter Sessions as now constituted—that is, to the justices of the county in sessions assembled—the transaction of all judicial business and business relating to prisons and police, but with such exceptions the Court of Quarter Sessions when transacting administrative business is to be constituted as a County Board. Thus it will be seen that the County Board is not absolutely a new local authority, but is the old Court of Quarter Sessions with a more representative constitution. The matters which are reserved for transaction by the Quarter Sessions as now constituted are defined in a subsequent section (47) of the Bill, and it will be more convenient for us, too, to postpone the consideration of them till we consider our division No. 2.

Clauses 4 and 5 of the Bill propose that the County Board shall consist of representatives of:—

(1) The justices of the peace for the county who in Quarter Sessions assembled are to choose in most counties two of their number, but in others more than two, for each Petty Sesssional division in the county to be their representatives on the Board. In making such choice the justices are to have regard to the Petty Sesssional divisions of the county, and so far as is practicable to the representation of such divisions by justices resident or usually acting therein.

(2) The Poor Law Guardians of each rural parish within the county. In most counties two of such representatives, elective members as they are termed in the Bill, in other counties more than two, are to be elected for each Petty Sesssional division of a county by the elective guardians of the

rural parishes situate in such Petty Sesssional division. A person is not to be deemed qualified to be elected an elective member of a Petty Sesssional division unless he is an elective guardian, or a person qualified to be an elective guardian, of some rural parish in such Petty Sesssional division. In all cases the number of justices and the number of elective members on the Board is to be equal.

(3) Four members to be appointed by the Town Council of each borough which contains a population of 20,500 or upwards and has not a separate court of Quarter Sessions. These representatives must themselves be members of the council by which they are appointed, or qualified to be members of such council. All the members of the County Board, however appointed, are to hold office for one year only, but are eligible for re-election.

It is on these sections of the Bill that the chief controversy has arisen.

1st. The electoral area of the Petty Sesssional division is objected to, and it is contended that the Poor Law Union would form a much more convenient and better electoral area) The chief arguments in favour of the union area are—(1) That its boundaries are better known than those of the Petty Sesssional division; (2) That the union and not the Petty Sesssional division is the aggregation of the parishes, the Guardians of which form the elective body; (3) that the guardians can more conveniently and in a more business-like way meet for the purposes of the election in the ordinary Board room than in the Petty Sesssional Court of the division, as proposed by the Bill (Schedule 1); (4) That the Petty Sesssional Court of the division to which any particular parish belongs may be situate at a different place from that at which the guardians Board room is situate, and hence that a particular guardian may be isolated and separated from his fellow guardians when electing a member of the County Board; (5) That the Petty Sesssional area is unknown to the system of local government except for the purposes of the trials of offenders and other judicial business, whereas the union area is well known and its members have been selected as the authority in various matters of local government—such as poor-law, sanitary, educational, and highway—and that by adopting the Petty Sesssional area a new anomaly is introduced into local government. The County Board ought, it is contended, to be a federation of the central authority for the unions, just as the unions are a federation of or central authority for the parishes which constitute them. That the County Board should act as the direct means of relation between the county and the existing poor-law and sanitary authorities.

On the other hand, the chief arguments in favour of the Petty Sesssional division as against the union area are—(1) That the Petty Sesssional areas are in all cases continuous with the county, whereas in many instances the union area cut and overlap the borders of the county. To this it is replied that it is not an insurmountable difficulty so to arrange that in cases where considerable parts of a union lie in different counties each of such parts should be an electoral area for the county in which it is situate, and that when a small part only of a union lies in a different county from that in which its chief part lies such small part should be merged into and form part of the union to which it adjoins in such different county; (2) That the elected members would be likely to take a larger, wider, and more comprehensive view of their duties if returned as representatives of a magisterial division than if

returned as guardians—that their minds would, in fact, be elevated by being detached from their unions. This, I must say, seems to me a very sentimental argument.

Other electoral ideas have been suggested, such as the Parliamentary electoral divisions, as is the case in the county of Rutland (Section 43), and groups of parishes. but so far as I have been able to discover, no serious contention on behalf of these areas has been brought forward.

The 2nd objection raised to this part of the Bill is as to the mode of election, which, it will be seen, is indirect through the guardians; whereas it is contended that it should be direct, that is, by the ratepayers themselves. No doubt theoretically direct election tends to a more perfect representation of the elective body than indirect; but practically, in the case of County Boards, a better class of men—men, that is of better position, of greater capacity for business, and with a greater stake and interest in the county—will be elected, I think, by the indirect method proposed by the Bill than by direct election. The disadvantages and inconveniences that would attend these elections if every ratepayer in the county had the right to record his vote at them are almost too obvious to need recapitulation. The expense, too, both public, that is to say to the county, for providing polling-booths, polling clerks, returning officers, ballot boxes, and all the other requisites for a public election, and private, that is to say, to the candidates, for election addresses, canvassing, election agents, &c., &c., would be very great, almost all of which expenses will be avoided if the indirect method, as proposed, is resorted to. It is said, indeed, that you will not get the best men by indirect election, but this, I think, is a mistake: and I agree with the opinion expressed in the House of Commons by Mr. Read, that it is the vain, showy, talkative, pretensions man who would stand the best chance of being elected by the direct method; but that the steady-going business like man, whose abilities and capacity for work are best known to his fellow-workers, stands the best chance of being elected when the election is in the hands of those fellow-workers solely, and not of the large body of ratepayers generally. As an apposite example of direct election, we may take the Town Councils in boroughs; of indirect, the Metropolitan Board of Works; and I think it will be conceded that the latter is a superior body and does its work better than the former.

The 2nd objection taken to the proposed constitution of the County Board is the proportion of justices to the elective members of the Board. This proportion, by the Bill, is equal (excluding the representatives of boroughs). The equality of numbers will, it is contended, split up the Board into two parties of equal strength, with divergent ideas, and so prevent the accomplishment of much good by them. I do not see myself that this would necessarily follow, for I think that the justices, on the one hand, and the elective members on the other, must both be credited with having the interest of their common county at heart. And it must not be supposed that either class will allow any petty animosities or local jealousies to interfere with the accomplishment of the work they have to do; but I think the number of the elected members should be greater than that of the justices on the Board, because they represent a larger number of the ratepayers, and, in all probability, a larger amount of the ratepaying property of the county. Considering that the guardians may, if they please elect *ex officio* guardians, that is, justices as elective members of the Board, the proportion of one-third of justices chosen by Quarter Sessions to two-thirds of elected members seems to be

fair and reasonable, and I notice that some few of the County Quarter Sessions, which have lately had this Bill under their consideration, have taken this view, and that it is the subject of an amendment to the Bill in the House of Commons.

4thly. Other alterations in the constitution of the Board have been proposed, such as (1) the addition of a few elected members as the representatives of the ratepayers to the existing Quarter Sessions; this, I think, has been suggested by the Herefordshire Quarter Sessions. (2) The election of all the members of the Board by the guardians; this, I think, is the proposition of our friend, Mr. Charles Howard, and it being remembered that all justices of the peace are *ex officio* guardians, has a good deal to be said in its favour. (3) It has been proposed that the Lord-Lieutenant of the county and the county members should be *ex officio* members of the Board. The latter seems to be an exceedingly good idea, and one that ought to be carried out, as by it the Board will be placed in close intimacy and connection with the Imperial Parliament, which cannot be but beneficial to the Board, especially when new duties are, as is most probable, cast upon it by the Legislature. To have the Lord-Lieutenant a member of the Board would add a flush to the structure, an apex to the column, but I do not know that his presence would add much to the quantity or the quality of the work done at it, and, indeed, from a practical point of view, I think it would be better that the Chairman of Quarter Sessions should be an *ex officio* member of the Board rather than the Lord-Lieutenant.

5thly. The duration of time for which it is proposed that the Board should hold office has not met with much, if any, approbation. One year, indeed, is certainly not long enough for a member of the Board to get accustomed to his work, and constant changes in the *personnel* of the Board are to be deprecated. The reason for the term of one year being selected is, I suppose, because the guardians are elected for that time; but as an elected member of the Board need not necessarily be a guardian, but only be qualified to be one, I see no reason why he should not, even if a guardian when elected, continue to hold his seat at the Board, even although he might have ceased to be a guardian. It has been suggested that the members of the Board should hold office for three years, and that I think should be the minimum term; but, remembering how quickly School Board elections follow one another, a five years' term of office would not seem to be too long.

To return to the Bill. Section 6 provides that an elective member of the County Board (in which term is included the representatives appointed by the council of a borough) "may be appointed by that Board a member of any committee or body of persons of which he would be qualified to be appointed a member if he were a justice of the county, and may, so long as he is a member of the Board, do or have done to him any act, matter, or thing in relation to the administrative business of the Board which he might have done or have had done to him if he were a justice of the county. And the section further provides that in the case of pauper lunatic asylums, one-half of the persons appointed by the County Board to be members of any committee of visitors shall be elective members of the Board, and if the number of persons to be appointed is not divisible by two, then the majority of such persons shall be elective members of the Board."

The style of the County Board to be used in all things done by the Board, in all orders made by it, and in all documents issued by it, will be "The County Board of—," filling in the blank with the name of the particular county of which it is



the Board; but all conveyances taken, contracts made, and property acquired by the County Board are to be taken, made, and held in the name of the clerk of the peace; and such contracts may be enforced by or against the clerk of the peace for the time being, and all the provisions of the Acts of Parliament providing for the conveyance of county property are to apply accordingly, with the substitution of the expression "County Board for the expression "justices of the peace" in them.

We now come to the mode in which, and the times when, the members of the Board are to be returned. The justices on the Board are to be chosen at the October Sessions in each year by a majority of their fellow-justices then assembled in Sessions, and are to enter on their office on January 1 next following their selection. The members of the Board to be elected by the guardians are to be elected on a day to have been previously fixed by the returning officer in the first year, and in subsequent years by the County Board between November 15 and December 1 in each year, and are to enter on their office on January 1 next succeeding their election. In default of the returning officer, or the County Board as the case may be, having fixed a day for the election before November 1, the Local Government Board may, on the application of any person interested, fix the day. The clerk of the justices in each Petty Sessional division is to be the returning officer for that division, and power is given to him to appoint a substitute or deputy, and his expenses, being allowed by a certificate of the justices of the division, will have to be paid out of the county rate.

The place of election is to be the Petty Sessional Court of the division, or such other convenient place as may have been previously appointed by the returning officer, or after the first election by the County Board.

(The objections to this have been already mentioned.)

The returning officer is to give notice of every meeting for the election of members to be elected by the guardians, and of the time (not being later than eleven o'clock of the forenoon) and place at which the meeting is to be held, and of the numbers to be elected by the elective guardians:—

(a) By advertisement in some one or more of the local newspapers circulating in the county; and

(b) By sending a copy of such notice by post in a prepaid letter addressed to the clerk of the guardians of every union comprising any rural parish in his division.

And he is to preside and regulate the proceedings at the meeting, but may be assisted in his duties by any person or persons whom he may appoint.

The meeting, so far as it relates to the nomination of candidates, is to last two hours; if at the end of that time there are no more candidates nominated than there are vacancies, the nominated candidates are to be declared elected; if there are more candidates nominated than there are vacancies, the candidates to be elected are to be determined by the votes of the guardians present at the meeting at the expiration of the two hours; if less, the candidates nominated are to be deemed to be elected, and the remaining places are to be filled up by the retiring members, who, if they cannot agree as to which of their number are to fill up the vacancies, are to settle the matter by lot, which method of decision is also to be adopted in case of an equality of votes between any of the candidates. Any qualified person may, if he consents thereto, be nominated by any elective guardian, and seconded by any other such guardian, as a member of the Board. The result of the election is to be published by the returning officer in such way as he thinks best calculated to afford information, and each elected candidate may require the returning officer to

give him a certificate under that officer's hand of his having been duly elected. The whole plan of the election, as provided by the Bill, would seem to be far more complicated and lengthy than is requisite. Why should not the election be made by the guardians at one of their ordinary meetings in November or December previously to or immediately after their ordinary business?

It is important to note that the Bill permits a person to sit as member on the County Board of more counties than one. By this it seems to me that uniformity of action between the boards of neighbouring counties may be secured.

The members of the Board to be appointed by the council of a borough are to be so appointed at a meeting of the council to be held between November 15 and December 1 in each year, and they, like the other members of the Board, are to enter upon their office on January 1 next succeeding their election.

I am afraid that I should but weary you and produce no useful result were I to take you in detail through the several sections contained in Part III. of the Bill, which I have included in my division No. 1. It will suffice just to mention the most important of them. By Section 29, combined with the Second Schedule, the counties of Bedford, Cambridge, Carmarvon, Huntingdon, Merioneth, Nottingham, Radnor, Westmoreland, the Isle of Ely, and the parts of Kesteven in the county of Lincoln, are to return three justices and three elective rural members; the county of Anglesea, the parts of Holland in the county of Lincoln, and the liberty of Peterborough, four justices and four elective rural members, and the county of the liberty of Ripon is to return seven justices and seven elective rural members for each Petty sessional division.

By Section 30 the clerk to the justices of each Petty Sessional division is to keep a register of all the elective guardians qualified to vote for that division, such register to be prepared from a list to be sent to him by the clerk to each union comprising a rural parish situated in such Petty Sessional division of the names and addresses of the guardians of each such parish.

By Sections 31 and 32 the County Boards are to act and carry on the business transferred to them in the same way and to have the same powers and rights, and be subject to the same duties, liabilities, capacities, and incapacities as the Quarter Sessions would have acted or had or been subject to in transacting such business had the Act not been passed. The Clerk of the Peace, County Treasurer, and other county officers are to become the officers of the Board in the performance of such of their duties as are concerned with the county business transferred to the Board; and if any additional duties are cast upon them by the Board the Board may pay them additional remuneration. The Board may also appoint assistant officers, and assign them their duties and award their salaries. All expenses of the Board not otherwise specially provided for are to be defrayed out of the county rate. The Board is, so far as possible, to classify the business coming within its cognisance, and has powers given it to appoint committees of any number not less than five, to fix the quorum of such committees, to fill up casual vacancies upon them, and to delegate to such committees any of its powers except the power of borrowing money (Section 33).

Section 34, along with the 2nd Schedule to the Bill, prescribes the regulations for the meetings of the Board and the management of its business. General meetings must be held on the days when the Sessions are held, and at such other times as the Board may determine. The quorum of members must be not less than five, and a chairman and vice chairman are to be

appointed annually. Proceedings of committees of the Board are also regulated by this 3rd Schedule.

Section 35 provides for the cases of a candidate being chosen by the justices and elected by the guardians, and of being elected for two Petty Sessional divisions in the same county. Such a candidate can select which seat he will take.

Section 36 provides for members wishing to resign, and gives the Board power to fill up casual vacancies. Section 37 contains the usual saving clauses as to defects in qualification or election of members not vitiating proceedings of the Board, and as to members not being individually liable by reason of exercising any of the powers given to the Board.

Section 38 relates to the mode of legally proving in evidence the proceedings of the Board, and the issuing and receipt of notices by it. Section 39 concerns the computation of time.

Section 40 is important as bearing on the disputed question of electoral areas. It runs thus:—"Where any alteration is made by the justices in Quarter Sessions assembled of the Petty Sessional divisions of their county in pursuance of the statutes in that behalf provided, any new Petty Sessional division shall not be an electoral division under this Act, but the former Petty Sessional divisions shall continue to be electoral divisions, except in cases where the Local Government Board on the application of the County Board by order declare that a new Petty Sessional division is to be adopted as an electoral division under this Act; and upon such order being made, but not otherwise, such new Petty Sessional division shall be substituted as an electoral division for the former Petty Sessional division." And thus a further anomaly in local government in rural districts may arise. There may be a Petty Sessional division which will *not* be an electoral area for the election of members of the County Board.

By Section 41 boroughs to which a separate Court of Quarter Sessions is granted after the passing of the Act are taken out of its operation, and boroughs to which a separate commission of the peace is granted, but not a separate Court of Quarter Sessions, are placed on the same footing as if they had been so at the passing of the Act.

Special provisions relating to rural parishes situate in more than one Petty Sessional division, or one county, and to parishes situate partly within and partly without a borough, are contained in Section 42.

Section 43 gives a right of appeal to the High Court of Justice in respect of invalid elections.

Section 44 imposes a fine on a returning officer refusing or neglecting to comply with the requirements of the Act; and Section 45 punishes with fines or imprisonment, with or without hard labour, persons guilty of personation at the election.

Section 46 explains the meaning of the expression of "Counties," "Quarter Sessions," and "Petty Sessional Divisions," as used in the Act. It is to be noted that by this Section the polling districts into which the county of Rutland is divided for the purpose of Parliamentary elections are the electoral areas for that county for the purposes of this Act.

Section 48 contains the definition of various expressions used in the Bill.

I now pass on to

#### DIVISION NO. II.—THE POWERS OF AND THE DUTIES TO BE DISCHARGED BY THE COUNTY BOARD.

And first it will be convenient to consider the two classes of business which are still to be retained by the Quarter

Sessions; that is to say, "Judicial business," and "Business relating to prisons or police." These expressions are defined in Section 47 of the Bill; thus, the former "means the trials of offences, the hearing of appeals, the taking and estreating of recognizances, and all matters incidental thereto, also the hearing of any application made by or on behalf of any person or body of persons in relation to the granting of a licence, or in relation to the giving or withholding any right or privilege, or in relation to any other matter as to which such person or body of persons is authorised by law to make an application; also the confirmation of rules or byelaws, the settlement of tables of fees, and of costs in relation to judicial business; also the appointment of licensing committees or members of licensing committees for the purposes of the Acts relating to the sale of intoxicating liquors, and all other powers of control vested in justices in Quarter Sessions assembled by Act of Parliament in relation to the sale of intoxicating liquors; also the division of the county into districts for coroners, the formation or alteration of Petty Sessional divisions, and the union of liberties with counties; also the carrying into effect any power or duty of a judicial nature conferred or imposed on justices in Quarter Sessions assembled."

The latter means "the appointment of visiting committees of prisons in pursuance of the Prisons Act, 1877, and all powers relating to the establishment, maintenance, government, payment, and superannuation of the police, the providing lock-up houses, and all other powers relating to the police, including the power of making police rates, and obtaining moneys for defraying all expenses incurred in relation to the police."

Now, amongst the former class of business—"judicial business"—it is to be observed:—Firstly, that the "hearing of appeals" is included. This expression will, I apprehend, include all appeals, and, however fit and proper it may be that the whole body of justices should act as a Court of Appeal from the decisions of members of their own body sitting in petty sessions and adjudicating on criminal or quasi-criminal cases, it cannot, I think, be affirmed that they constitute as good or satisfactory appellate tribunal in rating appeals. To my mind it would be preferable that rating appeals should be heard by a Committee of the County Board especially selected for that purpose; for the assessment committee, the body from which the appeal lies, is not composed of justices alone, but is a mixed body of justices and guardians: and therefore it appears to me that the body to whom the appeal lies should be similarly composed; or, as rating appeals now almost always include some nice point of law, I would do away with the appeal to a lay tribunal and only allow an appeal to the High Court of Justice. Were such the law, I think the hands of the assessment committees would be strengthened, and appeals would be less frequent than they are now—both desirable objects of attainment.

Secondly.—I fail to see why the appointment of committees for the sale of intoxicating liquors, and the powers of control relating to the sale of such liquors, should be left in the hands of the justices. These powers might with advantage, I think, be handed over to the County Boards; the elected members of which would, in a large majority of cases, be better judges of the wants of particular neighbourhoods in this respect than the justices, and being as a rule larger employers of labour than the justices would know better than the latter when a public-house should be closed, as tending to harm the working classes.

Thirdly.—“The division of the county into districts for coroners, the formation or alteration of Petty Sessional divisions (if those divisions are retained as the electoral areas) and the union of liberties with counties,” might all have been well entrusted to the County Board. As the coroners are to be elected by the Boards, the formation or alteration of petty sessional divisions may cause confusion in the election of the Board (see above observations on Section 40), and various powers of readjustment of areas are given to the Board by Section 25.

It seems to me, none of the items I have mentioned can properly be said to belong to the class of business that concerns the “administration of justice” or the “maintenance of order,” except, indeed, in so far as the latter is considered to be the only reason why any control is placed on the sale of intoxicating liquors.

All administrative county business now performed by Quarter Sessions is to be transferred to the County Board. The expression “administrative business” is defined (Section 47) to mean business of the descriptions following:—that is to say, “the making, assessing, and levying rates, and the application and expenditure thereof (save as by the Bill specially provided for; the borrowing and raising of money; the auditing, settling, and allowing accounts; also the exercise of any powers conferred by the Bill, or hitherto exercised by the justices in Quarter Sessions assembled in relation to the appointing and removing, and fixing the salaries of county officers, and of inspectors and examiners of weights and measures, of public analysts, and other public officers; also the providing, repairing, altering, and otherwise dealing with pauper lunatic asylums, court-houses, and shire-halls, judges’ lodgings, militia storehouses, buildings, bridges, and other works, wherewith county rates or other public moneys are by law chargeable, also the management of county property; also the exercise of the powers hitherto vested in the justices in Quarter Sessions assembled in relation to the carrying into effect the Contagious Diseases (Animals) Acts, and the Acts relating to fish conservancy, fisheries, and wild fowl; the formation and alteration of highway districts, also any other business (whether of the same description as that above enumerated or not) transacted, or which might but for the Bill have been transacted by the justices in Quarter Sessions assembled, and which is not judicial business.”

Thus almost all the financial duties of the Quarter Sessions are transferred to the County Board, and as well as all the purely administrative ones. It seems to me rather anomalous that while all judicial business is retained of the Quarter Sessions, the “providing, repairing, altering, and otherwise dealing with the court houses”—the places, that is, in which the justices sit for the transaction of judicial business—should be placed in the hands of the County Board. This duty might with advantage, I think, be left in the hands of the justices.

It now remains to consider the new powers given to the County Boards by the Bill, and which are most important. These new powers relate to—

- (a) Highways and highway authorities (Sections 9 to 21);
- (b) The prevention of pollution and the conservancy of rivers (Sections 22 and 23);
- (c) Asylums and certain classes of paupers (Section 24);
- (d) Adjustment of areas (Section 25);
- (e) The appointment of coroners (Section 26);
- (f) Borrowing and lending money (Section 27).
- (g) As the powers relating to highways and highway

authorities are likely to be subject to some opposition, or, at all events, at considerable discussion may be apprehended with regard to them, it would have been perhaps more expedient that they should not have been included in the Bill we are now discussing, but in the “Highways Bill” of the present Session instead; being, however, included in the Bill, I must bring them to your notice. First, then, the County Board is to provide half the expenses towards repairing *main* roads in the county, the other half of such expenses being provided by “contributory highway areas.” Main roads are defined (Section 9) to be roads which on Jan. 1, 1874, were turnpike roads, and have since ceased to be such; and roads, which being turnpike roads at the time of the passing of this Bill, afterwards ceased to be such. So much of any such main road as lies within the limit of a contributory highway area is to be repaired when such contributory highway area is a “highway district,” by the Highway Board of that district (unless the County Board on the application of the Highway Board are willing to repair the same, in which case the County Board may do so); when the contributory highway area is a “highway parish,” then the before-mentioned part of a main road is to be repaired by the County Board, unless the parish and the Board agree that the parish is to do such repairs. The fund out of which the one-half of the expenses contributed by the County Board towards the repairs of main roads is to be paid is a separate new fund to be established in the hands of the county treasurer, to be called the “County Road Fund,” which fund is also to bear the other expenses “incurred by the Board in the execution of their duties relating to roads” (Section 15). The Bill does not seem to be very explicit on the point how the County Road Fund is to be formed—that is to say, out of what moneys it is to be formed; but it provides (Section 15) that “for the purpose of defraying any expenses which the County Road Fund may be sufficient to meet, the County Board may from time to time estimate the amount required, and such amount shall be contributed by the contributory highway areas within the county in proportion to the rateable value of the property within each such area, such value to be ascertained according to the valuation list for the time being in force.” This section apparently provides only for the case of the County Road Fund being deficient, and the Bill is otherwise silent as to the moneys which are to form it. I suppose a part of the general county rate is to be carried over to form the fund. The County Boards have powers given them to issue precepts to the highway authorities requiring them to pay the amounts of their different contributions to the county treasurer within a limited time, and to enforce such payments.

It is to be noted, especially, that under Section 16, half the rate to be contributed by the contributory highway area is to be paid by the landlord and half by the occupier. Also that by Section 19:—

“An elective member of a County Board is not to be entitled to vote on any question under the act relating to a main road when no part of such road is situate within the area for which he is a member.”

This last provision seems to me to be a mistake, as it may cause the Board to be split up into parties, and I fail to see why an elective member of the Board who is not locally interested in a particular main road is not quite as competent to pass an opinion and give a vote on a question relating to such road as a justice who is not locally interested in it.

Section 17 permits the Board to recover half of the expenses

of repairing a main road from the contributory highway authority in cases when the Board repair the whole of the main road situate in the area of such authority, and Section 13 provides for settling the accounts between the County Board and the contributory highway authorities periodically and by means of set-off.

An important power is given to the County Board by Section 12 of the Bill to make provisional orders for the conversion of ordinary highways into main roads in cases "where it appears to the Board that any highway within their jurisdiction, which is not a main road, ought to be repairable as a main road by reason of its being a medium of communication between great towns, or a thoroughfare to a railway station, or otherwise." On and after a day named in the order, the road to which the order relates is to be deemed to be a main road, and is to be subject to the provisions of the Bill relating to the repair of main roads."

The Board may also by obtaining an order from the Local Government Board, reduce a main road to the status of an ordinary highway (Section 13). A far more and very important provision for the relief of particular districts from the repair of main roads, which are mainly used and therefore worn out by inhabitants of towns or districts not liable for their repair, is contained in Section 14, which gives the County Board the power of putting in action the Local Government Board to make provisional orders for the erection of toll-gates and the levying of tolls on the traffic which passes along such roads. The County Board can, however, only move in such cases where they are satisfied "that the expense of repairing such road is largely in excess of the sum which would ordinarily suffice to keep such road in repair, having regard to the average expense incurred by highway authorities in the neighbourhood in respect of a main road of equal length, and further that such excess is caused by a through traffic between places which do not contribute to the repair of such main road or otherwise by some cause independent of the local traffic of the inhabitants of the area through which the road passes; and "that it would be just to allow of the levy of tolls to such an extent as would defray such excess of expense as aforesaid, and further that the levy of such tolls would not prejudicially interfere with the traffic producing such excess."

The maximum time for which the Local Government Board can authorize the County Board to make such road a turnpike road is limited to five years. During the period defined in the order the General Turnpike Acts will apply to such road, the County Board being considered the trustees of it. Any urban sanitary authority who may object that their district should be prejudicially affected by the proposed order, may be heard by the Local Government Board before the order is made, and care is to be taken that in putting up the new toll-gates the interest of the inhabitants of any particular town or district are not unduly affected thereby.

The 21st Section of the Act places the highway authorities to a certain extent under the control of the County Board, inasmuch as it gives the Board power to compel such authorities when in default and complaint is made to the Board of such default to perform the duties in respect of which default has been made.

(b) By Section 22 power is given to County Boards to enforce the provisions of the Rivers Pollution Act, 1876, in relation to "any stream being within, or passing through or by, any part of their county," and to pay any expenses relating thereto out of the county rate; and Section 23 permits the

Boards, if so desirous, to become the conservancy authorities of any such stream. A Board can, however, only become such an authority by an order of the Local Government Board, which must sanction a particular scheme in this respect; the scheme with maps, plans, and full particulars having been first submitted for the approval of the Local Government Board. "The scheme may include powers for removing obstructions, improving outfalls, dredging, scouring, and cleansing the bed of any river, or part of any river affected thereby, and improving the flow of water therein, also powers for constructing embankments and otherwise dealing with river banks, and of compulsorily acquiring land so far (but so far only) as may be necessary for the purposes of the scheme." And it must describe the area upon which the necessary expenses for giving effect thereto shall be charged, and must specify the rate or proportions in which the same shall be borne, and the manner in which they shall be assessed, raised, and levied.

The scheme may also provide for a joint committee of the Boards of two or more adjoining counties being such conservancy authority, and may include a city, town, or borough, with a separate court of Quarter Sessions. The junior member for the county of Oxford (Mr. Harcourt) has proposed to add to this section a further power to enable the Local Government Board by order to constitute drainage authorities, having statutory powers, the conservancy authorities over rivers, in respect of which they have authority.

(c) The powers given to the Board in relation to asylums and certain classes of paupers (Section 24) enable it, with the sanction of the Local Government Board, to provide—

- (1) Separate asylums for any class of the imbecile or insane poor.
- (2) Separate schools for idiotic pauper children.
- (3) To set apart one or more workhouse or workhouses or parts of workhouses for such purposes.
- (4) For constituting the whole county or a combination of unions situate wholly or partly in the county a district for such purposes.

And County Boards of two or more counties may combine for the purposes.

(d) To prevent the inconvenience arising from the overlapping of unions, sanitary districts and parishes, County Boards may, under Section 25, prepare schemes for the approval of the Local Government Board.

- (1) For the re-adjustment of unions.
- (2) For the alteration of the areas of sanitary districts and unions or for combinations of districts in pursuance of the Public Health Act, 1875.
- (3) For the exercise of any powers relating to the division of, or otherwise dealing with, parishes in pursuance of the Divided Parishes Act, 1876.

And the Local Government Board is to approve such schemes either with or without modifications.

(e) County Boards are to elect coroners in all cases when a vacancy occurs in that office after the end of this year, 1878. This is, no doubt, an improvement on the present system by which these officers are elected; but, to my mind, coroners should be appointed by the Crown, and paid out of the imperial funds.

(f) Section 27 enables County Boards to borrow, with the sanction of the Local Government Board, in manner provided by the Local Loans Act, 1875, either as one loan or as

\**Several loans, such moneys as they may require, subject to the following provisions:—*

(1) Where the money is borrowed for purposes to which the county rate is applicable, the loan is to be borrowed on the security of the county rate.

(2) Where the money is borrowed for purposes, to which a special rate is applicable on the security of the special rate.

(3) Where the loan is borrowed for the purposes of the main roads brought within their jurisdiction by the Bill, on the security of the county road fund.

And the same section permits the County Boards to lend the moneys so borrowed, or moneys out of the general balance in their hands, and sanitary and other local authorities within their jurisdiction who are authorized to borrow money for local purposes, such loans to be at such rate of interest, within certain defined limits, as the County Board and the borrowing authority may agree upon.

Such are the powers and duties which the Bill gives to and imposes on County Boards. I think their number might well have been increased so as to include (1) a power of control over rural sanitary authorities, so as to compel them to perform duties in respect of which they may make default—as in the case of defaulting highway authorities—and the Board should be made a central sanitary authority for the county, and have powers to execute sanitary works which are required for the benefit of the whole county; and (2) a power enabling the Board to frame schemes to be carried out under the authority of the Charity Commissioners in respect of the educational endowments within the county. Were this power given to the Boards, the plan which has been for some time past so ably advocated by the Rev. Prebendary Brereton\* could be carried into effect, and the educational endowments in rural districts could be made available to assist the middle classes living in those districts in the education of their children—an assistance very much required by them now that they have to contribute so largely towards the education of the children of their poorer neighbours. (3) The appointment of registrars of deeds in register counties might well be intrusted to the County Boards of these counties.

I have now brought to your notice the main features of the present County Government Bill, and touched upon some of the criticisms to which it has been subjected; and it only remains for me to thank those gentlemen who have so kindly assisted me in the preparation of this paper, notably Mr. Read and Captain Craig, who have this subject of rural local government at their fingers' ends, and who have rendered me great and valuable assistance; and to express a hope that in spite of the Irish Obstructives, in spite of the twenty-five pages of amendments to the Bill which appear on the notice paper of the House of Commons, the Bill may in a few months become "The County Administration Act, 1873."

#### THE DISCUSSION.

Mr. HENRY NELD said that in any changes that might take place he thought they would never do very much better than had been done hitherto by the magistrates on the Quarter Sessions with regard to the conduct of county business. Very rarely in his county (Lancashire) had there been any objection fairly raised to the administrative ability of the magistrates. It was evident, however, that many changes would have to be made in the administration of county matters, and that more direct appeal would have to be made to the rate-

payers, who found the money. There had, however, been good reason shown why the direct election by the rate-payers would be very objectionable; and the same objection arose with regard to the election of the present Local Boards. As to the question whether the area of division should be the petty sessions, or the union, that point had been very ably discussed in Lancashire, and he believed he was correct in saying that the preponderance of opinion was in favour of the union area. Some persons also thought that the members chosen should be in some proportion to the population, because in some of the manufacturing districts there were very large populations which claimed some consideration with regard to the number that was to constitute a Board. They also thought that the annual election would be very objectionable, and that three years was the least term which would be given for the new Board, (Hear, hear). He thought that the mode of election might be simplified, and that the suggestion to choose the elective members at the usual meeting of the Board of Guardians, due notice being given, was a desirable one to adopt. Should a County Board be constituted as proposed by this Act, he thought it would be the best authority before which all rating matters should be brought as well as licensing matters, because nobody was so well qualified to give an opinion as to the necessity for beer houses and public houses as resident guardians were. When, however, they came to that part of the Bill affecting the highways and the sanitary authority, he thought there was a certain clumsiness about the way in which these two matters were blended together. The clauses in reference to these two points appeared to him to want very considerable changes. The question of the highways was a very large one, and he did not see that it was possible for this meeting to go satisfactorily into the subject in connection with this bill. The re-enacting of the toll-bars had been mentioned in the Paper in relation to the traffic passing through to waships that contributed nothing towards the support of the roads. They felt this difficulty in Lancashire, perhaps, more than in any other county in England, and this traffic gave more trouble than any other. Some ten or fifteen years ago the highway rate in his district of Worsley was amply covered by 4d., but now the cost has risen to 10d. He knew something of this matter, being a surveyor of highways himself. On these roads which he referred to, three-fourths of the traffic was extraneous traffic that did not contribute in any way to the local taxation. A very large question was opened when they once began to deal with the highways, and he feared that there was very little chance of the Highway Bill being completed in Parliament this session. He was quite sure that the meeting would feel extremely indebted to the introducer of the Paper (Hear, hear). The remarks made by the chairman at the last meeting as to the intention of Mr. Little to introduce the subject of "Local Government with Special Reference to Rural Districts," had created some expectation in the country, but their worthy Secretary had made a most excellent substitute in Mr. Little's enforced absence, and they were all very much obliged to him (Hear, hear).

Mr. W. BROWN (Tring) said he very much regretted the absence of Mr. Little, though a very interesting paper had been read by the Secretary. He agreed with some of the observations that had been made with regard to the present county expenditure, but he very much doubted whether it was going to be improved on by any newly-elected body, though he was aware that the alteration had been called for by the public. The public had not been satisfied by the magistrates however

\* *Vide* "County Education. Journal of the Farmers' Club for 1873, p. 1.

well they had performed their duties, or however economically they had conducted the business of the county. It had been felt by those who paid the rates that they had not a proper voice in the management. He could not, however, himself see the importance of electing a body of gentlemen for the purpose of carrying out now what had usually been done by the magistrates in quarter sessions. They must, however, look forward to such a body as was proposed in this Bill, and they would have most important duties to fulfil by degrees, just in the same way as when boards of guardians were called into existence for the administration of the Poor Laws. By degrees the guardians were made to serve many other purposes, not because, perhaps, they were the most efficient body for the purpose, but because they were in existence, and were a body elected by the ratepayers. In regard to the constitution of the Board, he did not think there could be much difficulty over that; the proposal in the Bill that half should be elected by the magistrates of the county and half by the union ought to be amended, and it would be better to have the same proportion as at present existed in the assessment committees, where one-third of the members were elected magistrates and the remaining two-thirds guardians (Hear, hear).—because the rule did not shut out the election of any *ex-officio* guardian. Looking for a moment at his own union, he saw there that one of the magistrates of the county took the leading part in the affairs of the union, arising simply from the fact that he was efficient man, and if not elected by his brother magistrates the most would surely be by the guardians. Therefore he did not think there would be the least harm in the Bill, providing that one-third of the members of the County Board should be elected by the majority and two thirds by the guardians. He had some experience, and he could not refrain from making some observations with regard to the distinction between indirect and direct election. The voters as at present qualified were in his opinion a very improper body to make an election. And he would tell them why, because in many places those voters who elected the guardians of the poor were men who did not pay one farthing of the rates, and if the meeting thought that was a state of things that ought to be permitted he begged leave to differ from them. It had been argued that occupiers of cottages paid rates *indirectly*; but it mattered little to the occupier whether the rates were 6d. in the £ or 6s. in the £, because he paid no more rates in the one case than in the other. Therefore he did not think such voters were properly qualified to elect either the guardians or the school board members. These two or three observations had occurred to him, and he had mentioned them as they cropped up.

Mr. CHARLES HOWARD (Bedford) said he happened to live in a county which took a very modest part in all public matters—(laughter)—but in this matter of the County Government Bill they had gone somewhat in front of the rest of the country, because two months ago this Bill was discussed at the Belford Union, and he regretted that the subject had not been discussed earlier by this Club. He quite agreed with Mr. Brown that there had been very great improvement in the last few years in the administration of our county matters. At the same time, willing as he was to give the magistrates every credit for the course they had taken, the county ratepayers felt, as they had long felt, that it was not right to have taxation without representation. With regard to the areas, he expressed his opinion some time ago in favour of the Government proposal of petty sessional divisions. Mr. Druce said that division was not so well known. Now, every man who served

the office of overseer would know the petty sessional division because he would be sworn in by the magistrates at the petty sessions; but in passing he would observe, with regard to that appointment of overseer, if the office was to be continued, he thought that it should be made by the Board of Guardians, to whom he was responsible, rather than to the magistrates (Hear, hear). He believed the union was the area formed at the outset for the convenience of the poor, and such being the case, he did not think it should be lightly interfered with. The petty sessional division could be very well adopted with the union machinery to bring it into action. With regard to the appointment of members, he was quite willing that there should be not only two members *ex officio*, but if it was the will of the ratepayers he did not see why they should not be all *ex officio* members, so long as some indirect principle of election was brought to bear. Here he came to what he thought was the right course to pursue—viz., to place the election of all the members in the hands of boards of guardians, because the guardians, as a rule, knew the best men in every county and the most business-like men. He believed that many of the magistrates deserved well of the guardians. Many of them were men of business as well as leisure, whose interests were identical with those of the other ratepayers; and he did not think the interests of the ratepayers would at all suffer in the hands of magistrates alone so long as ratepayers, indirectly through the guardians, had the power of their appointment. Mr. Druce had alluded to the highway portion of the Bill. He had it from pretty good authority that the Government had abandoned that part of the Bill, and would leave it out for the purpose of incorporating it into the Highway Bill now before Parliament. With regard to the assessment appeal business also alluded to by Mr. Druce, he thought that it would be a very great relief to the magistrates to take those matters out of their hands; also he believed that it would be satisfactory to the assessment committees if that portion of the appeals relating to the railways were sent to a higher court—to the High Court of Justice, as suggested by Mr. Druce. He, for one, as a member of an assessment committee, had often felt that in dealing with railway matters they were not at all conversant with the subject; and if that were the case with guardians, he fancied that even some of the magistrates on the bench were not in a much better position. He thought that it would be much better for the railway interest at large that such appeals should go to a court that could bring more knowledge to bear upon the subject of appeal. It had been mentioned that there were twenty-five pages of amendments to this Bill on the Paper of the House. He hoped that the Government would persevere in the Bill (Hear, hear). He trusted that some influence would be brought to bear upon the obstructive members of the Government—he meant their own friends; for he fancied the Government had more to fear from their friends than their foes in this matter (laughter). The Government had the opportunity now of doing a very good and great thing, and all he had to say was this, that if they neglected it they might depend upon it that the subject would be taken up by another party which would make capital out of it. He agreed with Mr. Druce's concluding remarks in hoping that this Bill would speedily become the County Government Bill of 1878.

Mr. R. HAWARD (Bramfield): This was a question which had been taken up by this Club for many years at intervals, and the last time it was discussed was sixteen years ago, namely, on May 5, 1862, when it was introduced by the then Secretary, Mr. Corbet. He (Mr. Howard) had a copy of Mr.

Corbet's address with him. It was a straightforward and good address, but without saying anything with regard to that address, or comparing it with the one which they had heard from the present Secretary, he might observe that Mr. Corbet treated the question in a very different way to that in which Mr. Druce had treated it; but the fact was that Mr. Corbet had no Bill before him, and Mr. Druce had, and therefore Mr. Druce had been confined to the terms of the Bill. Complaints had frequently been made on the point mentioned by Mr. Charles Howard, namely, that taxation and representation should be inseparable. An Englishman had a voice, either by himself or his representatives, in raising and expending every rate and tax except the county rate. This county rate was the one solitary exception, and therefore it was not surprising that there was dissatisfaction at being taxed by a small body of irresponsible men such as our magistrates were. In the county of Suffolk there were 350,000 inhabitants and 230 magistrates, of whom 30 did not reside in the county, and were not ratepayers of the county, whilst many of the other magistrates were clergymen, among whom it was an exception to find a good business man (laughter). Now, in regard to the borough rates there was a strong contrast in comparison with the county rates, because in the boroughs the ratepayers had their representatives in the members of the town councils, whereas the county rates were made, as he had said, by irresponsible magistrates, and therefore anyone might see the difference. People consequently were not satisfied, but said to themselves, "Why should there be one sauce for the goose and another for the gander? Why should the borough rates be made by representatives, and the county rates by men over whom we have no control, and who tax us consequently to any amount they think proper?" In looking over this Bill one thing appeared to him to be very important—namely, that the Act excepted the management of the police and the police expenses from the direction of the County Board. The police were still to be under the control of the magistrates, who were to have the power also of making the police rates, and therefore the magistrates would still tax the ratepayers for the police to any extent they might think fit. He could not understand why this should be the case. In the last account he had seen of the county expenditure in his county, the police cost about one-half of the whole amount of the county rate, so that to except the police from the control of the County Boards was actually to take away one-half of the financial business of the county from the new County Boards and continue it in the hands of the magistrates. He thought this was a considerable defect in the Bill. Then another question was this: Why should the petty sessional division be the area? He believed this also was a considerable mistake. He was present at the Norfolk Chamber of Agriculture lately when the Chairman (Mr. Gurdou) made out a strong case. He said that the petty sessional division in which he acted as a magistrate was formed from parishes taken from four unions, and if they elected the members of the County Boards they would bring together, when the day of election took place, guardians who were strangers to each other. Now, if the County Boards were elected by Boards of Guardians, and by guardians who knew each other, as had been already said, they would take care to appoint the best men as elected members, and for this reason he thought it would be a considerable improvement upon a petty sessional division as the area (Hear, hear). Section 26 of the Bill gave power to the County Board to appoint the coroner. He agreed with what

had been said just now about that. He believed it would be much better if the coroner were appointed by the Crown. He witnessed the election of a coroner a few years ago, and it was conducted in a manner anything but satisfactory, and therefore he thought it would be well to take the election out of the present hands and put it into the hands of the Crown rather than in the hands of the County Financial Board. There was another officer whom he thought would be better appointed by the County Financial Board, and that was the Clerk of the Peace, whereas the Clerk of the Peace was now appointed by one gentleman, and was paid a large salary from the county funds. Then there was another matter. The Financial Board were allowed to appoint officers such as were wanted, and were allowed also to award them salaries, but there was one thing which it seemed the Bill did not give them any power to do, namely, the power of reducing salaries when they found them to be in excess. Then again, he found that no provision was made in the Bill for the audit of the accounts of the County Financial Board. Why was this power not given, as in the case of the Poor-Law Guardians, and other public bodies? He thought an audit of the accounts was a great improvement, wherever it had been adopted, and conduced considerably to the economical management of matters. This omission he regarded as a great defect in the Bill, and he would like to see a clause providing for an audit. It had been said that the magistrates had more time at their disposal than men in extensive business, and therefore were likely to make better members of the County Financial Board. This objection he thought would be obviated by adopting Mr. Charles Howard's suggestion to allow the ratepayers to appoint magistrates if they thought fit instead of allowing the magistrates to have the power of electing half the members of the Board. Some alteration in regard to these matters he had mentioned would, he thought, make considerable improvements in this Bill. He hoped the Bill would be made a good one. He was very much afraid that it would not be made a sound Bill, which would stand its ground and not afterwards require many amendments. Of course the matter was now in the hands of the House of Commons to a considerable extent. There were some good men in the House, such as their friend Mr. Read, who understood business well, and who knew what this Bill ought to be, and he trusted they would give their time and attention to it, and do the best they could to make it a workable Bill, and with all his heart he wished them success.

Mr. C. S. READ, M.P., said he joined in the general approval given by the various speakers as to the economical way in which the magistrates had performed their duties in quarter sessions. Years ago complaints had been made as to their extravagance, but when he came to analyse the matter he found that almost the whole of that expenditure was imposed upon the magistrates by statute, and that they could not help themselves. With regard to the paper that was read by their late Secretary in 1862, there was a considerable difference in the feelings of the ratepayers now and what they were then. In those days people talked only of County Financial Boards, in addition to the extravagance of the magistrates in quarter sessions. As long as the discussion was confined to these special objects he took no part in it whatever. He did not believe in the extravagance of the magistrates; and, on the other hand, he contended that if they had County Boards, they would want them to do a great deal more than what the Quarter Sessions did at the present moment; for if they were

simply going to transfer the present duties of the Quarter Sessions to the County Boards, he should say it was not worth the trouble of doing it (Hear, hear). With regard to the police, which had been mentioned by his friend Mr. Haward, he might say that in the resolution which he had the honour to pass in the House of Commons, he specially exempted the police as appertaining to the administration of justice; and as the Government of the country paid half of the expenditure of the police, they would take very good care that there was no excessive expenditure, and therefore they might rely upon it that there would be no extravagance on the part of the magistrates, or if there were such extravagance the Government would soon bring the magistrates to their senses. There might be a fear if the police were excluded from this Bill and from the control of the County Board that at no distant day the Government would take upon themselves the whole responsibility of paying the police. With regard to the composition of the Board, one-half being elected and the other half nominated by the Court of Quarter Sessions, he entirely disagreed with that plan. He should prefer that one-third of the Board should be nominated by the justices in the Quarter Sessions, which would be ample and sufficient, because he foresaw that it would be impossible to restrict the election of the guardians simply to *elect*d guardians. He should be extremely sorry to tie the hands of the guardians in that way. He, on the other hand, should not like the guardians to be driven to elect some gentlemen who did not happen to be magistrates, and who would not be guardians. But whatever they did with regard to these County Boards, they would not relieve the guardians of much responsibility or of much work. The guardians really did the drudgery and the real work of our Local Government (Hear hear). He wanted to elevate the character of the Boards of Guardians all he could, and if they thought that the guardians were not the men they would wish them to be it was their duty to make them better. If our worthy guardians did all the drudgery, surely if there was any honour or dignity to be conferred upon them, they ought to do it so that they might be able to say to a man who wished to be a member of the County Board, "You must first serve your apprenticeship to the guardians before we can allow you to go up higher." He hardly followed Mr. Charles Howard in his wish that the Board of Guardians should elect the whole of the County Board. They must remember first of all that at the starting they must have men who were accustomed to the county business, and there was no man who could know who the ablest workers were except those who belonged to the Quarter Sessions. [Mr. CHARLES HOWARD: The Assessment Committees and the Sanitary Committees.] He was referring to the county business. He did not like to differ from so high an authority as Mr. Charles Howard, though they had differed before in that room (laughter). If there were men who had the management of county business already, those should be the men they would wish to see at the first County Board, and no one can elect them so well as the members of Quarter Sessions. He agreed that appeals in all questions of valuation should be taken from Quarter Sessions and transferred to the County Boards, and he hoped that the prospect of such a change was the reason why the Valuation Bill of the Government had not yet been printed. He should be glad, however, to hear from a higher authority than his friend Mr. Charles Howard that the Government had agreed to abandon the highway clauses of the Bill and incorporate them as clauses in the Highway Bill; because he was sure that the one clause of this Bill which

related to tolls would cause an immense deal of discussion, and take up a great deal of time. He was so anxious to get this Bill passed that he would rather throw over one-half of it in order to get a good skeleton Bill, because if they once had a skeleton they could, by degrees, clothe it. He agreed with Mr. Druce as to some of the duties that might and had to belong to this County Board, but he would say, "Do not overburden it in the first instance; do not try to overwork it." With regard to the licensing, there he quite differed from Mr. Druce, because he contended that the present Licensing Act worked very well. At the present time no man could get a fresh license without first of all going to the justices in Petty Sessions, after which he had to go before the County Licensing Committee; and as far as he was aware of the general action of these County Licensing Committees, unless there was some new railway station which required a refreshment room, or some new locality which required a public-house, on no consideration would the committee grant fresh licenses. Their friend Mr. Druce, however, who was a legal luminary, told them that he should like the County Boards to have the power of shutting up public-houses. But where was the compensation to come from? The magistrates had no such power to shut up public-houses, unless the publican offended against the law. There was no doubt a vast number of public-houses that might with advantage be closed in some localities, but there were certain vested interests in them, and as long as a public-house that had a license was double the value of a house that had no license, he did not know from what fund it was possible (he hoped it would not come out of the county rate) to compensate the owners of these licensed houses which Mr. Druce had proposed to shut up. Then also Mr. Druce had proposed that the court houses should be placed under the jurisdiction of the magistrates, because the magistrates held their court in them. He (Mr. Read) thought so once upon a time, but when he came to consider the thing it appeared to him there might possibly be a conflict between a County Board and the magistrates. There might be a desire on the part of the magistrates to erect a grand palatial court-house; and if such were the case he had no doubt they would soon be at loggerheads with the new County Boards, if the latter were the rating authority; whereas otherwise there would be no such check, as in the case of the police, where the Government would step in and stop any extravagant expenditure on the part of the magistrates. Therefore, though at first he was of the contrary opinion, he thought the Government had done wisely in placing the court-houses in the jurisdiction of the new Board. Mr. Druce had commented on Clause 19, and he must say that anyone who could understand that Clause had a much better understanding than he had himself. It was easiest to say the Clause was a misprint, and that was what had been said about it. He believed it simply referred to this: that when a member of the County Board happened to be sent by a district in which there was a Board of Health that had jurisdiction over the highways, he should retire from the Board when the highways were under consideration, just in the same way as a man who was a guardian from that district would retire when the general sanitary business of the union came before his fellow-guardians. That he believed, was the thought it had in view, but as it at present stood he did not believe anyone could make sense or head or tail of it. Then, with regard to Mr. Druce's wish to have larger powers concentrated in the hands of the County Boards, he quite agreed that in time that might be arranged; and he also concurred that it would be well that the middle class education of the county, where there



are grants, charities, and legacies, should come under the cognisance of the County Boards, because he believed it would be the means of advantageously using a great deal of the money that was now almost wasted. Then Mr. Druce went on to say that he wished the registrar of deeds to be appointed by the County Board, but who this gentleman was he (Mr. Read) did not know. [Mr. DRUCE: There is one in Middlesex and one in Yorkshire.] Then he presumed the officer would be a lawyer, and would have to be paid a good salary; and he supposed that if the County Board appoint him they would have to pay him. He also agreed with Mr. Haward that the coroner should be appointed by the Government and paid out of the Imperial taxation. It was for the administration of justice solely that the coroner was appointed, but how they would get on in Norfolk under the circumstances he did not know, because in the appointment of county coroners there were coroners appointed by the Duchy of Lancaster, the Duke of Norfolk, Sir Thomas Hare, and another local magnate, and how these gentlemen were to be compensated for the loss of their services if the appointment of county coroner were vested in the Government he would rather leave the County Board and the Government to settle between themselves. With regard to the Clerk of the Peace, he believed that that functionary was, generally speaking, paid a large salary for doing a fair amount of work which he very often put off upon some substitute. He would like the clerk of the peace to be appointed by the County Board. Of course the County Board would have to pay him, and it was for this reason that he (Mr. Read) suggested in the House of Commons as a sort of compensation to the Lord-Lieutenant that he should be *ex officio* member of the County Board; so that the Lord-Lieutenant would be an ornament to the Board, if nothing further. He begged to thank Mr. Druce for the masterly analysis he had made of the Bill. It was a difficult subject to make pleasant, or even understandable, but Mr. Druce had succeeded in doing both. Anyone who attentively listened to his Paper would have a much better and clearer view of the contents of the Bill than he would derive even from listening to the speeches on it in the House of Commons, and Mr. Druce had explained a great many details that had escaped his (Mr. Read's) observation. He trusted, with Mr. Druce, that the Bill would become the law of the land this session. It was a very important subject, but there was one Bill before the House in regard to which he had a still greater anxiety, and that was the Contagious Diseases (Animals) Bill. He hoped that whatever happened to this Bill, at any rate the other Bill would become the law of the land before the session closed. He had often expressed his opinion as to the question of area, and he would not recapitulate his arguments in favour of the union area. The only argument in favour of the petty sessional area that he could see was that it was within the county, and no doubt that was a strong argument, and one that could not be lightly got over. He quite admitted that, but there were also difficulties on the other side which might be mastered, and which he thought it would be well to master; and he did not think that by shirking them in the first instance they were likely to make the remedy any the easier.

Mr. C. M. CALDECOTT (Warwick) said: There was one point Mr. Read had not made very clear, namely, that about the Clerk of the Peace. He quite agreed that the present mode of appointing that officer was not the best. In his county the Clerk of the Peace was paid out of the county rates by salary; but the salary was calculated upon an average of the fees he received, which fees were carried to the credit of the county.

At the present moment, however, the Clerk of the Peace happened to be in a peculiar position. When the late Clerk of the Peace died, the present Clerk was appointed and his salary was proposed. The amount of salary was sent up to Mr. Cross for approval, but he did not approve of the fees of the office, and consequently, and for the last three years, the Clerk of the Peace had been living upon his fees and not receiving any salary.

Mr. HAWARD said that in Suffolk the Clerk of the Peace received a salary of £1,500 a year, besides fees, he believed.

Mr. DUCKHAM said he fully endorsed the last sentiment expressed by Mr. Read as to the great importance to be attached to the Cattle Diseases Bill in preference to the Bill now under discussion. Unquestionably the former was at this time more important to the rate-payers of this kingdom and to the nation at large than the latter. At the same time the Bill under discussion was one upon which there was a very unanimous opinion in the country, and which was felt to be of great importance. He could not see himself that any inconvenience or any national loss would be sustained, supposing this Bill did not pass during the present session. There was a vast amount of difference between the advocates of the Bill as to whether the petty sessional division or the union should be the area. Mr. Haward had told them of one petty sessional division in his county that partook of four unions, and therefore, if the guardians of the unions were brought together to vote they would not know anything of the qualifications of the gentlemen nominated to act on the County Board. In Mr. Duckham's county nearly all the unions were overlapping unions. He thought it important that each electoral area should be coterminous with the counties. He believed that the overlapping occurred in all small counties, and he would draw attention to the fact that the unions were laid out entirely irrespective of the counties in which they were situated, and in accordance with population and to suit the convenience of guardians attending the small towns within their districts. If the petty sessional divisions were objectionable, he thought it a matter for serious consideration whether they might not be rearranged. There was quite enough for Local Boards to do independently of the guardians. There was the highway expenditure and the sanitary matters, which ought to go with the highways; and there was the education and other important matters which would be far better entirely separated from the Boards of Guardians, so as to leave the Boards of Guardians with the administration of the parochial relief. He repeated that he felt no loss would be sustained by the country if this Bill was deferred for another year, until the question of areas should be more clearly understood by the country and the inconvenience that must necessarily arise by the adoption of the union area as at present constituted. Where the unions were overlapping in different counties the Boards of Guardians would have to be concentrated, and as there were several unions where only some five or six guardians belong to one county, they would have to be concentrated to make some sort of area, as those numbers would not be sufficient to elect two representatives; and therefore he was at a loss to see how the thing was to be carried out if the union was to be adopted as the area.

Mr. HAWARD: There are 469 unions entirely in their respective counties, and 181 overlapping.

Mr. DUCKHAM went on to say that more than one fourth of the unions in the country were overlapping unions. With regard to the Highway portion of the Bill that was certainly a most peculiar anomaly. Provision was given to the County

Board to impose certain roads on the county rate, but when it came to the question of closing any roads there was no power of doing it, that power being vested by the new Highway Bill in the petty sessions with power of appeal to the quarter sessions. He thought the whole power in regard to these roads should be vested in the County Boards, and not in petty or quarter sessions. He quite agreed with Mr. Howard that taxation and representation should go together. If that principle were adopted, instead of one portion of the Board being elected by the magistrates at quarter sessions and the other by the ratepayers through the guardians, the ratepayers would elect the best men either from the magistracy or from the district, because it was quite out of the question to suppose that farmers were going to attend to the enormous amount of duties imposed by this Bill; and therefore gentlemen of independent fortune who were good men of business would be elected, and the Boards be made entirely representative. He again repeated that he hoped at any rate the Cattle Diseases Bill would be passed this session.

The Rev. Canon BRERETON (Massingham, Norfolk) desired to recall the meeting to the real defect of the Bill and to the difficulty attendant on a great deal of our local government, viz., the question whether the Poor Law unions can be made the units of the county, and whether the accident of these being drawn originally without reference to the county is one that can be rectified now. He ventured to think that the re-arrangement of the unions was by no means such an insuperable difficulty as many represented. The real difficulty was of course that it would not do to interfere with the incidence of rating. If they had unions which carried a much heavier rate than other unions, it would not do to mix them; but that difficulty had, he believed, already been met by the arrangements of urban districts distinct from rural districts. The difficulty of the matter of convenience in these days was not a very serious one. He thought they might agree with Mr. Read that it was of the greatest importance to elevate the Boards of Guardians, who had to do the drudgery of local work, to share the more important duties of the county, and to take the union as the unit upon which they were going to organize the future county government. This seemed to him so important that he earnestly hoped, if there should be difficulties in passing this Bill this session, that the Government would take steps to institute a Boundary Commission, with authority to remove the one and only objection there appeared to be in the way of the future improvement of the local government in England. The administration of the roads and health were old parochial subjects, and if the parish of the future could be made coincident with the unions, why hand over these important local interests to the counties? (Hear, hear). Therefore the Government having introduced this measure, he hoped they would be content to pass it, even if only in skeleton, seeing that it was in accordance generally with the views of this Club, of the country generally, and in harmony with the traditions as well as the feelings of the ratepayers. The unions might be accepted as the outcome of the old parochial interests, and on that basis a provision for the future local government of the county could be carried on. He hoped the Club would use all its influence with the Government to get them to amend and persevere with this Bill (Hear, hear.)

The CHAIRMAN said there was one point in the discussion which had not been alluded to, he supposed because there were few Fenmen present. Nothing was looked upon by them

as of so much importance as the 22nd Clause of the Bill, which affected the Fen district of 500,000 or 600,000 acres. That district has been brought into profitable cultivation by the skill and energy and exertion of the Fenmen. If this Clause were carried, the management would go out of the hands of the men who had made the district into the hands of the men who would be totally inadequate to discharge the duties pertaining to the river conveyance of the country, and especially of the low country. Perhaps it was not generally known, but all the Fen country was already provided with local Acts for their own protection, and for the preservation of their own interests, and he was sure if a new body of men were to commence controlling, say, the Ouse or the Nene, there were a host of authorities already in existence who would rise up and say they were determined to maintain their own rights, and would not suffer such usurpation. Their locks and sluices were as sacred as things of life and death, and they would not allow them to be touched by hands that knew nothing of their importance. He was quite sure the Fenmen would fight very strongly against the 22nd Clause, and he hoped it would be removed from the Bill. He would not give an opinion about several other matters that had been alluded to. Mr. Howard had touched rather severely on the magisterial authorities. He could assure him that only about one-sixth of the expenditure of the county was within the control of the magistrates. They were as careful as any new Board that might be constituted, though he should be glad to see a good County Bill passed. There were things in this Bill which might, he thought, be left out, such as some of the Highway clauses, and especially the River clauses. Whether the Bill had been sufficiently ventilated was another question. He quite agreed with Mr. Duckham, that if they waited another year for it no harm would be done. He agreed also with Mr. Duckham that the Contagious Diseases (Animals) Bill was the more important Bill of the two. He had no objection to both Bills passing, but if one was to be left over for a year he should prefer it was the Local Government Bill.

Mr. DRUCE (in reply) said, that having had to take up the subject at short notice he had not been able to give much study to it, and only professed to analyse the Bill now before the House of Commons, and the criticisms of it. He would now merely refer to the points in the discussion where the speakers had differed from him. Mr. Charles Howard advocated the petty sessional divisions as the electoral areas, and took exception to the statement in the Paper that the petty sessional divisions were not known. What he (Mr. Druce) meant to say was, that the boundaries of those divisions were not known generally to the body of ratepayers in the same way as the boundaries of the unions were. The great argument for the petty sessional areas was that they were coterminous with the counties, and he admitted the difficulty of dealing with those 169 unions that were not coterminous with the counties, and which overlapped into one or more counties; but he thought it was not impossible to make that part of the union situate in one particular county an electoral division for that county. Probably the reason why this was not done was because the officials of the Local Government Board at Whitehall would not take the trouble to do it. He could not follow Mr. Charles Howard at all when he said he would adopt the petty sessional division, using the union machinery. If they were to do that he feared they would make confusion worse confounded. With regard to there being no power in the Bill to close roads, that power was not in words handed

over to the Coun'y Board, nor was it defined as a power to be retained by quarter sessions, but he believed the power would be included in the general words, enabling the new Board to do whatever administrative acts the quarter sessions had been accustomed to do. There was no doubt one omission in the Bill to which attention had been drawn, and that was the provision for auditing the accounts of the County Board. It was no doubt a serious omission, and he was glad Mr. Howard had brought it forward. There could be no reason why accounts of the County Board should not be audited in the same way as the accounts of the District Sanitary authorities and the School Boards (who also expended public money) were. In conclusion he thanked the meeting for the attention they had paid to his Paper, and the courtesy they had shown him (Hear, hear).

On the motion of Mr. T. DUCKHAM the thanks of the meeting were voted to Mr. Druce for his Paper.

In reply to a vote of thanks to the Chairman,

The PRESIDENT said the farmers had a fine prospect now in the fields, and he hoped they would have a good harvest, and meet together again at the next meeting in November in better spirits (applause and laughter).

The meeting then broke up.

The following new members were elected on May 6, 1873:—

Clement E. R. Bentley, 36, Portland Place, W.  
W. Drewitt, Lea Farm, Bramley, near Guildford.  
J. Eaton Evans, Milford Haven.  
Sir John Morris, Wolverhampton.  
Arthur Pawsey, Lewisham Road, S.E.  
Professor Pritchard, Royal Veterinary College.

### THE CORBET TESTIMONIAL.

By the accounts, which have been audited and approved by Mr. Chas. Howard, and Mr. J. M. Allender, it appears that—

	£	s.
The total amount collected was ...	355	19
The expenses for printing, &c. ...	3	10

Leaving a balance of £352 9

Which has been placed in Mr. Corbet's hands.

### HEREFORD HERD BOOK SOCIETY.

A meeting of the Council of the Hereford Herd Book Society was held at the Society's offices, 20, East-street, Hereford, on Wednesday, May 5th, at 2 o'clock, to elect members. The meeting was under the presidency of Mr. J. Arkwright. The following members were unanimously elected: Messrs. E. Grasset, Whitmore, Ludlow, Guode, Ivington, Leonminster, D. P. Peplow, Garunstone, Castle, Weobley, Hereford, life members, Messrs. W. S. Armitge, The Field, Hereford; J. S. Edwards Stanton Lacy, Ludlow; D. Edwards, Brnisp Court, Hereford; J. Hawkins, The Moat, Knighton; J. Hamar, Weston, Clun, Salop; J. Holloway, Letton Court, Hereford; P. G. Hughes, Cwm Cart, Sam, Montgomery; Jones, Edenhorge, Bishop's Castle; E. Jones, Park, Caeams, Montgomery; R. James, Monnington-on-Wye, Hereford; G. Lowe, Pitchfield, Ludlow; W. Langford, Cleobury Hall, Salop; T. Marston, Lettou, Leintwardine, Herefordshire; H. Mason, Commerton, Orleton, Ludlow; L. Moore, Glankehely, Kerry, Montgomery; F. W. Morris, Shucknall Court, Hereford;

Messrs. Proctor, Cathay, Bristol; J. Rawlings, Wofferton, Ludlow; J. Shaker, Chirbury, Salop; F. Southern, Kemp'ron, Little Brampton, Salop; J. Smith, Beduey, Dilwyn, Herefordshire; T. A. Turner, The Farm, Stanton-on-Arrow, Herefordshire; T. Wolly, Abcott, Aston-on-Clun, Salop; J. White, Manor Farm, Zeals, Wilts; J. Walters, Land-nuy Court, Usk, Mon.; W. Weyman, Bungwood, Ludlow; H. Yeomans, Llowes Court, Hay, Breconshire, annual members. Another Council meeting will be held shortly to elect another list of members, to report upon the best form of Private Herd Book, and to fix the date of payment for copyright, &c.

### THE LONDON CORN TRADE ASSOCIATION.

A meeting of the above Association was recently held at the "Baltic;" Mr. John Russell, of the firm of Baggie, Ross, & Gibson, took the chair, upon the motion of Mr. W. Harris, Mr. J. Kressmann acting as Secretary, *pro tem*. The objects of this Association are well known, and have been previously dwelt upon in this Journal.

The CHAIRMAN observed that it had been the aim of the general committee to incorporate in its number members connected with all the different branches of the trade, and he moved that a more restricted number of members should be nominated to form an executive committee for one year, and after the meeting had been addressed in succession by Mr. W. Harris, Mr. S. W. Keene, Mr. J. Kressmann, Mr. J. Tia-ks and others, the following gentlemen were named for the executive committee:—

John Ash, Esq.	H. H. Phillipp, Esq.
R. Duck, Esq.	Ed. Power, Esq.
S. W. Keene, Esq.	P. Sechiari, Esq.
J. Kressmann, Esq.	R. Reid, Esq.
F. Lenders, Esq.	John Ross, Esq.
A. W. McDonell, Esq.	Seth Taylor, Esq.
E. Majolier, Esq.	T. Osborne, Esq.
M. Mavrogardato, Esq.	O. Valieri, Esq.
E. Petrocchino, Esq.	Henry Yeames, Esq.

A feature of the meeting was that Mr. S. W. Keene, of the firm of Watney & Keene, who had at first addressed the meeting with some remarks not quite in accordance with the general feelings of the meeting, was, at the close of the proceedings, proposed by Mr. E. Majolier, of the firm of Harris, Bros. & Co., and seconded by Mr. S. Lichtenstein, as a member of the executive committee.

The proposal was received with general acclamation, and finally accepted by Mr. Keene himself, whose peculiar qualifications for such a position are generally acknowledged. The greatest unanimity therefore prevailed, and the meeting closed with a vote of thanks, moved by Mr. Stephen Ralli, to the Chairman, and to the Honorary Secretary, Mr. J. Kressmann, who had in a great measure initiated the movement for this Association, and has since devoted much energy to its formation.

The Association being now formed, all persons interested in the trade are invited to become members of the same, by remitting the annual subscription of £1 1s., addressed to Mr. J. Kressmann, at the "Baltic."

THE DERBY QUESTION.—*Coster*: "Going to the Derby this time, Bill?" *Bill*: Well, yer see, my missus says as 'ow its werry expensive, and she'd sooner go out o' town for the 'oppin later on."—*Punch*.

## AGRICULTURAL SOCIETIES.

## CHESHIRE.

The Cheshire Agricultural Society recently met at the Chester Town Hall, the Mayor of Chester presiding. The Council, in presenting the half-yearly report, congratulated the Society on the Contagious Diseases (Animals) Act, and trusted the House of Commons would recognise its main principle as one of simple justice to stockkeepers. The Council suggested that some details in the County Administration Bill might judiciously be amended. For instance, the union area and not the petty sessional should be adopted. It was resolved to publish the names of persons detected, on analysis, in selling spurious manure. An interesting paper was then read by Lieut.-Colonel Jones, Civil Engineer, Hatfield-Wern, Wrexham on "Sewage Disposal," and a discussion followed.

## NEWARK.

The eleventh annual show of stock and implements in connection with the Newark May Fair was recently held on the Scone Hills grounds, under the patronage of the Mayor of Newark, &c. The entries were as follows:—Agricultural horses, 56; donkeys, 3; cattle, 37; pens of sheep, 37; pens of pigs, 30; horses, hunters, roadsters, cobs, &c., 140; butter, 16. Some of the classes brought out more exhibits than last year, while others had fewer, so making the total about the same. In every department the animals shown were remarkably good, some of them being extremely fine. The special cup prize offered by Colonel Reeve for the best beast on the ground was awarded to the Colonel's own animal, a splendid roan heifer, five years old. There was a large attendance of spectators on Tuesday, £76 5s. being taken for admissions, though the number on the ground was somewhat less than last year, owing to frequent showers of rain about mid-day. Wednesday came in with strong indications of rain, but the day proved favourable on the whole, a few showers only falling at distant intervals. The hurdle and water jumping were the chief attractions of the day, and drew a large concourse of spectators. It was calculated that more than 4,000 persons were admitted to the grounds.

## PRIZE LIST.

## HORSES.

Cart horses (geldings), four years old and upwards.—First prize, £10, Cafferata and Co., Newark; second, £5, C. Marfleet, Boothby.

Cart mares (barren), four years old and upwards.—First prize, £8, T. Tune, Crowle; second, £4, J. H. Oakes, Alfreton.

Brood cart mares.—First prize, £6, J. H. Oakes; second, £3, C. Marfleet.

Cart foals.—First prize, £2, Mr. Oakes; second, £1, C. Hunt, Besthorpe.

Three-year-old cart geldings.—First prize, £6, Cafferata and Co.; second, £3, J. Saodin, Stonesby, Melton.

Three-year-old cart fillies.—First prize, £6, W. T. Lamb, Welbourne; second, £3, F. Pogson, Staunton.

Two-year-old cart geldings.—First prize, £5, H. Smith; Cropwell Butler; second, £2 10s., W. Slater, Newark.

Two-year-old cart fillies.—First prize, £5, T. Blankley Aunshy, Sleaford; second, £2 10s., G. Brockton, Farnon.

Yearling cart colts.—First prize, £3, J. Oxley, Gainsboro'; second, £1 10s., T. Blankley.

Yearling cart fillies.—First prize, £3, T. C. Peck, Hayton; second, £1 10s., Hon. C. W. Fitzwilliam, Maplebeck.

Cart horses or mares (best walkers).—First prize, Cafferata and Co.; second, T. Tune.

Roadsters, 15 hands and upwards (driven in single harness)—First prize, £5, F. Symond, Lichfield; second, £2, S. Taylor, Newark; third, £1, G. Harvey, Newark.

Roadsters, under 15 hands (driven in single harness).—First prize, £5, J. Hornsby, Grantham; second, £2, W. Foster Pontefract.

Hunters, brood mares (to foal this season or with foal at foot).—First prize, £5, J. Wilkinson, Newark; second, £2 10s., W. T. Dawson, Hawton.

Hunters, not under four years old.—First prize, £10, W. Wright, Wollaton; second, £5, J. L. Skipworth, Howsham.

Saddle hacks, over 14.2.—First prize, £5, C. Marfleet, Boothby; second, £2 10s., R. Sorfleet, Gainsboro'.

Cobs, 13 to 14.2.—First prize, £4, J. Hornsby, Grantham; second, £2, W. Foster, Pontefract.

Ponies, geldings, or mares.—First prize, £3, R. Whitton, Lincoln; second, £2, J. Gregory, Newark; third, £1, W. Wright.

Hurdle jumpers.—First prize, £10, R. Barker, Malton; second, £5, J. Rudkin, Hauby; third, £3, Miss S. A. Marfleet, Boothby Hall.

Hurdle jumpers, 14.2 and under.—First prize, £5, R. W. Dewey, Croxton Kerriel; second, £3, G. W. Sikes, Cossington Hall, Loughboro'; third, £1, W. Spafford, Inkersall.

Hurdle jumpers, to be ridden by ladies.—Prize, £5, G. W. Sikes.

Hurdle jumpers, under 13 hands.—First prize, £2, J. Hall, Car Colston; second, £1, Col. J. Reeve.

Hunters, any age.—Prize, £5 cup, A. J. Brown, Elmsall Hall, Pontefract.

Hunters, three years old.—Prize, £5 cup, W. Rowbotham, Gainsboro'.

Extra prize, J. C. Masters, Annesley Park, for thoroughbred horse. CATTLE.

Bulls, from two to three years old.—First prize, £6, J. Rowley, Walden, Pontefract; second, £3, W. Wilkinson, Car Colston.

Bulls, under two years old.—First prize, £5, J. H. Oakes; second, £2 10s., T. H. Beard, Roall Hall.

Cows, in milk or in calf.—First prize, £5, J. H. Oakes; second, £2 10s., D. Mackinder, Sempringham.

Heifers, in milk or in calf, not over three years old.—First prize, £3, J. H. Oakes; second, £2, Miss E. A. Crawford, Farnsfield.

Heifers, not over two years old.—Prize, £2, J. H. Oakes.

Steers, three years old and under.—Prize £2, Col. Reeve, Leadenham.

Bull calves, under twelve months old.—Prize, £2, W. L. Lamb.

Heifer calves, under twelve months old.—Prize, £2, Col. Reeve.

Extra Stock.—Prizes were awarded to Mr. Oakes for a roan bull, and to Col. Reeve for a roan heifer.

## SHEEP.

Shearling ram.—First prize, £10, H. Smith, Cropwell Butler; second, £5, H. Smith.

Ram of any age.—First prize, £5, J. Radkin, West Wiloughby, Grantham; second, £2, A. Garfit, Southern.

Five he hogs, in the wool.—First prize, £8, J. W. Young, Collingham; second, £4, W. Jackson, Langford.

Five she hogs, in the wool.—First prize, £8, W. Roe North Scarle; second, £4, W. Jackson.

Five he hogs, clipped.—First prize, £4, G. Mason, Mars-ton; second, £2, J. Thorpe, Beaconfield.

Five she hogs, clipped.—First prize, £4, G. Mason; second, £2, W. Roe.

Five ewes and their lambs.—First prize, £8, W. Roe; second, £4, E. Young, Coddington; third, £2, H. Smith.

Five ram hogs, in the wool.—Prize, £2, W. T. Lamb, Welbourne.

## PIGS.

Breeding sows, of any breed.—First prize, £2, W. Newton, Newark; second, £1, M. A. Waddington, Newark; third, 10s., R. Ward, Bleasby.

Sows, with young pigs.—First prize, £2, B. R. Daybell, Bottesford; second, £1, E. J. Richardson, Winthorpe.

Gilts.—First prize, £2, R. Ward; second, £1, W. Ellis, Newark; third, 10s., J. Bailey, Hawton.

Boars.—First prize, £2, Mr. Daybell; second, £1, R. Vincent, Bottesford; third, 10s., S. Andrew, Caunton.

Extra Stock.—Prize to Mr. Daybell for five pigs of large white breed.

## BUTTER.

Four pounds.—First prize, £2, Miss Bonnington, Thorpe-on-the-Hill; second, £1, H. Crocker, Collingham; third, 10s., C. Wells, North Scarle; and extra, Mrs. Pearce, Weston.

Dish in ornamental design.—Prize, 10s., Miss Bonnington.—Abridged from *The Stamford Mercury*.

## W H A R F E D A L E .

This show was held recently at Otley. About £500 were given in prizes, besides 20 silver cups. The entries numbered 459. The following officiated as judges:—Cattle and sheep—Mr. T. P. Outhwaite, Coldsboro; Mr. Punshard, Kirby Lonsdale. Horses—Mr. J. C. Rogerson, Manchester; Mr. Jacob Smith, Umberton; Mr. Makin, Fairburn; and Mr. Raine, Nan Stainton. Ponies—Mr. Makin, Fairburn, Pontefract; Mr. Rogerson, King's Hotel, Manchester. Poultry (game)—Mr. E. Hutton, Pudsey. Not game—Mr. J. Dixon, Clayton, Bradford. Pigeons—Mr. F. Esquilant, London. Rabbits and cats—Mr. E. Hutton. Dogs (sporting)—Mr. Armstrong, Yarn; Non-sporting—Mr. P. Eden, Manchester. From the prize list we take the names of the successful exhibitors in the neighbourhood.

HORSES (open to the United Kingdom).—Horse or mare for draught or agricultural purposes.—First prize, R. Wright, Boston Spa; second, J. Horner, Morton.

Gelding, foaled in 1875.—First prize, A. Heddon, Baldersby; second, T. Todd, Pool.

Filly, foaled in 1875.—First prize, H. Lawson, York; second, T. Jackson, Addingham.

Gelding, foaled in 1876.—First prize and cup, G. Grooks, Northallerton; second, T. W. Waterhouse, of Apperley Bridge.

Filly, foaled in 1876.—First prize, C. Wright, Oglethorp Hall; second, Robert Wright, Boston Spa.

Colt or filly, foaled in 1877.—First prize, R. Wright; second, G. Hague, Shedwell.

Coaching gelding or mare, of any age.—First prize, H. R. W. Hart, Dunnington; second, T. G. Dawson, Otley.

Gelding or filly, foaled in 1875.—First prize, J. Driver, Bradford; second, C. Bower, Kirbymoorside.

Roadster brood mare (must have had a foal or be in foal).—First prize, R. Martin, York; second, R. Gledhill, Bradford.

Gelding or filly, foaled in 1875.—First prize, W. Ingham, Wortley; second, W. Rickell, Pocklington.

Cob, gelding or mare, not to exceed 14½ hands.—First prize, J. Wreghitt, Loundsborough; second, E. Salt, Baildon.

Gelding or mare, not to exceed 15 hands.—First prize and cup, T. Bowman, Sledmere; second, W. Asken, Carnforth.

Gelding or mare, any age, exceeding 15 hands.—First prize, R. Gledhill, Bradford; second, Dr. Merryweather, Guisbrough.

Brood mare for hunters (must have had a foal or be in foal).—First prize, H. R. W. Hart, Dunnington; second, S. S. Blakey, Bradford.

Leapers, horse or mare, any age or height.—First prize and cup, P. Jowett, Hipperholme; second, H. Taylor, York; third, C. Sanderson, Pontefract.

CATTLE.—Bulls, one year old.—First prize, W. Linton, Sheriff Hutton; second, T. Beard, Pontefract.

Two-year-old or upwards.—First and second prize and cup, W. Linton, Sheriff Hutton.

Calf under twelve months.—First prize, W. Linton; second, T. Sheep hanks, Arthington Hall.

Cows—Two years old, J. Waind, Kirbymoorside; second, H. Fawcett, Old Bramhope.

Three years old or upwards.—First and second and cup, H. Fawcett.

Calf, under twelve months.—First prize, W. Linton; second, W. Rhodes, Harrogate.

SHEEP.—Ram, any age.—First prize and cup, J. Green and Son, Silsden; second, J. Simpson, Spofforth Park.

PIGS.—Sow, large breed, any age.—Prize, J. Graham Leeds.

Sow, large breed, any age.—Prize, G. Sedgewick, York.

Sow and litter, any age or breed.—First prize, T. Horsfall, Bradford; second, G. Sedgewick, York.

Boar, small breed.—First prize, T. Haunam, Leeds; second, G. Sedgewick.

Boar, middle breed.—First prize, G. Sedgewick; second, W. Hatton, Haddingham.

PROFITABLE SEWAGE FARMING.—The question whether sewage-farming can be made remunerative has been solved in the affirmative by Colonel Jones, of Wrexham, after six years' careful testing. In 1870 the Local Board attempted to utilise the town sewage on a farm eighty-two acres in extent, but after two years' experience abandoned the undertaking. In 1872 Colonel Jones leased the farm at a rental of £5 per acre, and purchased for £1,000 the farm buildings and other permanent improvements made by the Board. At the close of February, 1877—that is, after five years—Col. Jones found that, after paying his rent, and putting aside 25 per cent. on his capital as a sinking fund, he had made a net profit of close upon £1,500.

## L I V E   S T O C K   N O T E S .

A most interesting narration of the existent facts of live stock across the Atlantic has appeared in the last number of a contemporary, written by an American, from which I gather that the result is exactly taking place there which the intelligent breeder has never ceased to foresee. For instance, at one time it was nothing but the "fastest-time" horses that were looked for, no matter the shape and style. But just as courtesy in the human kind is a bloom upon the ripened fruit, and comes certainly, after a due period of civilisation, in the roughest settlement, so in grace is beauty ultimately looked for to supplant and perfect a breed of lowlier kinds, the equine, bovine, ovine, &c., which minister to the food of men. Thus it is, we are told, that the swiftest horses, if plain, are comparatively unsaleable in comparison with more symmetrical competitors, who have also the essential gift of "action." It is surprising how soon the wants of a market can be met. It is not so long since that trotting was desired in the Suffolk carthorse. Exquisite lines of form had been obtained, superseding the old Penck shape, a kind that would draw at a stubborn stump, and never give up, however unavailing the effort at extraction. Then the least exhibition of trotting ability came to be watched for. One mare in particular I remember, long and loosely built, and remarkable only for strong, good action, that was picked up and mated with handsome sires, until a combination of excellence, both of form and movement, was obtained. Now-a-days it is the exception to see a prize carter wanting action. Most can trot like ponies. And whilst on this tack, I proceed to observe what good those Associations, such as the Shire, Clydesdale, &c., are likely to effect. It inspires the tenant farmer. It gives him an object in breeding, whilst it guides his choice, and affords him, moreover, the means of developing his home resources by securing him select males to use.

Pigs have been improved, until you see in every cottage-style samples which would have easily won prizes a score of years since. The useful all-round Berkshire is being imported to America, and forms an excellent cross upon the "large Ohio females begun some forty years or more since." This was the period when Shorthorns were bought in England for the same trans-Atlantic Company, stress being laid upon their milking qualities, a form of bovine merit which is now having its weight at home also. Show animals it is difficult to produce which shall make the pail foam, because good milkers are almost invariably light in front, and "good over the crops" a cow must be to win laurels "at the Royal."

I am glad to note, having been unable to attend the sale, that Mr. Samuda's Celias were bought in bunches. Whatever they may look in the flesh, they have capital old blood in their veins, and ought to pair well with a Cambridge Rose, or Mantalini bull, which—as the Celias—are so much indebted to R. Colling's Red Rose at root.

This continued rain is getting serious. The corn fields begin to look yellow, but worst of all, few are the fortunate individuals who have managed to get their mangel planted. A rare exception one hears of here and there, but in most cases the preparatory cultivation is only going on as the persistent showers allow. Carrots will be very short next winter. Fortunate are those who have a gorse patch to fall back on for their horses. My teams have never done so well as during the last winter, keeping fat, glossy and spirited on a chop of furze and second-rate hay, with a sprinkling of bran and swede slices. Once up, like lucerne, it needs no tending to speak of. There is a general complaint of the lambs doing badly in this district, whether owing to the incessant wet or not. A very profitable sort of sheep for park-grazing and household mutton is the Radnorshire breed. They are low and long, and their quarter is well carried out to the tail, as the Cheviot breeds. They are excellent mothers, and moreover prolific. It is a good plan to buy in ewes, and put them to a Southdown ram, fattening both ewe and lamb. I have known them tried alongside the pure Southdown in the same park, and beat them easily on the balance-sheet. The luscious fat, though, and the dark meat of the pure "Down" for the home table they fail to match. It is in selling that they make way.

Are the wild birds really more plentiful now that a close time has been provided for them? There are those who doubt it, whatever the cause may be. The cuckoo is accountable for considerable stiction of eggs this season, our boys inform us. It is the fat gardener's plan to let the blackbirds hatch and then to "scrag" all but one of the offspring, whose turn also comes after a while. His argument is that if the eggs be robbed the hen only goes and builds elsewhere, giving new trouble of search.

A grand sight were the cows at Mr. Larkings. The first lot, Siddington, bought by Mr. Alisopp, fourteen years old, for 250 gs., was a picture, so thoroughly good all over that it was really impossible to find a real fault in her. It was tried to no purpose by good judges several times. She will be a lucky purchase if she breeds anything as good as herself for her new owner. There was a wonderful likeness between her and Siddington 10th, Mr. De Vitre's cow sold to Lord Moreton, at Mr. Bowly's recent sale. Siddington 10th (a twin) was daughter of Siddington 2nd, Siddington's twin sister. Hence the likeness and a rare style of beauty it is! Mr. Larking was always a spirited buyer, and his things were presented to the public in splendid trim, although it needed but a glance to see how poor the soil is of the farm on which they grazed. There was a very strong force of breeders present, all the men of mettle and metal too, so that the best lots went swiftly. Mr.

Bowly's Gazelles, capital cattle that they are, took well. This veteran breeder has some fine specimens of the tribe at home. Their inherited excellence is a tribute to the judgment of the Rev. H. Berry, who bred the first of the name, a roan, calved June 28, 1824, her dam Mr. Whittaker's Millicent by Prince of Waterloo (528) (son of C. Collings' Magdalena), her granddam by Mayflower (425), (of Coates's blood, Patriot, Driffield, &c., with which the Celia tribe above-mentioned abounds). There is an original picture of the first Gazelle in the neighbourhood of Chepstow, where the Rev. A. Berry once resided. Their excellence as a tribe to this day, and their strong prevailing type, surely attests to the virtue of the lees at the bottom of the vat. Gazelle 26th, purchased at 425 gs. by the Australian buyer, Mr. McCulloch, was a grand and very massive cow. She and Siddington were considered the two best aged cows shown; and every one rejoiced at Mr. Bowly's "pride of place." Most wonderfully improved was the 3rd Duke of Hillhurst—a short-legged lump of a bull. When sold for 3,000 gs. at the Dunmore sale he was decidedly flat-sided, but he has quite outgrown that defect, and his stock are admirable. Fuschia's Duchess 2nd, a white heifer, also bought for Australia at 400 gs., was wonderfully solid, deep, and broad. Her head was heavy, but in all other respects she was a remarkably good animal, and excited hot competition. Great interest attached to her in that she was got by Airdrie Geneva (32920), the American Red Rose bull sold at Mr. Philips's sale—himself, it is said, an indifferent specimen, but I was not there to see. The Australians are reported to have taken a farm in Kent, against the inevitable day when the wants of the colony shall overpower what is getting to be regarded as a "ring" opposition. Squire Siddington was an excellent calf, and made 210 gs., being about eight months old. The Bates or Knightley cattle here sold comparatively low. They were fine animals, but they were neither one thing nor another. They had got size, but had neither the character of the Knightley or the Bates; whereas the public seems to look for either one to be clearly expressed. At Lord Penrhyn's sale the Belles of Oxford made, as one expected from a preliminary inspection, the topping prices, as did the young bull Grand Duke of Oxford 3rd amongst the males. Mr. Loder has taken him to mate with some admirable heifers. There was a Darlington bull, Duke of Deutsdale, sold cheap, for his touch was hard, and the public is so sane now! If he had handled like the Grand Duke of Oxford 3rd he would have fetched probably a goodish nugget. The result of these sales has been to show that there is only wanted general market elasticity again for good Shorthorn stock to sell as well as any other wares. They are wanted, and there will be the means found to buy them. This enforced inactivity has no doubt helped to clear off a lot of second-rate descriptions, which have long required culling, but which got spared during the period of ardent demand.

VIGIL, May 24

## CONFERENCE OF SOUTH MIDLAND GUARDIANS.

A Conference of the Guardians of the Poor Law Union of the South Midland District was held recently at Bedford, the High Sheriff of Bedfordshire (Mr. JAMES HEWARD) in the chair. The first subject of discussion was "County Boards," and Capt. CRAIGIE introduced it in an excellent paper. After a lengthened discussion the following resolutions were passed:—

1. "That the Conference for the South Midland District of Poor Law Unions is of opinion that for electoral purposes the union area is preferable to the petty sessional area. And further they express the opinion on the clauses relating to the highways that those clauses would be better omitted from the Bill."

2. "That the whole of the members of the County Boards proposed to be elected by the court of quarter sessions, as well as all the members to be chosen by the elected guardians, shall be elected conjointly by the elected and *ex officio* guardians acting together."

The other subject on the Agenda was that of Endowed Charities, but the Hon. Sec. explained that it was thought County Boards would occupy the whole of the day, and it was not considered advisable to arrange for the second subject.

The Hon. SEC., at the request of the Central Conference, submitted a resolution on the subject of bye-laws under the Education Act. It was ultimately carried unanimously in the following form:—"That the Government be requested to introduce a Bill to enable Attendance Committees to frame bye-laws for the respective unions, subject to the sanction of the department, to take effect in every parish."

FAILURES IN ENGLAND AND WALES. — Messrs. John Kemp and Co. have issued a circular giving the number of failures in England and Wales for each quarter of the past eleven years, and for the first quarter of 1878. The total number of failures in the eleven years ending with 1877 was 122,260, and for the first quarter of those years the total was 31,480. Thus the average number for the first quarter of a year was 2,962. In the first quarter of the present year there were 3,436, which is considerably above the average. The numbers for the first quarter respectively were—1867, 3,981; 2868, 4,091; 1869, 3,819; 1870, 2,804; 1871, 2,142; 1872, 1,192; 1873, 2,354; 1874, 2,193; 1875, 2,331; 1876, 2,744; 1877, 2,529; 1878, 3,436. In summing up their remarks on these and other figures given in their circular, Messrs. Kemp and Co. observe: "These data indicate that we have not yet reached the worst of the present period. Assuming that it runs an average length, we have to endure an increasing number of failures which will not reach its maximum until the fourth quarter of 1879. In the face of such signs as these we can only counsel strict economy in every item of expenditure—extreme prudence in embarking in any new venture or in any extension of business—the utmost care in the management of credit accounts, and a patient determination to work and wait for more prosperous times. In previous periods of depression the evils attendant upon them, and which are inevitable, have been seriously augmented by the public mind becoming so depressed as to be panic-stricken. We trust the present may prove an exception, and that as more light is thrown upon the natural causes and effects which govern such depressions the public mind will be more composed and willing to wait patiently for the recurring period of prosperity."

## REVIEW OF THE CORN TRADE,

FROM *THE MARK LANE EXPRESS* FOR THE WEEK ENDING MAY 27.

Considerable disappointment has been felt by agriculturists of late owing to the untoward change which has taken place in the weather. Instead of warm dry days and thoroughly seasonable temperature which was experienced throughout April, we have this month suffered from increased cold and an abundant rainfall, which, while tending to promote rapidity of growth, has done so at the expense of those powers of vegetation upon which the farmer relies for a profitable yield of grain. The predictions of a wet summer, founded upon the prevalence of electrical disturbance in the atmosphere, have up to the present been to a great extent verified, as frequent showers have occurred during the past week, and all heavy low-lying land is saturated with moisture. The growing wheat has consequently become flaggy and discoloured, and barley appears to have suffered even more; in short, the agricultural outlook is decidedly less favourable than was the case three weeks ago. Another bad effect of the rain has been the rapid increase of slugs, wireworm, and the various other insect pests whose depredations cause the farmers so much annoyance, the oat crops in Kent having suffered to an alarming extent from the attacks of such vermin, while weeds have also grown apace, and defied eradication in the present condition of the land. On the lighter soils the damage caused by the excessive humidity has perhaps been less apparent, although even here appearances are less promising, and unless dry forcing weather sets in speedily the hope of an abundant cereal harvest must be abandoned. In Scotland potato-planting has been finished, and in the earlier districts the plant is beginning to show above ground. Grass appears to be everywhere abundant, and although some anxiety is naturally felt on the subject there can be little doubt that with favourable weather for haymaking the crop will yield a great weight. The glowing reports received of the growing crops in America, and indeed most other grain producing countries, added to the quiescent state of political affairs, have brought about a state of the wheat trade closely resembling actual stagnation, and it rarely happens that such an unusual lack of animation can be recorded as occurring in the market for an article which forms the staple food of the population. The weather has of late been against the crop, the imports from abroad into

London have been positively light, but nothing has roused the trade from its lethargy, and sales during the past week have been so insignificant that the amount of business passing has been insufficient to form an index as to the course of prices. The demand for English wheat has been equally dull, both in London and at the country markets; but although in the latter a decline 1s. per qr. has taken place, farmers have not been eager sellers at the reduction. Much of the inactivity is doubtless due to the state of suspense in which the country remains with regard to the settlement of the Eastern Question, but as a few days will probably solve the difficulty one way or the other, we may expect very soon to see some movement in the trade, if only a downward one. Maize has been quiet and the turn lower, which can scarcely be wondered at seeing that the shipments from America to the United Kingdom for the week ending the 18th inst. reached the enormous total of 287,000 qrs. The sales of English wheat noted last week were 41,223 qrs., at 52s. 1d., against 37,197 qrs., at 68s. 9d. in the previous year. The London averages were 54s. 10d. on 1,378 qrs. The imports into the kingdom for the week ending May 18th were 983,795 cwts. wheat, and 145,998 cwt. flour. On Monday last the market opened very quietly for all descriptions of cereal produce, and there was a continued want of animation in all branches of the trade until late in the day, when some improvement was noticeable in the demand for foreign wheat, owing to the persistence of rainy weather. The inquiry was not, however, of a sufficiently extended character to exercise any quotable effect upon prices. The week's arrivals of home-grown wheat amounted to 2,634 qrs., and the supply [fresh up on factors' stands was again small, many of the samples being in poor condition. Although not quotably lower, the tendency of prices was against sellers, and sales progressed slowly at barely former currencies. The imports of foreign were moderate, in all 24,203 qrs., of which quantity about 14,500 qrs. were from American Atlantic ports, about 7,000 qrs. from Germany, and 1,738 qrs. from the East Indies. There was a fair attendance of millers, but very few sales took place until nearly the close of the market, when an improved demand was experienced at about previous rates, the weather being dull and un-



settled, with frequent showers throughout the day. The exports were 1,906 qrs., against 1,345 qrs. in the previous week. The supply of Barley consisted of 778 qrs. of English, and 16,451 qrs. of foreign. Malting descriptions showed no change in price, while grinding sorts receded 6d. per qr. on the week. There were 21,393 qrs. of maize reported, and the trade ruled quiet for both old and new corn, prices being generally the turn in buyers' favour. Although the arrivals of oats were small, only 17,980 qrs. in all, no improvement took place in the trade, which was very dull, and inferior descriptions gave way 3d. to 6d. per qr. On Wednesday there were 502 qrs. of home-grown wheat, and 16,700 qrs. of foreign. The attendance was most meagre, and Wheat and feeding stuffs met a slow retail demand at nominally Monday's prices. On Friday the supply had increased to 688 qrs. of English wheat, and 26,570 qrs. of foreign. The wheat trade ruled very quiet at a reduction of 1s. per qr. on American descriptions, and the limited business done in feeding corn was at rather lower currencies. The imports of flour into the United Kingdom for the week ending May 18th were 145,998 cwts., against 171,979 cwts. in the previous week. The receipts were 12,785 sacks of English, and 2,758 sacks and 16,718 barrels of foreign. With a sluggish demand business has been of a dull and uninteresting character, and prices have favoured buyers for both sacks and barrels. The week's exports of beans were 29,625 cwts., and of peas 40,873 cwts., showing a decrease of 1,420 cwt. on the former, and an increase of 2,359 cwts. on the latter. A quiet trade has been experienced for both articles, and no quotable reduction has taken place in values. The deliveries of malt were 15,639 qrs., and the exports 185 qrs. The amount of business passing in this branch of the trade has been very limited, and buyers have been unable to supply their wants at slightly lower prices. The sowing demand for agricultural seeds having now terminated, the trade has entered upon its customary state of summer quietude, which has not been disturbed by any speculative inquiry, stocks on spot of the leading varieties being very limited. Rape and white mustard seeds have met with some little attention, and rather higher rates have been asked for hemp, but Canary has been quite neglected, although offered at less money; and in the absence of sales other varieties call for no special remark. Provincial trade has been largely affected by the prevailing dullness, and lower prices have had to be submitted to at most of the country markets, both for wheat and spring corn. Supplies

from the growers have been small, and although wheat has given way 1s. per qr. farmers have not been eager sellers at the reduction. At Liverpool, on Tuesday, there was a very small demand for wheat, which was offered at 1d. to 2d. per cental less money, without much business resulting. Flour was equally dull, and sacks were quoted 6d. lower. Maize was depressed, owing to the very heavy American shipments, and with a limited inquiry quotations receded 3d. per qr., dry new mixed American being quoted 12s. 3d. to 25s. 6d. per 480 lb. Oats were dull, and common sorts declined 6d. per qr., but there was no change in beans. The week's imports included 77,000 qrs. of wheat and 36,000 qrs. of maize. At Newcastle wheat has attracted very little attention, although the sellers have offered a concession of 1s. per qr., but buyers have held quite aloof. Flour has also been very dull, and the turn in buyer's favour, while feeding corn has moved off slowly at about last week's prices. At Peterborough the supply of wheat from the farmers has been small, and sales have progressed very slowly at 1s. per qr. less money, while spring corn has been equally dull. At Edinburgh, on Wednesday, the market was scantily supplied, and wheat sold very slowly at a decline of 1s. per qr. Oats and beans were the turn dearer, but there was no alteration in barley. At Leith the temperature has been very low for the time of year, and the rainfall has been copious, accompanied at times with showers of hail. Advices are rather less favourable as to the condition of the growing crops, and warm dry weather is much to be desired. Wednesday's market was poorly attended, and prices gave way 1s. per qr. to both native and foreign wheat, with very little business passing at the decline. Fine oats were fully as dear, but other sorts of feeding corn were difficult to sell at last week's prices. At Glasgow the arrivals of grain from abroad have been moderate of all articles, and the trade has been much depressed. Wheat and flour have declined 1s. per qr. and sack respectively, while barley, oats, and maize have all ruled in buyers' favour. At Dublin the weather has been cold and showery, and great inactivity has prevailed in the grain trade. Tuesday's market was very dull, and both wheat and maize were the turn cheaper to sell. At Cork there has only been a retail consumptive demand for wheat, and prices have receded 1s. to 1s. 6d. per qr. Sound maize, of which stocks are small, has maintained last week's currencies, but inferior descriptions have given way considerably, and are difficult to quit.

The following are the Reports from Mark Lane during the past month:—

Monday, May 6.

The arrivals during the past week have been: English Wheat, 2,656 qrs.; foreign, 40,164 qrs. Exports, 2,976 qrs. There was a limited supply of English Wheat fresh up to market this morning, and the trade ruled very dull at barely late rates; of foreign the arrivals were fair, and, with a moderate attendance of millers, sales, progressed slowly at last week's prices for all except American descriptions, which declined 1s. per qr.

English Barley, 722 qrs.; Scotch, 192 qrs.; Irish, 10 qrs.; foreign, 2,200 qrs. The finest parcels of both malting and gridding were fully as dear, while inferior descriptions were the turn cheaper to sell. Malt: English, 14,425 qrs.; Scotch, 277 qrs. Exports, 952 qrs. In moderate request at previous prices.

Maize: Exports, 2,803 qrs.

Old Corn was fully as dear, but new was neglected, and the turn cheaper.

Country Flour, 14,458 sacks; foreign, 1,866 sacks and 13,416 brls. There was very little business done, and quotations underwent no change.

English Oats, 182 qrs.; Irish, 10 qrs.; foreign, 38,543 qrs. Exports, 5,534 qrs. The choicest varieties realised an advance of 3d. per qr., but other qualities sold slowly at former currencies.

English Beans, 241 qrs.; foreign, 1,082 qrs. Not much inquired for, but without quotable change in value.

Linseed, 1,656 qrs. Exports, 103 qrs. Firm, and occasionally the turn dearer.

Monday, May 13.

The arrivals during the past week have been: English Wheat, 3,620 qrs.; foreign, 55,952 qrs. Exports, 1,345 qrs. There was only a moderate supply of English Wheat fresh up to market this morning, and with fine weather and a scanty attendance, the trade ruled slow at a decline of 1s. per qr. on the week. Of foreign the arrivals were liberal, and a dull retail demand was experienced at a similar reduction.

Country Flour, 14,574 sacks; foreign, 11,372 sacks, and 15,111 barrels. A slow sale at a decline of 6d. per barrel and 1s. per sack since last Monday.

English Barley, 1,725 qrs.; Scotch, 25 qrs.; foreign, 17,970 qrs. In the absence of sales, both malting and grinding sorts could only be quoted inactive at nominally late rates.

Malt, English, 5,229 qrs.; Scotch, 401 qrs. Exports, 583 qrs. In limited request at barely previous currencies.

Maize, 5,796 qrs. Old Corn was in retail demand at last week's prices, while new recovered Wednesday's depression, quotations closing the same as on Monday last.

English Oats 679 qrs.; Scotch 149 qrs.; Irish 725 qrs.; foreign 39,572 qrs. Exports 8 qrs. With moderate arrivals from abroad the trade ruled slow at an all round decline of 6d. per qr.

English Beans 389 qrs.; foreign 1,238 qrs. A slow sale at about former prices.

Linseed 5,629 qrs. Exports 250 qrs. Very little business doing, and quotations unchanged.

Monday, May 20.

The arrivals during the past week have been English Wheat, 2,592 qrs.; Scotch, 42 qrs.; foreign, 24,203 qrs. Exports, 1,906 qrs. There was only a small supply of English Wheat fresh up to market this morning, and the trade ruled dull at barely late rates. Of foreign the arrivals were very moderate, and with a fair attendance of millers, an improved demand was experienced for all varieties at about former currencies.

Country Flour, 12,785 sacks; foreign, 2,758 sacks and 16,718 barrels. Business was very quiet, and last Monday's prices were barely maintained.

English Barley, 778 qrs.; foreign, 16,451 qrs. Malting qualities sold slowly at unaltered prices, while grinding sorts receded 6d. per qr. on the week.

Malt: English, 15,324 qrs.; Scotch, 315 qrs. Exports, 185 qrs. The trade ruled quiet at unaltered currencies.

Maize, 21,393 qrs. Old corn was fully as dear, but new was if anything a shade weaker.

English Oats, 226 qrs.; foreign, 17,980 qrs. Exports, 565 qrs. In moderate request, at a decline of 3d. to 6d. per qr., the reduction principally affecting inferior qualities.

English Beans, 487 qrs.; foreign, 4,185 qrs. A dull trade, at about late rates.

Linseed, 6,372 qrs. Exports, 55 qrs. In limited demand, at last week's prices.

Monday, May 27.

The arrivals during the past week have been: English Wheat, 2,916 qrs.; Scotch, 81 qrs.; foreign 26,578 qrs. Exports, 3,415 qrs.

There was again a small supply of English Wheat at market, and sales progressed slowly at a reduction of 1s. per qr.; of foreign the arrivals were light, and with a good attendance of millers, the trade ruled quiet for all except the finest descriptions, which were in rather better demand at a similar decline.

Country Flour, 13,696 sacks; foreign, 15,599 sacks, and 5,913 brls. Sack Flour was about 6d. cheaper to sell, but barrels were nominally unaltered, with very little inquiry.

English Barley, 445 qrs.; Scotch, 41 qrs.; foreign, 2,073 qrs. Malting descriptions ruled slow at about late rates, while grinding sorts gave way 6d. per qr. on the week.

Malt: English, 19,696 qrs.; Scotch, 236 qrs. Exports, 1,149 qrs. The trade was quiet, without quotable alteration.

Maize, 21,167 qrs. Old corn was 1s. per qr. lower, and new also receded 6d. to 1s. per qr. with few buyers.

English Oats, 450 qrs.; foreign, 69,374 qrs. Exports, 1,679 qrs. Business was slow, and an all-round decline of 6d. per qr. must be noted on the week.

English Beans, 1,043 qrs.; foreign, 179 qrs. A dull sale at about previous currencies.

Linseed, 4,516 qrs. Without alteration in value or demand.

# THE FARMER'S MAGAZINE.

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